



Timo Kramer, BOGE's Piston Compressor Technical Developer, with an aggregate of the new PO series.

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The reinvention of the piston compressor

New oil-free piston compressor series maximises air delivery and minimises energy consumption

Dear Readers,

In order to safeguard our economic success in the longterm, growth is one of our primary goals. This we achieve in what is the Industry 4.0 age by coming up with smart machines and solutions and by bringing about the intelligent evolution of our existing portfolio. We are now launching a large-scale product campaign in almost all fields of business. The first new models – which we will bring to market in November – are the new oil-free piston compressors of the PO series. The innovation cycle will continue into next year and will reach its first high point at the Hanover trade fair. This is something to look forward to!

To grow and future-proof ourselves, we also need qualified staff who see the bigger picture. Hence, this year's "International Summer Camp", which we initiated to provide international networking and training opportunities for our junior staff in our headquarters and subsidiaries. Read more about these and other stories in this issue of AIRMAG.

Enjoy your read!

Thorsten Meier, Managing Director

The new PO (piston oil-free) series from BOGE is a modular, oil-free piston compressor series in the 2.2 to 5.5 kW power range in 10 and 15 bar. It is extremely efficient to operate and includes an array of options for adaptation to the user's application. The new piston compressors stand out thanks to their high reliability, easy maintenance and compact build. Sealed 100% against oil, this new series also meets the requirements of the RoHS* Directive (2002/95/EG).



The self-contained design of the cooling air hood made of heat-resistant ABS plastic significantly boosts occupational health and safety and complies with EN 1012-1 "Compressors and vacuum pumps. Safety requirements. Compressors".

*Restriction of (the use of certain) Hazardous Substance.

Minimum wear, high delivery rate

BOGE's almost 90 years of experience in building piston compressors again came to bear in the development of the new PO series. The PO series unleashes its full potential particularly in the delivery of compressed air at lower, flexible rates: the piston compressors are excellent at handling fluctuating compressed air needs and are designed for lots of starting and stopping during operation. For users this means that the compressors are not limited in terms of permissible duty cycle and can run intermittently or continuously.

Specifically made to last, the direct-driven compressor units operate at a low piston speed. This minimises vibration and wear, and increases efficiency because less compression heat is produced. In addition, the low piston speed of 3 m/sec ensures maximum durability. An innovative piston-bearing lubrication system ensures long-lasting lubrication and therefore long compressor life. The only maintenance required is the occasional filter change, which can be done in-house.



One application of the new PO series is snow guns.

Raising the bar

Gunnar Heise, Product Market Manager at BOGE, on the new PO series



Gunnar Heise, Product Market Manager at BOGE.

AIRMAG: BOGE has been manufacturing piston compressors for almost 90 years. What were the greatest challenges when developing the new PO series?

Gunnar Heise: The greatest challenge was definitely incorporating as much of the tried-and-test technology, materials and experience gleaned from the existing models as possible into the new series yet still coming up with a completely new product that raises the bar in terms of delivery rate, specific power consumption and variety.

AIRMAG: What was the aim of developing the series?

Heise: Based on our vast experience in oil-free piston technology, the new PO series was developed with the aim of producing a completely new oil-free piston series in the 2.2 to 5.5 kW range in 10 and 15 bar, which is unique in the market in terms of delivery rate, specific power consumption and variety.

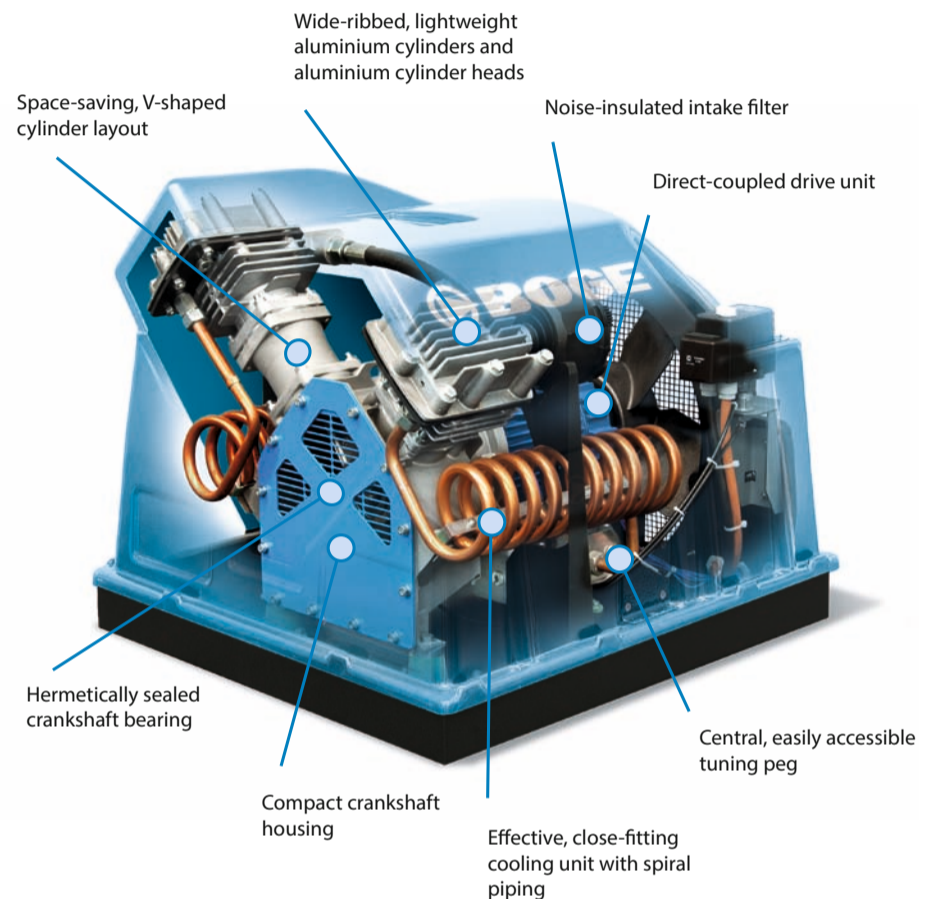
AIRMAG: Which technical innovations do users get the most benefit from?

Heise: The new series utilises not the push-rod principle of the current K series but the V principle, and an integral concept based on the use of identical parts that goes with it. This means a much smaller footprint. The compact form and the modular concept give the user plenty of options for new variations not possible before. We offer the PO series "tailored" for each case. Thus, today there are 28 models available in the form of units, receivers, dryers and dual systems with compressed air receivers.

AIRMAG: Are the new piston compressors already in use today?

Heise: Aside from a lengthy testing and trialing phase, the PO series has already been in use for almost a year by an OEM partner in Italy for mobile snow-making in snow guns – with success.

The advantages of the PO series' build



Looking for a guide to solutions?

BOGE is now issuing white papers

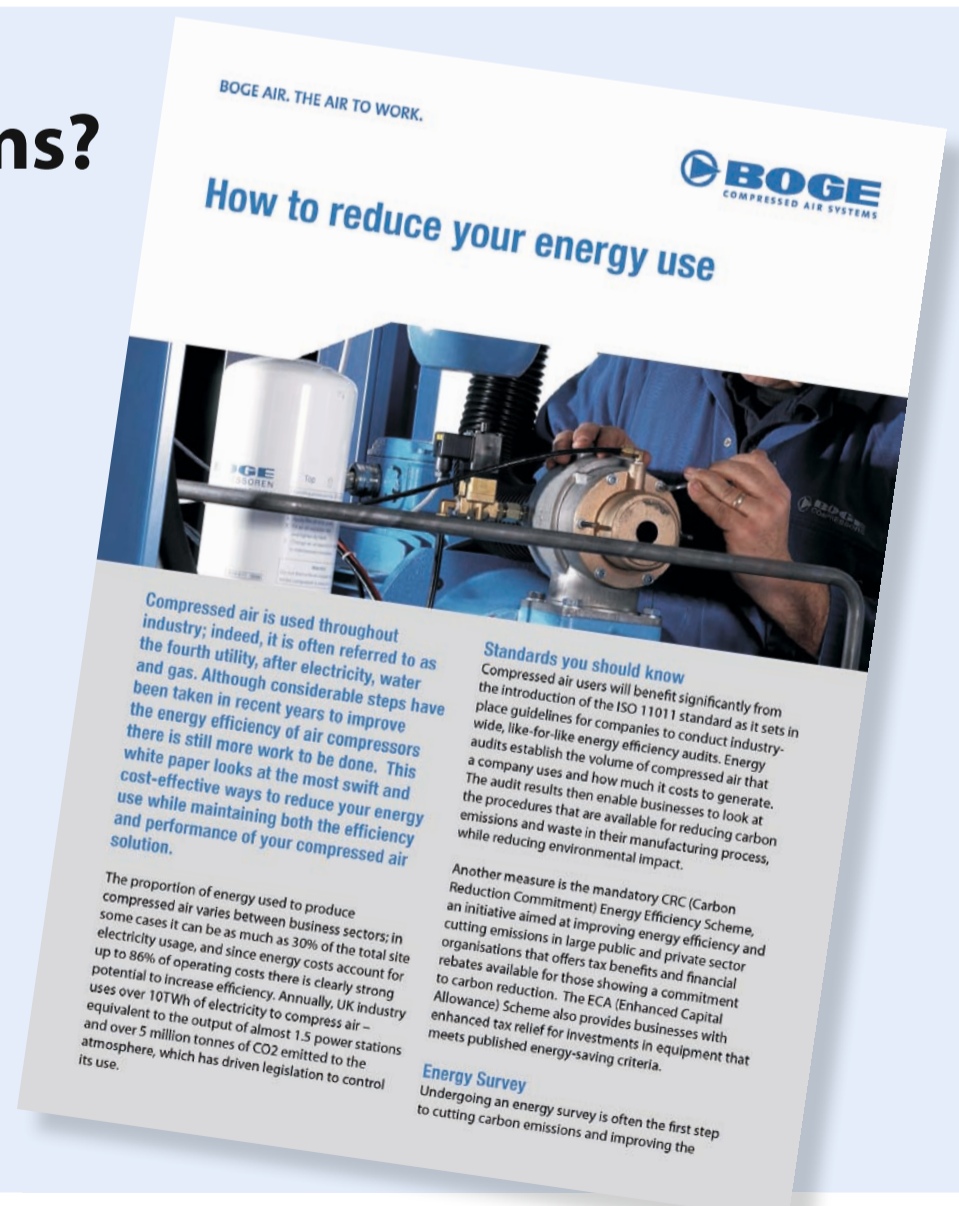


Matthias Eichler, Head of Branding at BOGE.

These days we are bombarded by different media, and Internet users in particular expect to get information that is brief and to the point about the topics of interest to them. "A white paper may provide the answer," says Matthias Eichler, Head of Branding at BOGE. "Backed up with facts and presenting various solutions, they help the user to solve a problem or make a decision by giving information specific to the target group or issue."

BOGE, too, is now offering readers white papers on topics of relevance to the compressed air industry and the sectors in which compressed air is used. They can be found by following the link or scanning the QR code.

www.boge.com/whitepapers



Industry 4.0

compressed-air technology of the future

Industry 4.0 stands for the fourth industrial revolution – a whole new level of organisation and control in industrial production. It is based on the idea that combining people, objects and systems creates dynamic, real-time, self-organising, cross-company, value added networks that meet demands and are customer-focussed.

BOGE airstatus is a pioneering technology that redefines communication between man and machine in the Industry 4.0 age. The remote diagnostic tool offers users greater safety and transparency when it comes to their compressed-air supply. BOGE airstatus ensures that compressed-air systems give a high level of performance and efficiency and is excellent for monitoring and managing complex

systems and machinery with up to 32 components. Users view process data – such as status, maintenance messages, temperatures and pressures – and can instantly identify, analyse and react to faults on their PC, tablet computer or

BOGE app: safety at all times with mobile monitoring

smartphone. System monitoring is turned on simply by locating the relevant compressors and components via ModbusScan. The system data can be transferred directly via GSM/GPRS or via a LAN connection in real time and are accessed on the BOGE airstatus Web portal or the BOGE app. The BOGE app gives users an overview of the status



of their compressed-air system anywhere anytime. The receipt of e-mail or text message alerts when values go above or below defined limits further enhances safety.

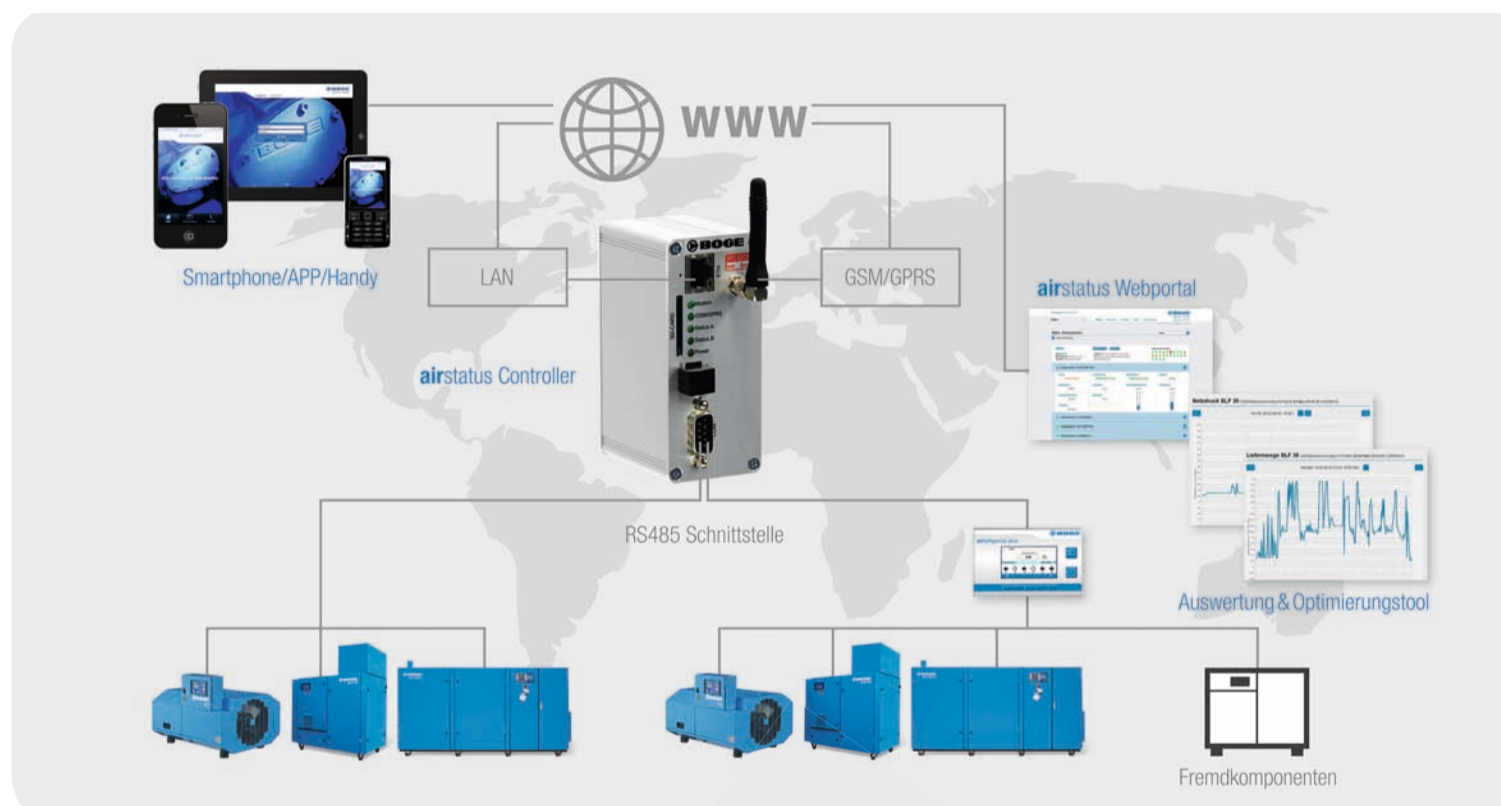
BOGE airstatus is also an excellent tool for dealers to effectively manage the after-market side of the machinery in the field.

Clever compressed-air system management

New BOGE formula editor airlogic for airtelligence provis 2.0 delivers high flexibility

The coordination and management of compressed-air systems involves linking a multitude of highly diverse variables. To optimise these processes, BOGE has now added the airlogic module to the master controller airtelligence provis 2.0. airlogic facilitates the individual link-up of available status values, i.e. functions that until now could only be generated using special software.

Depending on application, complex switching sequences, such as the synchronisation of treatment components and status-controlled damper control, can be pre-set in this way. The flexible formula editor dispenses with customer-specific programming, rendering additional programming and costly PLC controllers superfluous.



airstatus manages up to 32 components.

A closer look...

BOGE genuine part

In every issue of AIRMAG we present an original or wearing part from the BOGE portfolio and explain its high standard of quality and the extensive know-how that goes into that particular BOGE accessory.

This issue focuses on: **BOGE PressureSafe**

A constant pressure level is synonymous with high compressed-air quality: because, if the pressure in the network falls too low, this may overload adsorption dryers in particular but also refrigerant dryers due to the increased volume flows, resulting in reduced compressed-air quality. BOGE is in a position to offer a simple solution: the BOGE PressureSafe (BPS) pressure holding system. It is designed for easy installation in the compressed-air network to enable a constant pressure level on the compressor and in the treatment section – and to ensure consistently high compressed-air quality.



▶ SAFE OPERATION

The BOGE PressureSafe pressure holding system serves as a system pressure securing device, and in particular with respect to components requiring a certain operating volume flow rate for optimal functioning – for safe operation of the compressor station.

▶ CONSTANT QUALITY

Using the BPS to maintain the pressure at a constant level within the air treatment section enables the compressed air to be kept at a consistently high quality – a prerequisite for the compressed-air dryer, for example, to operate under appropriate conditions.

▶ EASY INSTALLATION

Simply install in the compressed-air pipework in order to put the BPS into operation. A suitable pipe connection enables the operator to pre-set the required minimum pressure. Falling below this value will cause the BPS to close.

▶ POSITION SWITCH

There is an option to equip the BPS with an additional position switch, thus allowing the position of the BPS, for example, to be displayed in a control unit. If the BPS is closed due to low pressure, a message is triggered at the same time, enabling the operator to remedy the cause of the loss of pressure.

“We will continue to grow”

Gavin Monn, International Sales Director at BOGE, on the situation on the international markets



Gavin Monn, International Sales Director at BOGE.

Energy efficiency and saving energy are coming increasingly to the fore on the international markets. Oil-free compressors are also in high demand. We are also seeing a shift in production from industrial countries to emerging nations and countries that are catching up with developed countries. We expect slight growth in GDP in the G7 industrialised nations and significant growth in the BRIC economies. BOGE's foreign markets are experiencing strong growth. We expect that the foreign share of total turnover will be around 65% by 2015. In order to further expand our share of the global market, we will consistently pursue our strategy. This means continuing to set ourselves apart from the competition, extend our lead by developing further product innovations and grow in the aftermarket and plant engineering segments.

Sales / Service Companies with Management

Our thinking was always without boundaries.
BOGE air: in more than 120 countries around the world.

BOGE AIR. THE AIR TO WORK.

BOGE
COMPRESSED AIR SYSTEMS

India is growth market

Interview with Franklin Jayakaran, Country Manager at BOGE India



Franklin Jayakaran, Country Manager at BOGE India.

AIR MAG: What is the currently situation on the Indian market?

Franklin Jayakaran: Up to the end of 2015 the Indian economy is expected to grow almost 6%. The newly formed Indian government is initiating and welcoming foreign investment, especially in manufacturing, and I think that the market will also grow in the next five years.

AIR MAG: What are the prospects and outlook for the compressed-air market and for BOGE?

Jayakaran: The Indian compressor market is currently in a boom phase. BOGE India is also growing, one reason being our success in the textile industry. And we plan to continue entering untapped niches. In light of our important references and certificates, and given

the fact that BOGE solutions have a reputation for reliability and energy efficiency, we see a great opportunity for us to increase our market share substantially.

AIR MAG: What part does location play in the success of BOGE in India? How important is its geographical location in this huge country?

Jayakaran: We are located outside Chennai, in the south of the Indian subcontinent. Close to the port, the textile industry, the automotive and automotive supplier industry: the location is good. The fact, too, that 35% of the Indian compressor market is in southern India confirms our belief that we are in a strategically good location.

AIR MAG: What are the biggest obstacles and problems for firms in India?

Jayakaran: Currency fluctuations and the high import duties are challenges to our competitiveness. Being competitive is important for us to grow, especially considering that we have some well-known competitors who have been in business in India for a long time and have lots of references.

AIR MAG: Which BOGE products and services is there particularly strong demand for in India?

Jayakaran: As far as our products are concerned, our biggest strengths are reliability and energy efficiency. This is our strategy to create demand. Our other strengths are our sales partners, our proximity to the customer and our solution-centred approach. We don't sell per se; we see to it that customers want to buy BOGE.

BOGE develops talent on international level

BOGE focuses on providing training and international networking opportunities for junior staff in its “International Summer Camp”.

Intense competition in and consolidation of the markets these days mean firms have to grow, and SMEs in particular. BOGE makes sure that it grows by internationalising and nurturing talent on an international level: this is the background to BOGE's international training initiative, which took place in Bielefeld in September.

Any subsidiary of the group could register qualified candidates for the International Summer Camp. As it turned out, nine people from many different departments within the subsidiaries signed up.

For one week, junior staff from Singapore,

India, China, Spain, Austria, Belgium and the UK took part in a number of workshops and seminars. The timetable included seminars developing soft skills like presentation techniques, conflict resolution and project management. Apart from that, the young participants delved into current developments in the market, learned about the latest BOGE products as well as internal processes and came up with actual corporate development activities in project work. At the end of the summer camp, the participants

presented the results of their projects to the management and discussed their ideas with managing directors Wolf D. Meier-Scheuven and Thorsten Meier. Their proposals will be put into practice in future. “The project assignment was a great platform for the participants and for our colleagues in Bielefeld to expand their network internationally within the company”, says Ricarda Fleer in

summary. “The candidates worked hard on developing their skills and shared their ideas on corporate development with us. We are

now one step closer to our goal of becoming an integrated international group consisting of German and international talents.”



For one week, junior staff from Singapore, India, China, Spain, Austria, Belgium and the UK took part in a number of workshops and seminars.

Interview with Michael Kramer

New Sales Director for Germany

Michael Kramer has been BOGE's Sales Director for Germany since August of this year. AIRMAG spoke to him about the challenges in the German market and about his goals.

AIRMAG: What was your professional background before joining BOGE this year?

Michael Kramer: I am a qualified electronic and industrial engineer and, as such, worked for many years for various mechanical and plant engineering firms. In recent years, this took me into the compressed air industry, which is how I ultimately ended up in BOGE this year.

AIRMAG: Why did you choose BOGE as an employer? What is it you like about the company?

Kramer: BOGE is an independent family company and a market leader in the compressed-air industry. The products and services are excellent. In addition, BOGE is very successful internationally as well, with its many subsidiaries and sales partners. It was this mix that clinched it for me.

AIRMAG: What, if anything, is different about the German compressed air market, do you think?

Kramer: The German compressed-air market is not necessarily a major growth market.

It has its ups and down, and the market is highly competitive. To remain at the top and to set the course for further growth, it is essential to take up a strong position.

AIRMAG: What goals have you set yourself?

Kramer: We have set ourselves the goal of becoming performance leaders in certain target segments in Germany.

AIRMAG: Describe yourself in one sentence.

Kramer: I am a very goal-oriented person, but have a good sense of humour as well.



Michael Kramer, Sales Director for Germany at BOGE.



Headquarters of Cleveland Compressed Air Systems in Perth, Western Australia.

Compressed air in the Roy Hill mine project in Port Hedland, Australia

Cleveland Compressed Air Services is one of the biggest independent suppliers of air compressors and service in Western Australia and has been working as a premium dealer for BOGE since 2009. Thanks to the commitment of the team at Cleveland, BOGE compressed air is now applied in the Roy Hill mine project, which is the largest mining project in the region. About 55 million tonnes of iron ore from the Roy Hill mine is shipped through Port Hedland where it is

exported worldwide. The BOGE compressors are a key component for the maintenance in the port workshop. "The port has the infrastructure to ensure smooth and efficient export for the product being mined. The compressor system is critical to the ongoing maintenance of the facilities and two BOGE compressors provide 100% redundancy", says Jim Rohner, General Manager of BOGE Australia.

Pneumatik S.A. celebrates 20 years with BOGE

Interview with Hieronim Wawrzyniak, CEO and proprietor of Pneumatik S.A. Poland

AIRMAG: How did you end up in the compressed-air industry?

Hieronim Wawrzyniak: As a young student, I used to do part-time work in Germany between semesters and made contacts that way. The opportunity eventually came along to sell medical compressed air in Poland for the firm Pneumatik Berlin. Then, in 1990, I established the firm Pneumatik in Poland.

AIRMAG: Why did you choose BOGE as a partner all those years ago?

Wawrzyniak: We used to sell BOGE products through Pneumatik Berlin, and the quality really impressed us. Very quickly, business was so brisk that we came to BOGE's attention, who offered us a sales partnership. And that was 20 years ago.

AIRMAG: What is the structure of Pneumatik S.A. now?

Wawrzyniak: Pneumatik S.A. has been a company limited by shares since 2000. We specialise in selling large compressed-air stations. We sell solutions, not machines; that is, complete systems including consulting, assembly, and so on.

AIRMAG: What do you think of the partnership with BOGE?

Wawrzyniak: I wouldn't say it's good, I'd say it's very good! Because we have worked together for so long, we know each other

inside out. BOGE quality speaks for itself; we sell BOGE not for the price, but for the advice. We benefit greatly from the fact that BOGE produces innovative, efficient solutions on an ongoing basis.

AIRMAG: What is most important criterion for your customers?

Wawrzyniak: Efficiency! When a customer buys a system, it's not the initial outlay but the years of energy consumption that costs the most. In addition, comprehensive, professional advice and a 24-hour service are important to our customers, as is the fact that BOGE is "Made in Germany".



Pneumatik S.A. Poland headquarters in Przeźmierowo.

BOGE further enhances efficiency for Black Sheep Brewery

BOGE lowers the brewery's operational costs

BOGE has further refined service for the Black Sheep Brewery, where its screw compressor solution applied four years ago is still delivering faster production and greater reliability. More recently, a BOGE Air Leak Detection Survey, carried out across the site in April 2014, has recorded a series of air leaks that are being addressed to increase efficiency yet further.

The award-winning Black Sheep Brewery produces cask ales and bottled beers in its traditional style brewery in Masham, North Yorkshire. Compressed air is used at various stages in the brewing process, with the largest volume used on the racking plant.

Its ongoing relationship with BOGE began when the Black Sheep Brewery installed a BOGE SD15 screw compressor for all its machine and valve actuation. Impressed with the efficiency and reliability of the BOGE compressor, Alan Dunn, Head Brewer at Black Sheep Brewery, specified a BOGE compressor to compress foam and speed up cask filling when plans were put in place to expand production in 2010.

The Black Sheep Brewery invested in a BOGE SD40 screw compressor with a built-in refrigerant dryer to power the cask filling process, which has now been providing a reliable and efficient supply of compressed air for four years. The SD series from BOGE, part of the award-winning BOGE S series, offers the user a compact compressed air station. An integral refrigerant dryer ensures a small footprint, keeping the space requirement to a minimum, and ensures that there are no additional assembly or installation costs required for a stand-alone dryer, while a compact design ensures easy access from one point during maintenance work.

The BOGE Air Leak Detection Survey identified that the main area of leakage was on the racking plant. As this is also the area with the most air usage, this represents a major cost-saving opportunity for Black Sheep Brewery. All leaks were detected using an Ultrasonic Leak detector and have been tagged with a yellow BOGE "Leak Detected" tag, each one individually numbered by hand. The numbers on the tags correspond to the record numbers on the spreadsheet



The award-winning Black Sheep Brewery produces cask and bottled beer in Masham, North Yorkshire.

report. The majority of records on the spreadsheet relate to general air leakage, mostly from fittings that either need to be resealed with a suitable sealant (i.e. PTFE Tape) or have become worn and need to be replaced (mainly push in type fittings). Some leakage is the result of valve seals becoming worn, particularly Directional Control Valves

and Solenoid Valves where the seals are passing or a valve is venting/exhausting when it is not required to do so.

BOGE has achieved the goal it was set to greatly reduce energy costs at the Black Sheep Brewery by introducing leak testing.

Keeping it fresh!

Lettuce grower Keltenhof relies on BOGE compressors – for generating nitrogen too



Keltenhof Frischprodukte GmbH specialises in the production of packaged salad leaves and herbs. Up to seven tonnes of product is processed fresh every day. Having a constant supply of compressed air and nitrogen is crucial to the firm's success.

Compressed air is essential for cleaning and grading, of course, but also for packaging

the fresh product. At peak times the lettuce grower consumes compressed air at a rate of around 3 to 4 m³/min. Keltenhof uses jets of compressed air for pneumatic processes in production and for blowing off the conveyor belts after changing the product. Also, when grading, lettuce leaves with imperfections are blown off the conveyor belt by means of jets of compressed air.



Cleaning lettuce with the use of compressed air.

Looking for a new compressed air plant, Keltenhof made contact with compressor manufacturer BOGE in 2013. "Because at Keltenhof the air comes into contact with the end product, 100% oil-free compressed air was required", explains Gernot Hund, head of regional sales at BOGE. "We recommended the SLF 40-3 BLUEKAT, which produces Class 0 compressed air with absolute certainty." Thanks to the integrated converter technology, the BOGE BLUEKAT produces absolutely oil-free compressed air regardless of the quality of the intake air. The condensate by-product, like the compressed air itself, is absolutely oil-free and can be disposed of in the sewage system without any further treatment. Another component of the new compressed-air plant is the BOGE DUOTHERM heat recovery system. A high percentage of the energy expended in the production of compressed air used to go to waste at Keltenhof. Since the DUOTHERM was installed, most of the energy used for the compressor can be used to heat the offices. The firm saves between €8,000 and €9,000 on heating per year in this way.

a protective gas atmosphere to extend the shelf life and ensure the freshness of the packaged lettuce. "We were buying the gas from an external supplier, but storing the pallets of bottles was taking up a great deal of space and costing a lot. It was BOGE who made us aware that we could produce nitrogen ourselves with a small add-on to our compressed-air plant", says Alexander Maier, Operations Manager at Keltenhof. Keltenhof has had one BOGE nitrogen generator up and running since the end of 2013. The firm reckons it will save them more than €18,000 on nitrogen per year.

In-house nitrogen generation

Keltenhof boosted its efficiency even more by producing nitrogen in-house: the firm had been using around one and a half pallets a week, the nitrogen being used as



Operations Manager Alexander Maier's top priority is the freshness and quality of his product.

Feedback

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