

EDITORIAL



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

For over 70 years, BAUER has been living out a success story, with a portfolio of compressors that produce high-purity breathing air under all types of conditions.

Our aim is to ensure the security and safety of our products are clearly verifiable benefits which our customers can experience for themselves.

To achieve this, many years ago we successfully developed the BAUER PureAir breathing air standard. In this issue you can find out how our recently launched PureAir Gold Standard will raise the bar for breathing air safety standards in the future, using our groundbreaking B-DETECTION PLUS System to provide continuous end-to-end monitoring of breathing air quality. BAUER provides protection for divers and firefighters in action, at all times.

Heinz Bauer
Dr. Monika Bayat
Philipp Bayat

BAUER KOMPRESSOREN B-DETECTION – GUARANTEEING SAFE AIR QUALITY



BAUER PureAir Gold – The dream team for supreme breathing air safety

Safe, clean breathing air does not happen “out of thin air”; it is the result of market-leading purification technology, combined with seamless end-to-end air quality monitoring. As a pioneer in the requisite technology, BAUER has recently elevated breathing air safety to a new dimension by launching its PureAir Gold Standard for breathing air quality combined with the B-DETECTION PLUS monitoring system. The main condition for PureAir Gold certification, which made its global debut at an international meeting in Singapore, is that filling stations for breathing air cylinders must be equipped with the new online

gas measurement system, B-DETECTION PLUS. The PureAir Gold mark thus serves as a visible communication of the filling stations’ compliance with this whole new level of breathing air security. B-DETECTION PLUS seamlessly screens the compressed air throughout compressor operation, monitoring its compliance with the specifications set forth in the EN 12021:2014¹ Breathing Air Standard. If these limit values are exceeded, B-DETECTION PLUS automatically discharges the contaminated air to the outside through a flush valve (optional) before it can enter the cylinders, or even shuts down the entire system if needed.

1 Residual oil measurement based on volatile organic compounds (VOCs) only. Sensor calibration based on isobutene.



dropLOG® is used for automatic refilling.

The PureAir Standard currently in operation will continue to apply as PureAir Silver. All existing Silver stations can easily upgrade to the new PureAir Gold Standard by retrofitting the B-DETECTION PLUS System.

For detailed information about PureAir and the new standard, visit our website at bauerpureair.com. ■

BAUER KOMPRESSOREN DIGITALISATION

BAUER KOMPRESSOREN and UNICOMP logistics operations have now incorporated a state-of-the-art eLogistics technology which is implemented in close partnership with Keller & Kalmbach.

eLogistics from Keller & Kalmbach is an intelligent IT-based inventory control system for all material and information flows of frequently reordered products. A special feature of the system is its data exchange function between sup-

plier and customer, where data can be sent from customer to supplier, but specific information also flows in the opposite direction. For example, delivery status is displayed directly by the transponder as information updates.

“Combined small parts management is a core element in increasing the flexibility of our assembly line. Keller & Kalmbach’s system provides us with a digital solution that can deal with fluctuations in production volumes”, explains Andreas Geiselbrecht from UNICOMP.

The use of intelligent automated material and information flow control for small parts enables in-house material supplies to be managed and also allows multilevel production operations to be controlled using the pull principle. “By introducing an array of eLogistics solutions, we have successfully slashed our internal logistics workload and significantly speeded up delivery times for defined small parts. Our suppliers are now directly linked to our automated inventory control system, which uses innovative electronic NFC labels to simplify article

changes. eLogistics is able to detect any missing containers, defective transponders or illogical orders”, says Nicola Sterler from BAUER KOMPRESSOREN. The introduction of eLogistics has given BAUER KOMPRESSOREN and UNICOMP the status of industry pioneers; for Keller & Kalmbach, they are flagship examples of the success of the future-facing technology. ■

BAUER KOMPRESSOREN CAVE RESCUE IN THAILAND

In early July of this year in the northern Thailand city of Chiang Rai, twelve members of a youth football team and their coach were exploring the local caves when they found their retreat cut off after flooding in the caves from a sudden heavy rainfall. The world tensely followed the desperate attempts of teams of divers from the Thai Navy Seals and assistance from international specialist teams to rescue the group. At times, up to 1,000 emergency rescue helpers were involved in the search. Tan Xiao Long was one of the brave divers who risked their lives in the rescue op-



BAUER MARINER systems provided a reliable supply of breathing air during the rescue operation.



Caving expert and rescue diver Tan Xiao Long was part of the complex rescue operation in Thailand.

BAUER KOMPRESSOREN A TRUSTED PARTNER

When Pfeiderer uses high pressure to create furnishing materials from wood, BAUER is on board as the company's trusted partner.

Wood laminate flooring or laminated panels in furnishings are materials that all of us encounters every day. They are generally composed of multiple layers of wood which are impregnated with resins and then bonded into panels under the application of heat and high pressure. The process uses a special press from the renowned mechanical engineering company, Hymmen.

A press from Hymmen is in operation at Pfeiderer, itself a leading manufacturer of wood materials for laminate panel production.

Enormous volumes of compressed air are required for the process. To meet this need, Pfeiderer has now installed three ultra-high-performance water-cooled BAUER GIB23.7-37 high-pressure compressors. Using intake pressure, these booster models operate 24/7 to reliably deliver the volumes of compressed air required.



BAUER high pressure compressors deliver the necessary pressure to the presses.

eration. As a renowned specialist in cave diving and rescue diving operations, Tan received a call from the Thai government asking him to take part in the rescue. He set off without any hesitation, knowing that if the official information he had received was accurate, the chances of a successful rescue were no more than 70 or 80 percent and thus he had to act fast.

On his arrival he was joined by other cave divers from all over the world, including divers from the Australian police force and a US air pararescue team, for a full briefing. The US team had their own BAUER compressor along as backup.



Caving expert and rescue diver Tan Xiao Long with a fellow diver at the site.

On site were also several BAUER large-scale mobile breathing air compressors - MARINER systems - to provide the needed and reliable supply of breathing air during the rescue operation. As a BAUER sales partner, Tan knows very well that it is critical to have a continuous supply of breathing air.

The rescue proved to be more difficult than anticipated. The slippery rocks, impenetrable darkness and narrow passageways all created problems in transporting the necessary equipment into the cave and the rescued children out to the cave mouth, and turned the operation into a dangerous game of chance.

Thankfully all the missing team members were rescued from the cave unhurt after a highly complex, time-consuming and extremely risky rescue operation. Asked what the main reasons for the success of the operation were, Tan thought for a moment and then said, "First, professional expertise; second, smooth teamwork; third, good equipment, and finally, a whole lot of luck." ■

In this continuous production process, flawless fail-safe reliability of the high pressure compressors is paramount. This consideration was the clincher in Pfeiderer's decision to choose BAUER as the supplier of its compressor systems. BAUER has been a long-standing partner of Hymmen for decades and has built up a stellar reputation in this area. ■

BAUER KOMPRESSOREN IRRIGATION PROJECT

In India, a country with a total population of over one billion, the food sector has enormous strategic importance. The country's agricultural production depends heavily on artificial irrigation technology because the majority of precipitation in the country falls during the monsoon season, so that the volume and heaviness of the rainfall is hard to forecast. To mitigate this dependency, the Indian government is investing in cross-regional smart irrigation programmes that harness water from the country's major rivers, store it in central locations and distribute it according to



13 high-powered BAUER IK 28 compressors provide a reliable supply of compressed air

need. One such flagship project is the Jalayagnam Irrigation Project in the Indian state of Andhra Pradesh, where large-scale BAUER compressors are used at strategic points to ensure energy-efficient distribution of water reserves.

In the Pranahita-Chevella LIS (Lift Irrigation Project), water from a tributary of the Godavari River is diverted and pumped or 'lifted' to a central reservoir located at a higher altitude; this difference in altitude creates the necessary pumping head that allow the water to flow naturally down to the region for irrigation through a network of canals. The high-altitude reservoir is filled using high-performance pumps. As these pumps are completely submerged, the resistance of the water which surrounds them causes their energy consumption to soar when they are started up.

This is where BAUER's compressor systems come into play. To reduce power consumption, BHEL (Bharat Heavy Electricals Ltd), the system operator, uses highly compressed air which is blown under the pumps during the start-up phase to reduce start-up resistance from the pressure of the water on the submerged pumps. This technique dramatically increases the efficiency of the pumps, resulting in huge energy savings. Once the pumps have reached operating speed the air is recompressed and stored.

To produce the high volumes of compressed air required for the process, 13 large-scale BAUER BK 28.3 compressors are used, each capable of compressing six cubic metres of air per minute to a pressure of 60 bar. Given the success of the scheme, Pune-based BAUER KOMPRESSOREN INDIA and BHEL have agreed to collaborate closely on further projects in future. ■

BAUER KOMPRESSOREN PROTECTING WORKERS ON OIL RIG

In the summer, the Kazakh part of the Caspian Sea experiences temperatures of up to 42 degrees Celsius, while winters may plunge to as low as minus 36 degrees. Oil drilling out here is a tough and harsh job. And often enough, it's dangerous too; toxic hydrogen sulphide (H₂S) often escapes from the borehole. If the workers cannot immediately evacuate to a safety stations with a supply of pure breathing air, they might be suffocated to death.

For this reason, WABAS (Working Air Breathing Air Systems) are installed in the rig area. High-powered large-scale compressors from BAUER provide the breathing air for these safe spaces. The evacuation stations are under pressure to prevent H₂S from penetrating from the outside and to supply reliable protection for rig workers.

Italian oil company ENI is a member of the NCOC operating consortium for conducting test drilling in the Kashagan oil field. As a long-standing reliable partner of ENI, BAUER received the assign-



Vast racks of storage cylinders ensure permanent availability of breathing air.

DID YOU KNOW?

How PureAir certification safeguards air quality at filling stations

PureAir Gold is the new standard to ensure maximum safety and reliability of compressed breathing air. Before BAUER PureAir was launched almost two decades ago, divers faced a problem. How could they be sure that the air in their cylinders complied with the statutory limit values specified in the EN 12021:2014 compressed Breathing Air Standard? From the outside, there was no way

of seeing whether a breathing air cylinder contained excessively high levels of toxic oil and carbon dioxide, moisture which would damage equipment, or even hazardous carbon monoxide. To address this, almost two decades ago BAUER introduced its PureAir Standard, which specifies exactly how the compressor must be set up and operated and how the quality of the breathing air it produces must be monitored.

The BAUER Silver certificate has the following basis: a BAUER-trained certification expert first examines whether the filling room, the position and location of the system and the air intake complies with the requirements. An AEROTEST measuring device is used to check that the compressed air complies with the limits specified in the standard. Checks are performed at the certification appointment and then at annual intervals. In addition, the compressor system must be fitted with a B-SECURUS device to monitor filter cartridge life. As part of certification, the operator commits to using only original BAUER filter cartridges. These conditions already guarantee a high level of safety.

However, the maximum safety level is only achieved with the new PureAir Gold certification. In addition to the preconditions detailed above, PureAir Gold requires the installation of a B-DETECTION PLUS measurement system, which replaces the AEROTEST measuring. This newly developed online gas measurement system has advanced sensors which detect even the smallest traces exceeding the specified limits. In an emergency, they shut down the system before any contaminated air can be filled into the breathing air cylinders.



Heinz Bauer

ment to install the high-pressure systems required for the WABAS on “D” Island, a vast artificial island.

IK 28 compressors – famous for their indestructible design and dependability – fill the breathing air into almost 600 storage cylinders, each taller than a man, grouped into space-saving racks and housed in containers. The air volume produced in this way is enough for any emergency scenario imaginable. ■

BAUER KOMPRESSOREN AIR- POWERING COMPETITION

On 31 August and 1 September, Potsdamer Platz became a stunning stage set for this year’s finale of the Firefighter Combat Challenge, or FCC. The competitors had already met two weeks previously for a trial of strength at the FCC heats in the Franconian town of Geiselwind.

Originating from the USA, the competition is based on disciplines from the daily routine of firefighters and is now a well-established event in Germany. How reputable the FCC Germany is, was



Hard work: welding hammers while wearing full breathing equipment.



At the FCC arena at Geiselwind, the teams assemble at the finish.

clear from the list from Germany, the UK, France, Switzerland, Poland, Canada, Norway, the Czech Republic and many other countries besides – totalling over 500 competitors.

The scaffolding of the competition tower rose into the Berlin sunrise, silhouetted against the high-tech glass buildings that lined the square. The very first challenge in the competition required entrants to run up 60 steps with a height of 12.5 metres – no easy task in full breathing gear while carrying a 19-kg fire hose over one shoulder!

Under these conditions, it’s all the more important that the quality of breathing air is beyond all doubt. As in previous competitions, BAUER was responsible for the entire supply of breathing air. The filling area behind the starting line contained a VERTICUS SUPER SILENT model, which was working at full blast to produce the enormous volumes of breathing air required. Two storage cylinders provided a safety reserve to prevent any supply bottleneck; the four

filling panel connectors were virtually unceasingly hooked up to 300-bar composite cylinders.

The starter’s signal for the first competition sounded, and the first two finalists hurtled up the steps at breakneck speed under the watchful eyes of the judges. The staccato clang of the firefighters’ boots on the metal steps mixed with raucous shouts of encouragement from the supporting teams. At the top of the tower was a rope from which a further bundle of hose was suspended; the aim was to pull the rope up as fast as possible.



The BAUER filling station was continuously in operation.



The last few metres are the hardest.

Then the competitors immediately headed back down to a Keiser Force Machine – a kind of fairground “test-your-strength” on steroids – where they had to wield an enormous sledgehammer to propel a 72.5-kg metal anvil along a set of rails. There followed a sprint along a slalom route around five pylons, at the end of which a fire hose lay ready. The hose had to be dragged over twenty metres and then pulled through a swing door; the water jet had to hit a target only 20 centimetres wide from a distance of four metres.

Once that was completed, the final challenge lay ahead: an 80-kilometre dummy had to be carried backwards over a 30-metre route. The strain was only too visible on the faces of the competitors; by the final few metres, most of them had clearly used up their physical reserves. The seconds ticked implacably away, tracked by the digital display over the finishing line. The competitors threw themselves over the last few metres to the finishing line, ripped off their steamed-up masks and gulped down air after their exertions, their thigh muscles burning and their scarlet faces dripping with sweat.

The winner, Phillip Kaiser from the Lions Den Team, completed the course in an amazing 1:32 minutes to scoop the title. The majority of the field took over

two minutes to finish. But on the second day, the winning team, also Lions Den, actually improved on this record, completing the circuit in only 1:17 seconds – admittedly, dividing tasks up among up to five team members.

By 5 pm the competition was over, and all the teams had showed off their skills. In the evening, the prizes were awarded and the winners were feted in well-earned celebrations. ■

BAUER KOMPRESSOREN TOP MARKS TRAINEE

On 29 June 2018, BAUER ACADEMY received an EINSER-AZUBI (Top Marks Trainee) seal of quality from the Munich and Upper Bavaria Chamber of Industry and Commerce.

Bernhard Steiner completed his machinist qualifications at the BAUER ACADEMY, receiving full basic training as well as learning about state-of-the-art production technologies. As a result, he was able to design complex CNC programs from 3D CAD models and simulate the production process using CAM systems prior to the actual production run:

“In recent years we have invested heavily in redesigning and modernising our industrial training services. For example, today our courses include instruction in two different CAM systems. A major priority for us is to prepare our trainees and apprentices for later positions in the production operations at our modern UNICCOMP plant; to do this, we adopt an extremely practice-oriented



The EINSER-AZUBI is presented by the CIC.

approach and coordinate closely with pre-production”, explains Richard Schmidt, from BAUER GROUP.

We congratulate Bernhard Steiner on his excellent results, and are proud and delighted that he has brought us the honour of an EINSER-AZUBI seal of quality from the CIC! ■



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Published by

BAUER KOMPRESSOREN GmbH
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bauer-kompressoren.de

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BAUER Calendar

EXHIBITIONS 3RD/4TH QUARTER 2018

Exhibition	Topic	Location	Dates
BAUER COMPRESSORS Asia (BCA)			
Oil & Gas Roadshow 2018	Industry	Thailand, Rayong	19.–20.07.2018
DRT Show Philippines	Breathing Air	SM Megatrade Mall	07.–09.09.2018
BAUER COMPRESSEURS France (BCF)			
Euronaval	Industry	Le Bourget	23.–26.10.2018
Congrès sapeurs pompiers 2018	Breathing Air	Bourg-en-Bresse	26.–29.09.2018
BAUER COMPRESSORS U.S.A. (BCI)			
Fire Rescue International	Atemluft	Dallas	08.–11.10.2018
DEMA	Breathing Air	Las Vegas	14.–17.11.2018
BAUER COMPRESSORI Italy (BCV)			
Fakuma 2018	GIT	Friedrichshafen	16.–20.10.2018
BAUER KOMPRESSOREN Australia (BKA)			
AIDE	Breathing Air	Sydney	02.–06.08.2018
BAUER KOMPRESSOREN China (BKC)			
DRT Beijing	Breathing Air	Beijing	03.–05.08.2018
PTC SHANGHAI	Industry	Shanghai	06.–09.11.2018
China International Fire Safety and Emergency Rescue	Breathing Air	Shanghai	12.–14.12.2018
BAUER KOMPRESSOREN U.A.E. (BKG)			
Ofsec Oman Exhibition	Breathing Air	Seeb	01.–03.10.2018
Milipol - Civil Defence	Breathing Air	Qatar	29.–31.10.2018
ADIPEC	Breathing Air	Abu Dhabi	12.–15.11.2018
BAUER COMPRESSORS Japan (BKK)			
National Rescue Meet Kyoto	Industry	Kyoto	24.08.2018
BAUER KOMPRESSOREN München (BKM)			
SMM	Breathing Air/Industry	Hamburg	04.–07.09.2018
BAUER KOMPRESSOREN Russia (BKR)			
PCVExpo	Industry	Moscow	23.–25.10.2018
BAUER KOMPRESSOREN U.K. (BUK)			
Emergency Services Show	Breathing Air	Birmingham	19.–20.09.2018
Dive Show NEC	Breathing Air	Birmingham	27.–28.10.2018
BAUER KOMPRESSOREN Ges.m.b.H. (POS)			
Retter	Breathing Air	Wels	20.–22.09.2018