B-NEWS
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BAUER KOMPRESSOREN
Quality. Our DNA

ISSUE 1/2017

EDITORIAL

Philipp Bayat, Dr. Monika Bayat, Heinz Bauer (from left to right)

In May, BAUER and eight carefully selected companies were invited to accompany German Chancellor Angela Merkel on her visit to Saudi Arabia and the United Arab Emirates. This exclusive circle was made up of companies that represent the country most impressively in terms of their innovation, engineering skills and quality. For BAUER the invitation was a valued proof of esteem, while also standing for the obligation we have towards our customers and staff to constantly defend and expand our leading position in the market. A vital building block in this aim will be our new Product Engineering Program (PEP), which is our top priority.

Heinz Bauer
Dr. Monika Bayat
Philipp Bayat

BAUER KOMPRESSOREN

BAUER ACCOMPANIES THE GERMAN CHANCELLOR TO GULF STATES

Philipp Bayat is shaking hands with the Crown Prince of the United Arab Emirates

In an honour that is not accorded to everyone, His Royal Highness Sheikh Mohammed, Crown Prince of Abu Dhabi, welcomed the Chairman of the BAUER GROUP, Philipp Bayat, with a handshake in the presence of the German Chancellor. The photograph of the handshake was published in the largest daily newspaper in the United Arab Emirates (UAE), “The National”. A great privilege, which was clearly recognised as such by the public.

Philipp Bayat is proud of the honour, regarding it as “a sign of acknowledgement of the long-standing good relations that link us with the Emirates”. And also a promising sign for the future; as the Saudi Vice-Minister of the Economy stressed, both the UAE and Saudi Arabia are seeking to “collaborate closely with Germany” in both political and economic terms.

Saudi Arabia is focusing on “Vision 2030”, the country’s master plan for economic reorganisation, reduction of dependence on oil, and renewal of its infrastructure.

Chancellor Merkel was therefore accompanied by a veritable Who’s Who of German industry, spanning companies including Siemens, Deutsche Bahn and Lufthansa – as well as selected “hidden champions” of Germany’s industry such as the BAUER GROUP, home of unique

expertise that is highly sought-after around the world.

The visit to the Saudi Royal Palace in Riyadh was particularly fortuitous for the BAUER GROUP. At the official dinner, Philipp Bayat was seated in a place of honour opposite the host, Sheikh Mohammad bin Salman Al Saud, the Deputy Crown Prince of Saudi Arabia and the originator of "Vision 2030".

In Saudi Arabia, BAUER is a leading player in the civil defence sector and is involved in numerous large-scale projects in the industrial and oil and gas sectors, in addition to more recent involvement in desalination plants. In the UAE, BAUER is responsible for projects including expansion of the CNG fuel station network – one of the first major projects to launch the economic restructuring of the Arab peninsula around 2010.

Philipp Bayat (3rd from left) at economic talks under the patronage of the German Chancellor Angela Merkel and the Crown Prince of Abu Dhabi, Sheikh Mohammed bin Zayed Al Nahyan

WORLD TOUR FOR THE NEW STARS MINI-VERTICUS & VERTICUS

Curtain up at the end of January 2017: the new MINI-VERTICUS and VERTICUS stationary compressor systems were finally revealed to the international media at the world's largest maritime trade show, "boot" in Düsseldorf, and subsequently at HANNOVER MESSE. The systems have taken almost three years to develop.

After the German trade shows, the systems toured 13 further leading shows around the world, travelling to Singapore, Dubai, Russia, Spain, Italy, Austria, Switzerland, Iran and Lebanon.

The new series represent a further milestone in BAUER KOMPRESSOREN's 70-year history of product innovation. BAUER's development team were uncompromising in tackling their task of significantly improving the successful predecessor systems in every respect.

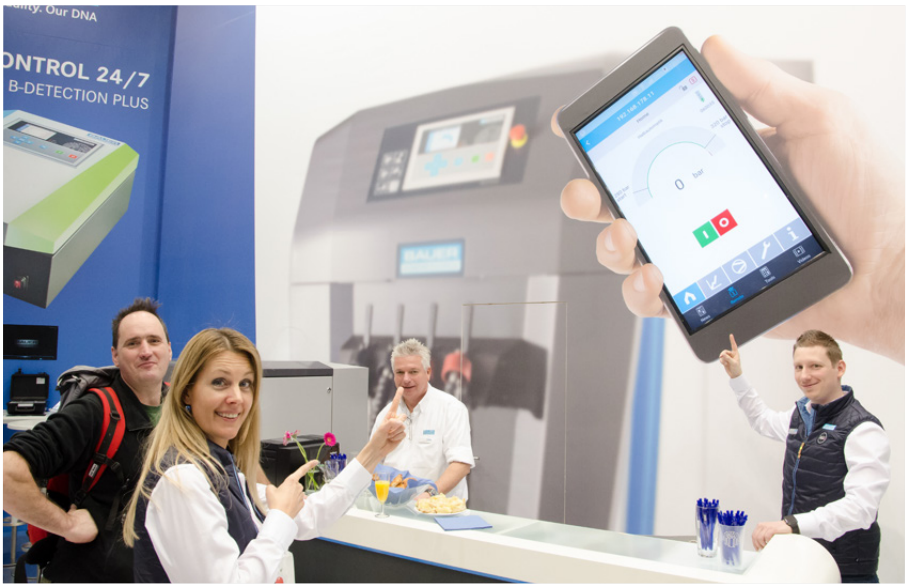
And they were successful: the all-new housing design, with its bold, striking lines, expresses BAUER's technological leadership in stationary high-pressure compressors. The attractive, glossy finish conceals a well-thought-out operating concept that optimally positions all the main functional elements of the system within easy reach of the operator; for example, filters can now be easily changed in a moment.

And there have been some impressive changes inside too; in the SILENT version, a sophisticated soundproofing system significantly lowers the operating noise level compared to the preceding system, while the new B-DRAIN condensate drain boosts efficiency and protects materials and parts.

But the feature that attracted the most attention and marks BAUER's competitive edge over its rivals most clearly is the new B-APP. Installed on a smartphone (iOS or Android) or tablet, it connects wirelessly to the compressor control unit to offer a whole new connectivity between system and user.

The smartphone display can be used to remotely monitor and control the main system parameters, including pressure, filter cartridge life and oil

The new MINI-VERTICUS and VERTICUS series, prominently showcased at HANNOVER MESSE



The new B-APP live in action. The app allows the status of the MINI-VERTICUS to be monitored in real time on the user's smartphone display

temperature. Combined with B-DETECTION PLUS, a further new feature for online gas measurement, the app ensures seamless monitoring of compliance with defined air and gas toxin limit values.

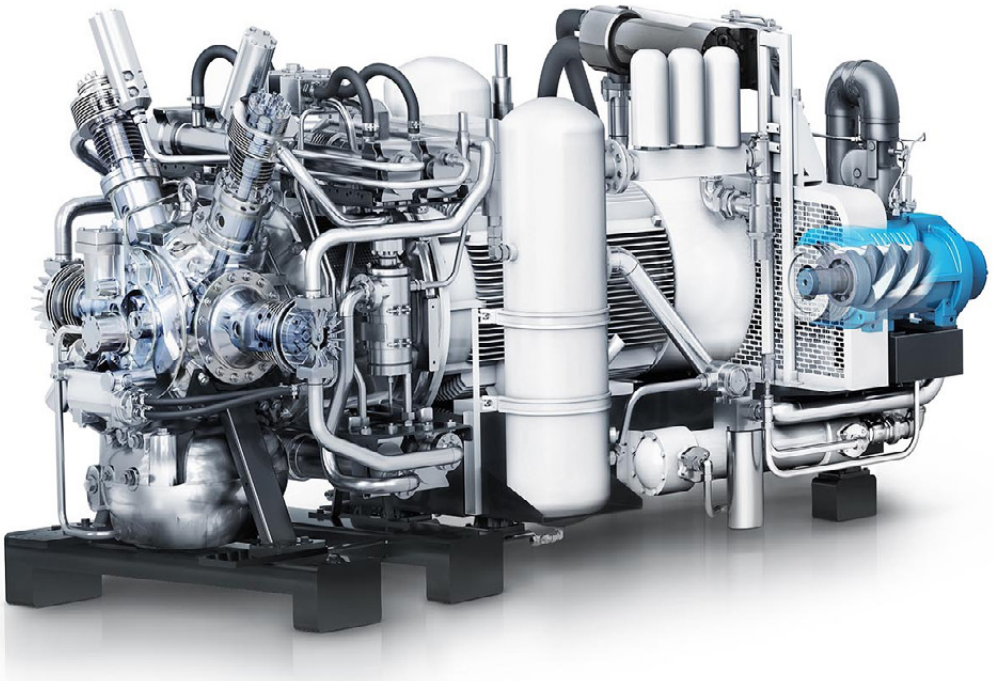
The MINI-VERTICUS set up at the trade show stands was used for interactive live demonstrations, where it was started up by smartphone. A giant monitor streamed the smartphone display, allowing visitors to follow the system control and monitoring activities in real time.

PREMIERE AT COMVAC 2017
THE NEW BK 26

BAUER KOMPRESSOREN attended this year's COMVAC with an array of innovative new products, once again raising the bar for performance and quality in the field of high-pressure air and gas compression.

The trade show started with the world premiere of the new GIB 26 SP series, under the heading of "Maximum Capacity@Minimum Footprint". The series combines extra-high FAD of up to 15,000 l/min with an extra-compact design achieved by combining the screw and piston blocks. The new BK 26 compressor block forms the heart of the series, even more compact than its predecessor and exceptionally quiet and smooth in operation; vibrations and pulsations are virtually undetectable. With low oil consumption and low-maintenance operation, the BK 26 offers outstanding value for money and low TCO for continuous-operation applications, even in the most extreme conditions.

The new MINI-VERTICUS and VERTICUS systems were further attractions at the trade show stand. The ground-breaking new design was the most striking feature, and immediately attracted attention. The new series are designed for compression of air, nitrogen and – in gas-tight models – rare gases, and can also be supplied as intake pressure booster systems.



Despite its compact dimensions, the new GIB 26-SP offers impressively high FAD specs by combining the compressor block and screw block

Klaus Schröder (Head of Development and Design) explains the new PEP process

PRODUCT DEVELOPMENT 4.0 INTO THE FUTURE WITH PEP

Industry 4.0, the Fourth Industrial Revolution, is bringing ever more complex requirements to the field of product development. Cloud connection, predictive maintenance and smart human-machine interfaces are all megatrends of the moment, and as the market leader for high-pressure systems, BAUER is driving progress for the future with its product developments.

To establish the optimum position for these tasks, BAUER GROUP's holding company has introduced a change from a classic organisation with functional focus to a modern, process-driven framework. The new Product Engineering Process will be a cornerstone of this change process, which will also be available as a business process after the ERP release change.

In our interview, Klaus Schröder, Head of Development and Design, describes the key issues in the introduction of the new PEP:

Mr Schröder, what's the significance of PEP for BAUER and what does it mean for the company?

The term "PEP" stands for Product Engineering Process, and generally covers the entire process of creating a product, from the initial idea up to series production.

PEP gives structure to the elements that are involved and places them within an organised timetable. PEP is designed as a series of phases, which allows the areas of the company involved to synchronise their activities.

BAUER KOMPRESSOREN produces a wide range of compressor models and integrated products and has the objective of providing every customer with the perfect product. To achieve this all corporate areas have to play their part, and they do this within the Product Engineering Process.

By involving all areas of the company at an early stage and synchronising their activities, a project-based culture founded on communication is built, and ultimately results in development of a product that reflects market needs.

Can you summarise BAUER's aims in introducing the new PEP?

PEP requires extremely close collaboration, especially in the early stages of a project. This close focus on planning and design right at the start, is known as "frontloading".

It allows potential problems to be detected at an early stage and ensures that a product will be quantifiably completed in time for the planned start of series production. Transparency within a project is further boosted by ensuring adequate reporting. In-depth frontloading throughout all project phases minimises the emergence of risks as the project progresses, and reduces the need for changes after production start-up, thus slashing production start-up costs.

Is PEP going to be used for all company projects?

Although PEP is designed to be used for any type of project, its focus will be on new series products and the advanced development of existing products.

PEP is an important strategic tool for securing and expanding the market leadership of BAUER KOMPRESSOREN over the long term.

Thank you for the interview!

CALIFORNIA RELIES ON BAUER CNG BUSES

California is setting its sights firmly on climate protection. A core element of the overall concept is the state's changeover of public transport to climate-friendly, low-emission fuels such as CNG.

To achieve this, the city of Reedley is increasingly turning to climate-friendly CNG-powered vehicles as school buses. 33 of its 72 school buses, almost half of Reedley's entire fleet, now operate with natural gas, and further conversion of the fleet to CNG operation is scheduled for the future.

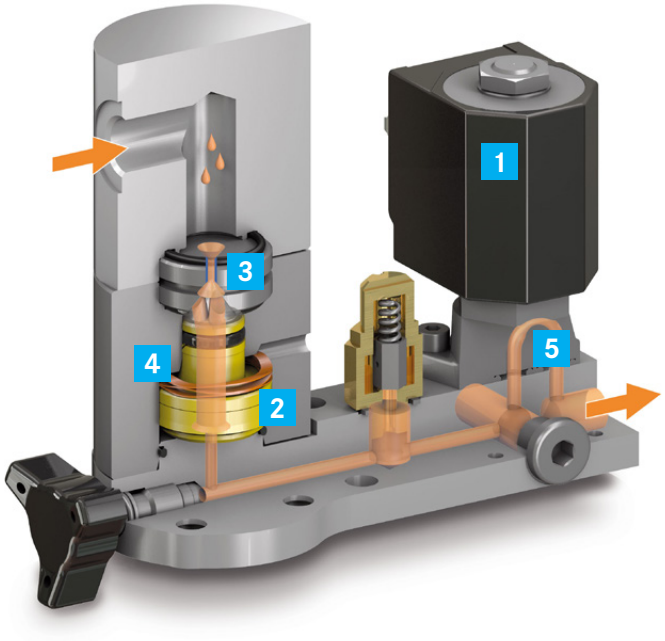
The exceptional expertise of BAUER COMPRESSORS in this field was the clincher in the tender for construction of the CNG fuelling stations required for the bus fleet. BAUER COMPRESSORS' outstanding reputation as a quality and technology leader for CNG fuelling stations won the bid:

DID YOU KNOW?

How does B-DRAIN work?

B-DRAIN is the successor to the classic condensate drain system previously used by BAUER. Its advanced features are designed to ensure lower-noise condensate draining with lower mechanical load than previous systems could achieve. The main advantage of the new system is the reduced pressure loss during condensate drainage. This has several key benefits:

Pressurised parts such as the filter housing and interstage separator are subjected to lower cyclical load, which extends their life. The design of the system is now significantly more compact because the connecting piping that was required in the standard model is now unnecessary, the condensate valve is now located directly on the interstage or oil/water separator, and no flash tank is needed. As a further positive effect, reduced pressure loss can also result in increased free air delivery in continuous operation, depending on the system model.



The core of the new B-DRAIN system is the condensate valve, which functions as a pressure reducer: operating pressure in the condensate drain system is reduced from up to 550 bar to a control pressure of 2 to 9 bar.

When the compressor is started up (unpressurised system) the condensate valve is open. The solenoid valve (1) closes. As pressure rises in the compressor, the control pressure below the piston (2) likewise rises. The change in the valve face ratio causes the piston to move upwards and close the condensate valve.

To drain the condensate, the solenoid valve is opened. This causes the control pressure to fall, and the piston is pushed down by the operating pressure on the piston face (3) and the force of the spring (4). The condensate now flows over the piston, through the solenoid valve, and out through the condensate valve. The solenoid valve contains a flow control element (5) that causes the control pressure to rise again. This control pressure closes the piston until the forces are in equilibrium. The outlet pressure of the condensate/compressed air is thus largely independent of the operating pressure. This is the main difference from previous condensate drain system models, in which the condensate/compressed air is released at the respective stage pressure (16 to 550 bar) into a condensate separator (Wilkerson separator). In this new model, condensate flows directly into the condensate vessel at an outlet control pressure of approx. 2 to 5 bar, practically independent of the operating pressure. At the end of the condensate drain process (timer-controlled) the solenoid valve is closed again, increasing the control pressure until the condensate valve closes.

H. Bauer

Heinz Bauer

Reedley District's CNG vehicle fleet is constantly growing, and already has 33 vehicles

"With 10,000 school students to transport, we can't afford any problems with our CNG fuelling systems", explained Keith Iaia, director of Kings Canyon Unified School District. He added that they regularly had to cover for neighbouring districts when technical problems occurred, to fill in for any lack of fuel provisions. Thanks to the reliability of their own two 26 model X-Fill systems from BAUER, they had never needed to ask for support themselves.

Dr. John Quinto, Assistant Superintendent Business Services, also listed the negligible oil consumption, high efficiency of the water cooling system and, last but not least, the outstanding service quality of the systems as further key criteria in the city's choice of BAUER.

The new company headquarters in SMUDC Minhang business complex, Shanghai

BAUER CHINA
NEW FACTORY

BAUER CHINA in Shanghai has gone from strength to strength since its foundation in 2008.

The original premises had an area of 1,200 square metres and were designed purely as a sales office. However, customers had high expectations of BAUER KOMPRESSOREN as a premium manufacturer, and the company was faced with the need to expand its workforce in the areas of design, quality management, marketing and training in order to ensure rapid local supply of the tailored solutions demanded by its ever-growing customer base.

The expansion measures were rewarded by doubled sales; the headcount at BAUER CHINA quickly rose to 70 in the years following its establishment, while the number of partners likewise grew to 33. After this growth spurt, the premises were bursting at the seams and the decision was taken to find a new location.

Success in this venture was reported in July 2016, when a suitable 5,200-square-metre site for long-term rent was found in the SMUDC Minhang business complex. The new location fulfils all the criteria, including the capacity to store 40-ft containers. With these new capacity reserves, BAUER CHINA is now excellently prepared to tackle new challenges on the market and embrace growth perspectives in the future.

PERSPECTIVE CNG
FRANCE STEPS ON THE GAS

As climate change progresses, fundamental change is sweeping through the history of humanity. Slowing this change is the most urgent challenge facing us in the 21st century. At the Paris Conference two years ago, the 195 participating countries agreed to drastically reduce CO_2 levels. As the host of the conference, France adopted a pioneering role in implementing the climate targets. Developments were drastically accelerated by the diesel scan-

The opening of the new biogas fuelling station in Sevron by Air Liquide and Carrefour. Photo, from left: Xavier Pontone, Vice President Advanced Business & Technologies/Air Liquide, Philipp Bayat, Chairman/ BAUER GROUP and Noël Prioux, Directeur Exécutif/Carrefour France

dal. France drew up the extremely ambitious target of cutting CO_2 levels from road traffic by 40 per cent.

For example, diesel vehicles will be prohibited in Paris from 2025. Energy companies and service providers are likewise changing their practices. 9,000 trucks ply the roads every day to serve Carrefour, Europe's second largest retail group; those trucks will now be gradually converted to operation with climate-neutral biogas by Air Liquide, the world's largest producer of special gases. The necessary fuelling station infrastructure will likewise be established by Air Liquide. As a strategic partner, BAUER will supply the natural gas infrastructure that is necessary for efficient, failsafe and reliable fuelling of large vehicle fleets.

Etienne Franc, Vice-President Air Liquide, expresses his thanks for the smooth project completion

On 7 April, the first of five biogas fuelling stations in Greater Paris was ceremonially opened in Sevron. Two large-scale BK26 and BK52 compressors, the flagship models in BAUER's compressor block portfolio, now reliably supply compressed biogas as climate-neutral fuel, and are already serving 80 large delivery trucks a day even in this start-up phase. At the opening, leading representatives of Air Liquide gave statements enthusiastically confirming the quality of BAUER systems and the smooth professionalism of the project completion.

Pierre Etienne Franc, Vice-President of Air Liquide, explained why BAUER had won the tender for the contract: "There were several reasons why we chose BAUER, including their technological expertise and the high quality of the materials they use. Support in project development was also crucial, as is BAUER's customer service once the fuelling stations are in operation. The reliability of the systems is of critical importance to our customers. We found during testing that the products BAUER had supplied were exactly in line with our specifications and our expectations of the project."

Xavier Pontone, Vice President Advanced Business & Technologies and responsible for driving future technologies at Air Liquide, adds more detail about why BAUER was selected as key supplier by Air Liquide: the quality and reliability of BAUER's compressor module, he notes, enables Air Liquide to offer its customer Carrefour an outstanding integrated solution that he is confident will deliver long-term customer satisfaction. ■

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Seite 6: BAUER CHINA
Seite 7: Martin Kosok

BAUER Calendar

EXHIBITIONS 2ND/3RD QUARTER 2017

Exhibition	Topic	Location	Dates
BAUER COMPRESSORS Asia (BCA)			
ADEX (Asian Dive Expo)	Breathing Air	Singapore	07.–09.04.2017
MIDE Malaysia (Malaysia International Dive Expo)	Breathing Air	Kuala Lumpur	12.–14.05.2017
DRT Philippines (Dive Resorts Travel)	Breathing Air	Manila	08.–10.09.2017
BAUER COMPRESSORS U.S.A. (BCI)			
Alt Fuels Mexico	Industry/CNG	Mexico City	04.–07.04.2017
FDIC International - Fire Department Instructors Conference	Breathing Air	Indianapolis	24.–29.04.2017
ACT Expo Advanced Clean Transportation	Industry	Long Beach	01.–04.05.2017
OTC Offshore Technology Conference	Industry/Oil & Gas	Houston	01.–04.05.2017
FRI Fire Rescue International	Breathing Air	Charlotte	26.–29.07.2017
BAUER COMPRESSEURS France (BCF)			
EXPOBIOGAZ	Industry	Bourdeaux	31.05.–01.06.2017
FIP Solution Plastique 2017	Industry	Lyon	13.–16.06.2017
BAUER KOMPRESSOREN China (BKC)			
China Fire	Breathing Air	Beijing	05.–08.09.2017
BAUER KOMPRESSOREN U.A.E. (BKG)			
Intersec, Saudi	Breathing Air	Jeddah	02.–04.05.2017
Iran Oil and Gas Show	Industry/Oil & Gas	Tehran	07.–09.05.2017
BAUER KOMPRESSOREN India (BKI)			
3rd International Exhibition & Conference on Steel Industry	Industry	Mumbai	20.–22.04.2017
Fire India 2017	Breathing Air	Mumbai	07.–09.09.2017
BAUER KOMPRESSOREN Russia (BKR)			
Neftegaz	Industry/CNG	Moscow	17.–20.04.2017
BAUER KOMPRESSOREN Australia (BKA)			
International Boat Show	Breathing Air	Sydney	03.–07.08.2017
AFAC Fire Show	Breathing Air	Sydney	04.–07.09.2017
BAUER COMPRESSORS Japan (BKK)			
National Rescue Meet Sendai	Breathing Air	Sendai	23.08.2017
German-Japanese Defense and Security Technology Forum	Industry	Tokyo	26.–27.09.2017
BAUER KOMPRESSOREN U.K. (BUK)			
Northern Dive Show	Breathing Air	Manchester	08.–09.04.2017
Emergency Services Show	Breathing Air	Birmingham	20.–21.09.2017