

## EDITORIAL



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

The historic agreement signed at the Paris Climate Summit and the pledge to limit the level of global warming caused by greenhouse gases to under 2°C is of enormous strategic importance for BAUER.

As a consequence of this agreement, natural gas, biogas and synthetic gas (methanation) will play a central role in the energy transition as fuels and energy reserves.

As a leader in our field, our new, innovative COMPACT, M-SERIES and X-FILL product series, will prepare us well for the future. We will succeed in significantly expanding our position in this market that is so critical for the future.

Heinz Bauer  
Dr. Monika Bayat  
Philipp Bayat

## BAUER KOMPRESSOREN Spain BAUER AT THE AQUARIUM



*European record: An 80-metre glass tunnel runs through the 'Oceanarium', the largest aquarium at 'L'Aquàrium.'*

Barcelona's famous 'L'Aquàrium' relies on a BAUER KOMPRESSOREN's system when it comes to the breathing air supply of its divers.

'L'Aquàrium' in Barcelona has fascinated visitors every day for over twenty years, presenting spectacular underwater worlds behind gigantic walls of glass. The aquarium, located on Moll d'Espanya at Port Vell, opened in 1995 and is the world's most important aquarium of ocean life in the Mediterranean.

The 35 different aquariums are home to over 11,000 sea creatures. A feature unique throughout Europe is the aquarium's 80-metre underwater tunnel. It guides visitors through the heart of the

'Oceanarium', an aquarium containing an incredible four million litres of water where sharks, rays and moray eels glide to and fro and shoals of fish dart elegantly past. Limited numbers of especially bold visitors can sign up for a diving



*A diver, shown here making an acquaintance with a manta ray, uses BAUER pure breathing air.*



trip to swim with the stars of the aquarium – the sand tiger and sandbar sharks. The ultra-pure breathing air necessary for these visitors is supplied by a BAUER compressor system.

Few visitors are aware of the huge efforts that keep these perfectly staged, fascinating underwater worlds in pristine condition. The aquariums need to be cleaned and maintained all year round. 'L'Aquarium's' in-house divers, responsible for the maintenance and care of the giant tanks, must also be able to rely on a dependable round-the-clock air supply. ■

## BAUER KOMPRESSOREN 70 YEARS

### History of BAUER, Part II

For BAUER KOMPRESSOREN an unexpected new field of operations open-

ed up in the mid 1950s when the company began to explore high-pressure compression. This new era would form the basis for the future success of the company and the size of BAUER KOMPRESSOREN today.

And to think it all started with a stroke of fate. In the late autumn of 1953, Hans Bauer received an unexpected visit from the French representative of a US company who was interested in high-pressure compressors for sports diving and announced plans to order 1,000 compressors.

Spurred on by this enticing order, the company's engineers threw themselves into the development of a new product. After some teething problem, endless runs of tests and trials – UTILUS, the first series-ready high-pressure compressor, was proudly unveiled one year later. The name, from the Latin word 'utilis', meaning 'useful', spelt out the German initials of BAUER's motto: 'Unseren Tauchern Immer Luft Und Sicherheit' – 'Always air and safety for our divers'. This double significance extended beyond the field of diving, and became the watchword and mission for the development of all BAUER products.

The original customer had withdrawn in the meantime – but events proved



*A BAUER high-pressure compressor at Munich Airport delivers the air required to start up the turbines.*

this to be a stroke of luck, as BAUER was now able to undertake the marketing of its new product itself.

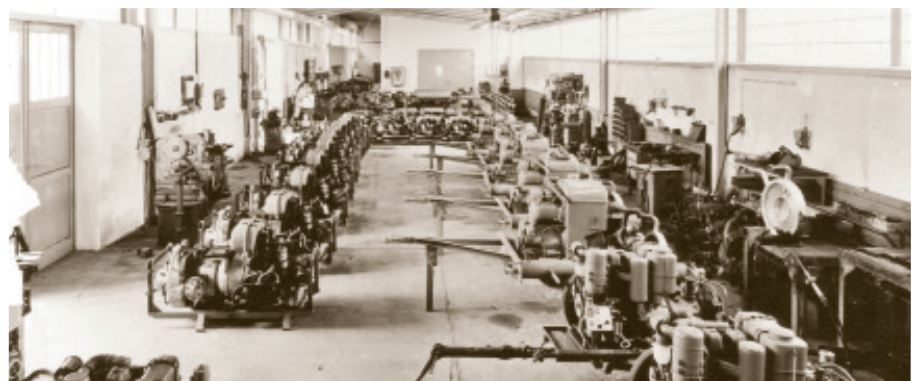
The success of UTILUS was the starting-point for a further major pioneering achievement by the company, when the original three-stage compressor block was further advanced to produce the four-stage high-pressure K14 block.

Launched in 1959, the new model achieved pressures of 225 bar and a free air output of 200 litres per minute. The K14 is one of BAUER's most successful compressor blocks even today, and was the inspiration for the striking block logo adopted by the company.

1954 saw BAUER's sales first overtaking the magic million mark. Profits were invested in new production facilities and expanding the product range.



*A diver with a portable BAUER compressor.*



*Assembly of mobile systems in Plant II, Geretsried-Gartenberg, in the early 1960s.*



*The LD 12 mobile compressors can cope even in rough terrain.*

The first mobile diesel compressors were produced in 1955.

The concept proved to be an export success and gave an enormous boost to BAUER KOMPRESSOREN's global growth spurt. Exports accounted for 70 per cent of sales by 1959, rising to an impressive 80 per cent by 1964.

Thanks to the outstanding reputation BAUER had gained by now for the quality and reliability of its products, the relatively new company succeeded in attracting customers in spectacular large-scale projects for its compressor systems e.g. the three-stage mobile BAUER systems were used along tens of thousands of kilometres of newly laid pipeline in the vast Russian taiga, testing the

leak-tightness of the pipes that carries the newly extracted natural gas reserves from the Urals.

A further milestone was the opening of the Aswan Dam in 1970, which still provides for a large part of Egypt's electricity needs. At the heart of the dam, BAUER compressor systems control and regulate the angle of attack of the twelve enormous turbines, thus ensuring that the water masses of the Nile can be harnessed to produce power.

*To be continued.* ■

## BAUER KOMPRESSOREN India STATE-OF-THE- ART BIOGAS PLANT

7<sup>th</sup> Jan 2016 saw the successful beginning of the first of its kind public private partnership (PPP) in India in the area of waste management.

Waste management is a serious issue for all the growing cities in India, so, for

the Pune city, Noble Exchange Environment Solutions (NEX) with the renowned Poonawalla Group\* and the Pune Municipal Corporation have found an ideal solution.

These three organisations came together and now operate a very efficient 300 MT/day organic waste collection & processing system. By using thousands of litter bins, the organic waste is segregated at source. At specially designated collection centres, this organic waste is further sorted, crushed and converted into slurry and with the help of specially designed closed trucks, this slurry is carried away from the city to their state-of-the-art biogas plant on the outskirts in Talegaon.

Here, this slurry is mixed with micro-nutrients/enzymes and pumped via a sealed system into temperature controlled large digesters where the micro-organisms/bacteria break the waste down and biogas is generated in this process.

The gas is directed into the purification system for further processing and

\*The Serum Institute of India owned by The Poonawalla Group (<http://www.seruminstitute.com/>) is the largest supplier of vaccines to the World Health Organisation and is amongst the Top 3 most valuable pharmaceutical companies in India. It has manufacturing sites in 5 countries and their products are marketed in 90 countries.



*From l. to r.: Stefan Hacker (Managing Director BAUER KOMPRESSOREN), Sumedh Bapat (Director Technical NEX) and Philipp Bayat (Chairman of the Executive Board BAUER GROUP) in front of the state-of-the-art biogas plant in Talegaon.*



*The new M-SERIES – tailored to the requirements of the European CNG market.*

what is left behind is organic manure (fertiliser) which is rich in nutrients & is therefore in high demand for agricultural use.

The biogas is purified in various stages to remove carbon-dioxide, hydrogen sulphide and moisture thereby improving the methane content in the gas making it the most suitable & economic replacement fuel for LPG in large commercial kitchens, furnace oil in furnaces and petrol in vehicles.

NEX, this project's technology partner, chose only the best of the equipment right from the crushers, agitators to the high pressure compressors and storage cascades.

They opted for 3x CTA28.0-90 from BAUER KOMPRESSOREN India to compress the purified gas up to 200 bar and store in mobile cylinders. This compressed gas filled into the mobile cylinders is then despatched to a variety of users to be used as fuel.

These three BAUER compressors handling a gas flow of approx. 1,000 Sm<sup>3</sup>/h use the acclaimed PLC based B-Control II for automatic, integrated

and user friendly operations. NEX has integrated this compressor control into their overall plant's central control system making human intervention almost superfluous.

Besides the technology being used, the other points that make this plant stand out from the others are: modern design, cleanliness and absence of any odour. NEX & their partners have amply demonstrated not only the economic feasibility of this project but also the success of the PPP route in tackling the modern menace of waste, scientifically. ■

## BAUER Products and Applications

### THE NEW M-SERIES

BAUER KOMPRESSOREN's M-SERIES complements its newly developed CNG Systems series to provide a complete range of systems tailored to every need

of its customers. In terms of dimensions and output, the new M-SERIES ranges above the COMPACT series and below the X-FILL series. It is the result of a further successful joint project by Munich-based BAUER KOMPRESSOREN and BAUER COMPRESSORS in Norfolk, USA.

With power consumption of 40 kW, the air-cooled CNG compressor system seamlessly fulfills the catalogue of requirements currently imposed by the European CNG market on public filling stations.

The M-SERIES can accommodate the complete range of BAUER 23 CNG blocks, from BK23.0 right up to BK23.14. Like all the other systems in BAUER's new series of compressors, M-SERIES features housing of weather-proof sheet metal, which offers considerably lower weight and compact dimensions compared to conventional concrete housings.

The newly developed M-SERIES saves an incredible 20 tonnes in weight compared to concrete housings of similar design. This represents an enormous advantage in transport costs, and also simplifies handling.

During its development, the engineers had the primary objective of creating a modular structure to ensure an ease of expansion. This will provide customers with the option of starting with a smaller system and later adjust the capacity to their growing needs by simply adding further modules.

The FAT (Factory Acceptance Test) was completed successfully, and the first system will be displayed at BAUER's Plant 1/Geretsried from August, ready for viewing by interested customers. The launch of M-SERIES production is scheduled for the summer of 2016. ■

## BAUER COMPRESSORS Asia HELPING HANDS

Under water, the world is undivided because for the hearing impaired, they have the advantage of heightened sense of touch which enables them to do underwater work as good as, or even better than a normal able-bodied person; and those with certain physical disabilities are also able to do this work as being submerged underwater reduces the reliance on immobile limbs to move around.

This opens up career opportunities for our physically/hearing/visually handicapped friends in these specific fields and offers them another outlet to integrate with society.

In collaboration with the UK based commercial dive training institute, TWI Technology ([www.twitechnology.com](http://www.twitechnology.com)), BAUER COMPRESSORS Asia's Training Manager Frank Herbert was invited to speak on training and breathing air safety at the MarSUB Tech Workshop, which promotes various underwater technical repair, recreational diving and environmental protection efforts.

This was held at the Republic of



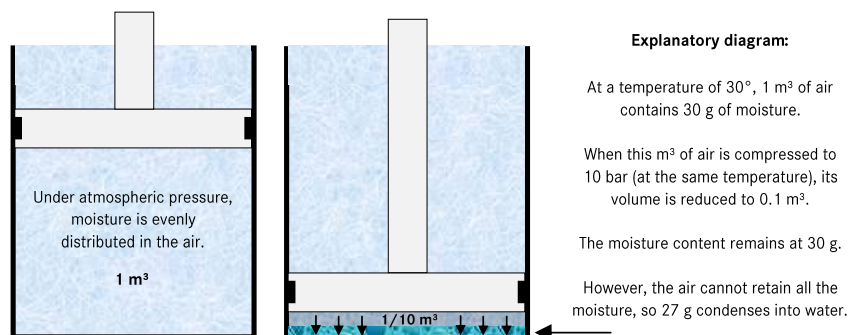
*A hearing impaired participant trying out a breathing equipment.*

### DID YOU KNOW?

## Dew Point – Pressure Dew Point – Frost Point

Dew Point is the temperature at which water vapour turns into moisture. The volume of water vapour that can be absorbed by the air depends directly on the temperature. In other words, a specific concentration of water vapour correlates to every temperature. If the air is cooled to below this temperature, the water vapour begins to condense and dew (liquid water) forms – hence the name of 'Dew Point'.

'Pressure Dew Point' is the term used when this temperature is measured at a pressure higher than atmospheric pressure. The distinction is important because the dew point changes as the pressure and/or temperature change. An enclosed volume of air is reduced under increased pressure. If it is compressed from 1 bar to 10 bar, its volume is reduced to 1/10.



This means that compressed air can absorb less water vapour than non-compressed air at the same temperature. In turn, compressed air requires higher dehumidification (by means of filtering) than air under atmospheric conditions does, to prevent the moisture from entering a piping system or diving cylinder.

When the air is so dry that the moisture it contains only freezes to ice under temperatures of 0°C, we refer to 'frost point' instead of 'dew point'.

*He Bauer*

Heinz Bauer



*Underwater work being carried out by the hearing impaired.*

Singapore Yacht Club on Saturday, 21st May 2016 where close to 30 participants from the local handicap welfare association, various nature societies and members of the local commercial diving fraternity attended.

The workshop focused on commercial diving experiences/activities, marine environmental protection programmes and breathing air safety. Following the presentations, live demos were carried out at the nearby swimming pool and our hearing/visually handicapped friends had an opportunity to try out some of the equipment used in SCUBA and commercial diving. ■

## BAUER KOMPRESSOREN SALES- TRAININGS

BAUER KOMPRESSOREN's Breathing Air, Industry, Oil & Gas and FGS departments conducted virtual trainings i.e. webinars and video tutorials for the first time in BAUER history.

The objective is to use virtual online trainings to boost the knowledge of all products over the long term. The training initiative focused on communicating up-to-date knowledge about our products, applications and USPs and the power of our sales tool Salesforce.

The training sessions were held in English using GoToMeeting. In addition to the webinars, the video tutorials are recorded to deliver added value to training participants; they can refer to the presentations as often as they need to indoctrinate their knowledge.

12 training sessions have already been held in the Sports & Safety unit, involving over 40 attendees from eleven different countries as diverse as Japan, Spain and Australia.

'We have had nothing but positive feedback on the webinars held so far. By introducing online training, we have created a fast and powerful global opportunity to strengthen our colleagues in international sales, and motivate them to tackle projects and boost market share', says Ab Van Erkel, International Area Sales Manager.

The Industry unit has already held 15 webinars with over 100 participants.

FGS and Oil & Gas have likewise held their first training sessions.



*Petra Meinel, Head of Industry Sales, during an online sales training webinar.*

Effective webinars (with a maximum length of two hours), followed up by appropriate documentation and providing a link to video tutorials, are an ideal interactive combination. They provide the perfect way of presenting individual topics, allow subject areas to be examined in more depth, and foster online discussions to further consolidate the content.

'Working simultaneously with colleagues from all over the world is a very effective feature. The structured approach and the international exchange of ideas and experience are definitely major success factors. Our video tutorials are now used by our sales forces all over the world to optimize their sales operations over the long term', says Petra Meinel, Head of Sales Industry. ■

## BAUER KOMPRESSOREN HEALTH DAY

'Bringing Health to Our Employees' was the theme of the day on 13 April 2016.

The HR team from UNICCOMP and BAUER KOMPRESSOREN organised the



*An employee at UNICCOMP, Rudolf Heidrich, getting tips from AOK (health insurer).*



Staff trying out the TRX.

health day to bring better awareness to our employees.

Once again this year we focused on back issues and effective and long-term methods of preventing and combating back problems.

Three campaign stands were set up by our campaign partners, BARMER GEK, AOK and the Occupational Safety Team. They toured our production halls at Geretsried throughout the day to reach as many staff as possible directly at their workplaces.

The numerous options on offer, from specialist talks to TRX training, were well received by the staff. ■

## BAUER KOMPRESSOREN India NEW FACILITY IN INDIA

The BAUER GROUP's global expansion saw the inauguration of a new and modern facility in India in the city of Pune. A brief introduction for those who are not familiar with the city of Pune: Pune, which is located approx. 200 km SE of Mumbai, has a long history dating back to over 1,000 years. It was the



Anand Pradhan (Managing Director BAUER KOMPRESSOREN India) and his team celebrate the opening of the new company headquarters at Pune with Philipp Bayat (Chairman of the Executive Board BAUER GROUP) and Stefan Hacker (Managing Director BAUER KOMPRESSOREN).

seat of power during the 18th century of the Maratha Empire (which controlled a major part of the Indian subcontinent) and is highly regarded for its premium educational institutes & industrial hubs (for IT & manufacturing industry). This makes Pune a very attractive destination for multi-national companies & which is why more than 200 German companies have setup base here.

BAUER India's new facility consisting of large office spaces & manufacturing facility is located in one of the oldest & most developed industrial zone of MIDC-Bhosari.

The facility has empowered BAUER India to build & test specialised equipment like mobile / stationary containerised compression solutions for their market e.g. CNG and provide global engineering & IT services within the GROUP.

BKI has grown from two persons in 2008 to 30 permanent staff today with plans of adding another 20 more this year. The previous premises had become too small, and to accommodate the growing needs for more engineering, IT

(SAP) and manufacturing capability, we built this new premise more than a year ago and it was completed at the end of 2015.

It was finally officiated by Philipp Bayat, BAUER GROUP's Chairman of the Executive Board and Stefan Hacker, Managing Director of BAUER KOMPRESSOREN Munich this year. ■

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## BAUER Calendar

# EXHIBITIONS 3<sup>RD</sup> QUARTER 2016

Exhibition	Topic	Location	Dates
<b>BAUER KOMPRESSOREN GmbH (BKM)</b>			
SMM	Industry	Hamburg	06.–09.09.2016
<b>BAUER COMPRESSORS Asia Pte. Ltd. (BCA)</b>			
MIDE	Breathing Air	Kuala Lumpur	29.–31.07..2016
Philippines Dive Expo	Breathing Air	Manila	09.–11.09.2016
<b>BAUER COMPRESSORS Inc. (BCI)</b>			
IAFC / FRI	Breathing Air	San Antonio	17.–20.08.2016
NGV America	Industry /CNG	Colorado	15.–17.09.2016
<b>BAUER COMPRESSEURS S.A.S. (BCF)</b>			
Congrès national des sapeurs-pompiers 2016	Breathing Air	Fondettes	21.–24.09.2016
<b>BAUER KOMPRESSOREN Australia Pty. Ltd. (BKA)</b>			
AFAC16 powered by INTERSCHUTZ	Breathing Air	Brisbane	30.08.–01.09.2016
<b>BAUER KOMPRESSOREN China Ltd. (BKC)</b>			
IG, China 2016	Industry /CNG	Shanghai	23.–25.08.2016
<b>BAUER KOMPRESSOREN Gulf (BKG)</b>			
OFSEC	Breathing Air	Oman	05.–07.09.2016
<b>BAUER KOMPRESSOREN India Pvt. Ltd. (BKI)</b>			
Minerals, Metals, Metallurgy, Materials	Industry /CNG	New Delhi	10.–12.08.2016
Fire India & Safety Expo 2016	Breathing Air	Chennai	19.–22.09.2016
<b>BAUER COMPRESSORS Co. Ltd., Japan (BKK)</b>			
National Rescue Meet Matsuyama	Breathing Air	Matsuyama	24.08.2016
<b>BAUER KOMPRESSOREN UK Ltd. (BUK)</b>			
Emergency Services	Breathing Air	Birmingham	21.–22.09.2016