

GEMÜ® news

THE GEMÜ GROUP: STRONG GROWTH AND STABILITY

Product news

Innovations

Application reports

Training

Commitment and initiatives

Magazine for the
customers, partners
and friends of the
GEMÜ Group

EDITION 02.2017

Dear readers,

Our current business situation is extremely satisfactory. While there have been shifts in the situation, no serious changes have taken place. Despite the crises occurring throughout the world, 2017 has been a very stable and positive year for us. This is also shown by our strong growth.

The growth of our company is also resulting in a rise in the number of employees. A few months ago, the number of employees worldwide exceeded the 1700 mark, and GEMÜ Germany employed its 1000th member of staff. The fact that a family-owned enterprise can offer stability even in the face of global economic uncertainty is illustrated by the record number of 75 long-serving employees honoured for their loyalty to and trust in our company this year. Growth also means facing new challenges, for instance in regard to searching for qualified specialist technicians. This is a relevant subject that will be an even greater concern for us next year.

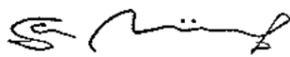
One important event was this year's Worldcon, the theme for which was "Heute säen, um morgen zu ernten" ("Sowing the seeds today for the harvest tomorrow"). The term "Worldcon" is derived from "world" and "congress". At regular intervals, the Managing Directors of the GEMÜ subsidiaries are invited to the Worldcon so that we can discuss and define the strategic focus and direction for the next year together with them. The expansion of the company strategy up to 2025 represented a key milestone in this process.

Our environment is changing. In the coming year, our main area of interest is the subject of digitisation. This is a subject that concerns all corporate divisions and represents incredible opportunities. Digital change is increasingly changing our professional lives. As with the second and third industrial revolutions, digitisation of the working world will create new jobs and previously unknown professions.

We would like to extend our heartfelt gratitude to the entire GEMÜ team worldwide: For your cooperation, for the exceptional service you have provided and for your amazing dedication. You have made our success in 2017 possible. We would also like to take this opportunity to thank our business partners for the trust they have placed in us and our products. We look forward to another successful new year together!



Gert Müller
Managing Partner
Engineering & Sales



Stephan Müller
Managing Director
Finance & Operations



RIGHT ON SCHEDULE

GEMÜ CELEBRATES THE TOPPING OUT OF THE OTZ



Just four months after groundbreaking, the construction site for the GEMÜ Surface-Technology Centre (OTZ) in the Hohenlohe business park was ready for the topping-out ceremony.

GEMÜ completed the first construction phase of the OTZ in June, which is reason enough for the company, with around 50 employees involved in the construction, to hold a traditional topping-out ceremony, complete with a topping-out tree. Managing Partner Gert Müller greeted the guests with a short speech and expressed his deep gratitude to everyone involved in the construction for their efforts and their excellent, trusting collaboration. "The gross floor area of the OTZ is 4422 m². 280 tons of steel were installed, and 170 tons of reinforcing steel were used," reports Gert Müller. Ulrich Bühler, Managing Director of the steel

construction company Friedrich Bühler GmbH & Co. KG, then gave the traditional topping-out speech. The weather has been extremely favourable since the groundbreaking. As a result, the construction was already one week ahead of schedule by the time of the topping-out ceremony. As the weather was good, it was also possible to visit the construction site. The Ingelfingen castle hotel provided refreshments for the guests in the form of a delicious buffet.

Karin Feinauer
Construction Project Manager/
Fire Protection Officer VdS
karin.feinauer@gemue.de

RELIABLE ACTUATOR REUSE SINGLE-USE DIAPHRAGM VALVE WITH AUTOCLAVABLE MANUAL OPERATOR

The SUMONDO® single-use diaphragm valve from the Ingelfingen-based valve specialist GEMÜ is now also available with an autoclavable manual operator.

The trend towards simplified upstream and downstream plant designs and the effective avoidance of cross-contamination risks means that single-use technology is becoming an increasingly high-profile field – especially in pharmaceutical process engineering. Single-use design is increasingly being used particularly in the manufacture of smaller batch sizes, which are required, for example, in research and pilot plants.

The GEMÜ SUMONDO® product range comprises a manual solution and a pneumatically operated solution. This enables this diaphragm valve technology to be used for applications in the single-use sector by manual systems, as well as automation-capable and controllable plants, ensuring a safe operation and continuous documentation.

Experiences gained in the field and feedback from customers mean that GEMÜ products are subject to a constant process of optimisation. Only recently, improvements to the seat contour and the diaphragm fixing were adopted in the existing GEMÜ SUMONDO® single-use product range. Almost simultaneously to this, we also introduced a wide range of valve bodies. Having introduced an autoclavable manual operator, the next step can now be taken towards completing the range. This will enable the customer to safely reuse the operator.



GEMÜ SUMONDO®
with manual operator

Tobias Scheske
Strategic Product Manager
for single-use valves
tobias.scheske@gemue.de

RETROFITTING NOW POSSIBLE GEMÜ CONEXO RETROFIT

GEMÜ is expanding its CONEXO range to include a retrofitting option for existing plants.

GEMÜ CONEXO is an innovative and holistic solution for life-cycle management of all types of systems. The system currently consists of valves that are equipped with RFID chips and a corresponding IT infrastructure.

Thanks to serialization, every relevant valve component, such as the body, actuator or diaphragm, can be clearly traced and read at any time using the RFID reader – the CONEXO pen. The GEMÜ CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides maintenance technicians through the maintenance schedule and directly provides them with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The GEMÜ CONEXO portal acts as a central element, helping to collect, manage and process data.

Now the range is being expanded to include a retrofit solution. With GEMÜ CONEXO Retrofit, it is possible to retrofit GEMÜ valves in existing systems and to retrofit products from third-party providers with GEMÜ CONEXO, and to integrate these into the intended software environment. To identify the plant components, various options are available, depending on the requirements: Plastic lable with cable tie, adhesive labels for plastic components, and captive stainless steel seal.



NEW:
Cloud connection

The product range associated with GEMÜ CONEXO is also supplemented by a cloud solution. This does not require local installation of the GEMÜ CONEXO portal. This type of connection facilitates network-independent access to data stored in the cloud from anywhere in the world.

Mario Niklas
GEMÜ CONEXO Product Manager
mario.niklas@gemue.de



MORE ANSWERS WITH A MODERN DESIGN



The new Intercarat website is online!
In early summer 2017, this subsidiary of the GEMÜ group launched its completely revamped Internet presence at www.intercarat.com.

Aside from the new design with fresh colours, the main reason behind the redesign was to showcase the company and its capabilities. "In recent years, we have been able to almost double our turnover with external customers. With our new website, we wanted to continue this growth trajectory and consolidate our foothold in the German and English-speaking market in particular," says Rolf Meier, Managing Director of Intercarat, explaining the strategy. For this reason, the individual subjects, such as products, manufacturing processes and quality management have been significantly expanded and shown with examples for potential customers. Photos of production processes and a corporate film available to view at <https://www.intercarat.com/de/unternehmen/ueber-uns/> round out the glimpse into operations at the headquarters near Strasbourg in France. In order to ensure that potential customers who are looking for a production partner can find the website, it was also optimised for Google searches. "We naturally wanted more visitors and more inquiries. The fact that we have had as many visitors in the past month as we would previously have in an entire year shows that the long hours of work put into the concept and text have paid off," says Bruno Nuzzaci, Head of Sales at Intercarat, when asked about the success of the new website.

Rolf Meier
Managing Director of Intercarat
rolf.meier@intercarat.com

GEMÜ STARTS B2B ONLINE SHOP

OUR PRODUCTS CONFIGURED IN MOMENTS



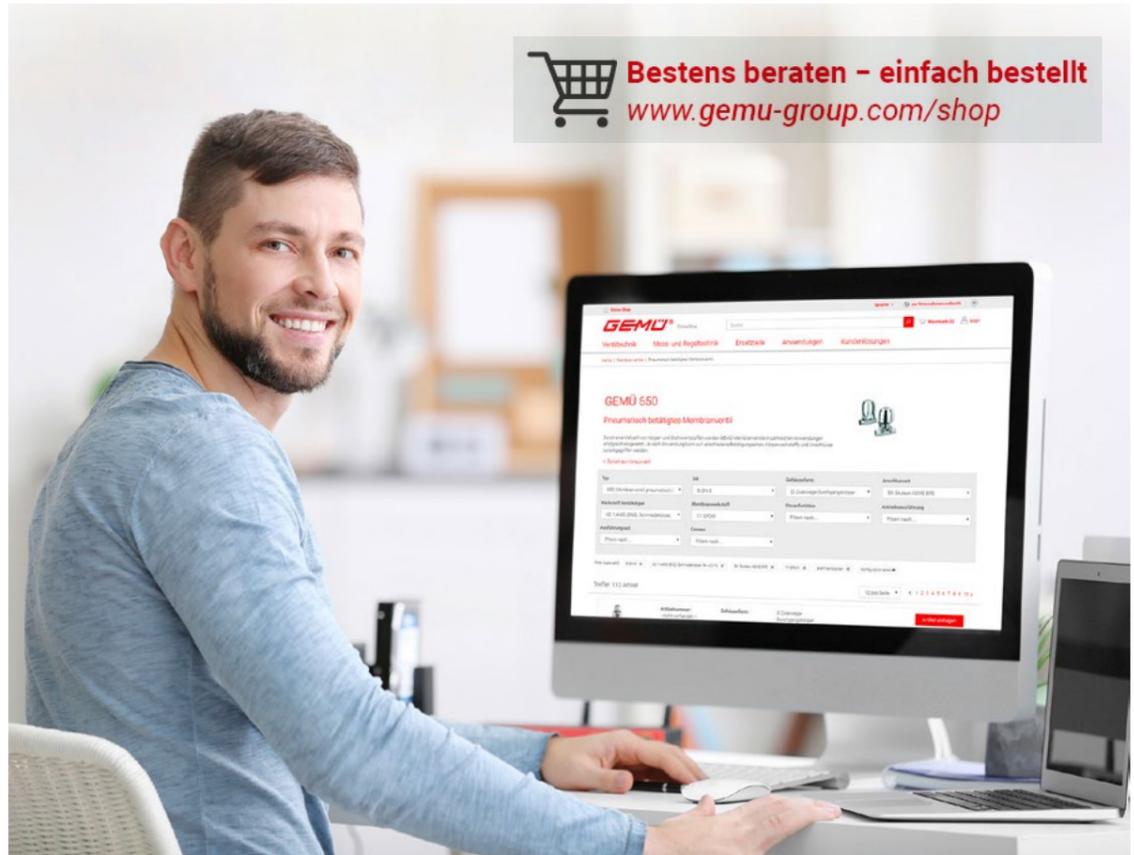
Jörg Hofmann
E-Commerce Manager
joerg.hofmann@gemu.de

In order to ensure that we can keep close to our customers, even online, GEMÜ now offers in Germany the option of convenient ordering via the GEMÜ online shop.

The new GEMÜ online shop started in September, under the motto "Optimal advice – easy ordering". The shop functions are designed to provide customers with a high level of flexibility in the ordering process. Thousands of product versions can be found quickly and easily via the free text search function and the powerful configurator. Current product availability and customer-specific prices are available to access any time, day or night. In addition, digital wishlists can be created or added to at any time. Important information such as figures and technical data are provided alongside the products.

"In an age of digitisation, introducing an online shop is an important step in our drive to work with even greater customer focus and to further expand our service range. Establishing personal contact with our customers continues to be extremely important to us," says Gert Müller, Managing Partner. For consultation and technical queries, our customers have access to a live chat with experienced GEMÜ employees during normal GEMÜ business hours.

The new online shop can be found at www.gemu-group.com/shop. The online shop will be successively rolled out into the countries of our subsidiaries.



CUSTOMER HAPPY – GEMÜ HAPPY

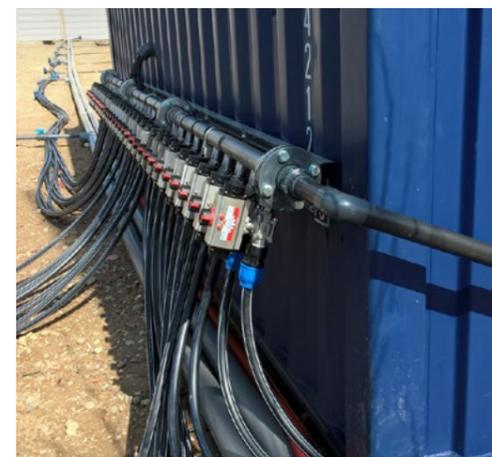
SERPOL RELIES ON GEMÜ VALVES

For three years now, French company Serpol has been putting the efficiency of GEMÜ products to the test in its systems. Modularity and environmental protection are key priorities for both companies.

Serpol develops process systems for environmental remediation. The mobile or stationary systems are based on a safe construction that can be custom designed to allow for innovative solutions. Thanks to GEMÜ's product range, Serpol can equip its systems with valves that are suitable for aggressive process media. "GEMÜ products can be used to solve a variety of problems. Because their quality meets our strict demands, we can also use them again following a reclamation project, which unfortunately isn't always possible with other manufacturers," explains Patrice Perrier, Head of Production at Serpol.

When carrying out projects for different customers, Serpol – with help from GEMÜ – successfully used a wide variety of valve types, such as the GEMÜ R677 diaphragm valve. The aggressive media in the soils being remediated necessitate reliable, resistant products. The plastic GEMÜ R677 diaphragm valve guarantees 100% leak-tightness thanks to its PTFE diaphragm, and it is equipped with a lockable handwheel clamp. Its solid construction makes the valve easy to handle, while its low-maintenance plastic actuator facilitates maintenance. An optical position indicator is integrated as standard. "Only, the diaphragm has to be replaced so that these valves can be reused in future mobile or stationary systems developed by our customer Serpol," says Jean-Jacques Arnaud, external sales employee at GEMÜ France.

"We have more than just a customer-supplier relationship – we have a partnership that has been established over many years. Meeting deadlines is extremely important, so sometimes we have to work with the utmost urgency. This is why GEMÜ is the logical solution for us, both in terms of quality and in terms of the special customer-supplier relation we have," adds Guillaume Burgevin, Head Project Engineer at Serpol.



Mélissa Humbel
Marketing and Inside Sales Manager
melissa.humbel@gemu.fr

"SPEAKING WALLS": BIG BANG, CITY AND SPIRIT VISUAL IMPROVEMENTS TO THE GEMÜ BUILDING FACADE



From summer 2016 onwards, the facade of the GEMÜ building in Criesbach has been a shining work of art associated with the company history. This successful concept has now been taken a step further.

Significant elements of the visual improvements include the Big Bang, a city and the GEMÜ spirit. The Big Bang describes the beginning of the universe. For GEMÜ, it symbolises the dynamic development of the company in all directions, not just in terms of the GEMÜ products, but also in terms of the locations, the employees and the organisation.

A city is visible next to the Big Bang. It stands for the international outlook of the company. GEMÜ has developed from its beginnings in a single village to spread out across the entire world. The waves emanating from the Big Bang in every direction reflect the GEMÜ spirit. This symbolises the dynamic energy of GEMÜ's growth and constant further development.

"The facade renovation is nowhere near completed. GEMÜ has grown to become a large family-owned enterprise by now, and will continue to progress in future. The remaining sides of the building offer a great deal of potential for completing the "speaking walls" project," reports Gert Müller, Managing Partner.

 **Ivona Jovic**

Corporate Communications Advisor
ivona.jovic@gemue.de



1000TH EMPLOYEE WELCOMED AT GEMÜ GERMANY

GEMÜ stands for quality and loyal employees – a winning formula for continuous growth and a permanent place in the Hohenlohe region.

GEMÜ is continuing its growth course and is delighted to welcome its 1000th employee. Bernadeta Piske has been supporting the shipping team at the EUROPE Production and Logistics Centre in the Hohenlohe business park since 1st September. The former agency worker now holds a permanent position at GEMÜ. There is a good reason for this, as construction work on the new surface-technology centre in the Hohenlohe business park is moving forwards on schedule. The key here is to win reliable and qualified employees, so that GEMÜ's successful growth course can also be continued over the next few years.



(left to right): Heike Siegmeth, Head of HR, Philipp Ziegler, Head of Shipping PLZ, Bernadeta Piske, Stephan Müller, Managing Director

"It will obviously not take another 53 years for the 2000th employee to be hired by GEMÜ Germany," comments Managing Director Stephan Müller with a smile. This is how long the globally focused, independent family-owned enterprise has been established, concentrating

on important industrial sectors thanks to its innovative products and customized solutions for process media control. In conclusion, he then stresses: "The success of GEMÜ can be attributed to a keen passion for engineering, entrepreneurial skill and loyal employees."

TRADE FAIRS 2018 (1ST HALF YEAR) NATIONAL | INTERNATIONAL

Semicon Korea	31.01. – 02.02.	Seoul (KR)
EXPO Lounges	06.02. – 08.02.	Karlsruhe (DE)
Maintenance Dortmund	21.02. – 22.02.	Dortmund (DE)
Leipziger Fachseminar DGO	01.03.	Leipzig (DE)
MSR Spezialmesse Rhein-Main	07.03.	Frankfurt (DE)
Farmaforum	07.03. – 08.03.	Madrid (ES)
CFIA	13.03. – 15.03.	Rennes (FR)
EnergyStorage	13.03. – 15.03.	Düsseldorf (DE)
Semicon China	14.03. – 16.03.	Shanghai (CN)
Anuga FoodTec	20.03. – 23.03.	Cologne (DE)
Pumps & Valves BE	21.03. – 22.03.	Antwerpen (BE)
Interphex USA	17.04. – 19.04.	New York (US)
Cophex	17.04. – 20.04.	Gyeonggi-do (KR)
CIPM	20.04. – 22.04.	Chongqing (CN)
Pharma-Kongress	24.04. – 25.04.	Düsseldorf (DE)
ISPE Jakarta	01.05.	Jakarta (SG)
Iran Oil Show	06.05. – 09.05.	Teheran (IR)
IFAT	14.05. – 18.05.	Munich (DE)
MSR Spezialmesse Rheinland	16.05.	Leverkusen (DE)



GEMÜ IS ONE OF GERMANY'S BEST TRAINING COMPANIES

BUSINESS MAGAZINE CAPITAL PRESENTS AN AWARD



With a top result of 5 out of 5 stars, GEMÜ is one of the best 234 training companies in Germany. In collaboration with the talent platform Ausbildung.de, the business magazine Capital has compiled descriptions of training standards in German companies.

"We are delighted with this award. It shows us that we are on the right track", says Katrin Wick, personnel officer and training manager at GEMÜ.

With more than 17 different training perspectives, GEMÜ offers a wide range of options for learning a profession. In addition to commercial and industrial training professions, a variety of dual study programmes are available.

As a family-owned enterprise, GEMÜ is passionate about its work. This is also confirmed by the "Ausgezeichneter Ausbildungsbetrieb" ("Excellent training company") seal awarded by the Chamber of Commerce and Industry (IHK) of Heilbronn-Franken. A high standard of training quality is as important to our company as team spirit. A wide range of activities, such as the apprentice trip, the apprentice sports day and the apprentice Christmas celebration, help to encourage this team spirit. Enthusiastic apprentices and students have the opportunity to participate in a placement abroad, to make use of the apprentice car scheme and to be offered a permanent job directly after completing their apprenticeship or studies. "In particular, the placements abroad that GEMÜ provides access to make a lasting impression and also help the personal development of our young apprentices and students," reports Katrin Wick. GEMÜ offers placements in Switzerland, England, China, Singapore and the USA, among others. For three to five weeks, the apprentices and students actively take part in work in one of our foreign subsidiaries.



The GEMÜ trainers were pleased to see the company recognised as one of the best training companies in Germany

The survey by Capital and Ausbildung.de was based on four assessment criteria: Support, on-the-job learning, commitment on the part of the company and the opportunities for success. Companies were evaluated without regard to number of employees or turnover. The results were published in the November issue of Capital and on www.capital.de.

 **Katrin Wick**
Personnel Officer
katrin.wick@gemu.de

GEMÜ CHRISTMAS MESSAGE BEHIND THE SCENES

It's that time of year again! Christmas and the festive season are fast approaching.

You're probably already busy trying to get all your work done before the Christmas holidays. Pull together with your colleagues and you're sure to tick everything off your list. There's a strong sense of solidarity all around and, with the holidays in sight, spirits are at an all-time high. Things are getting increasingly hectic at home too. There's always so much to do before Christmas: Have I thought of everything? Have I got everyone's presents? When shall I wrap them? Where did I put the Christmas tree decorations? When should I buy a tree? What shall I cook for Christmas dinner? But try to take a step back occasionally and stop to think about the time of contemplation

that lies ahead. Take a couple of minutes to breathe deeply and let our digital GEMÜ greetings card put a smile on your face.

Why not spread the joy and share this Christmas message with loved one.

Give them the gift of a smile.
<https://www.gemu-group.com/xmas>

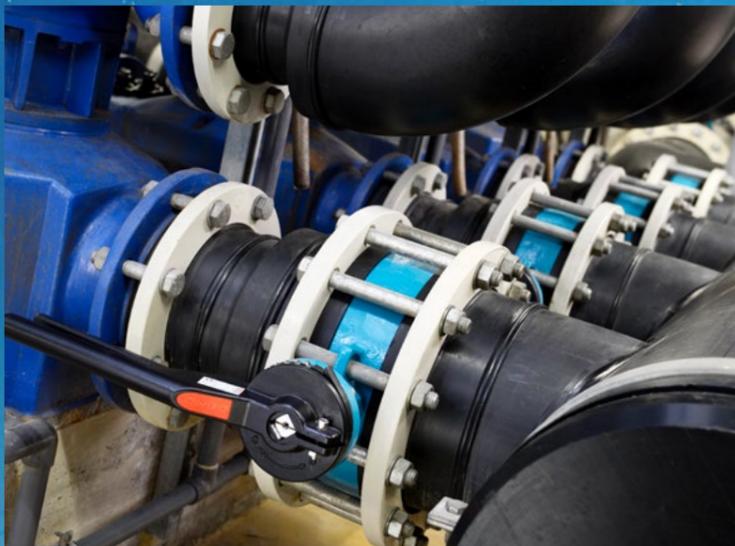


EXCELLENT WATER QUALITY GEMÜ BUTTERFLY VALVES IN SWIMMING POOL PROCESSES



The GEMÜ D487 Victoria manually operated butterfly valves in the nominal size DN 250 perform a shut-off function in the supply and discharge lines of an open air swimming pool's water treatment plant.

Keeping indoor and outdoor swimming pool water clean – so that you can enjoy a beautifully clear bathing experience – requires several important process steps to maintain the water quality both before and during use. Water treatment therefore plays an important part in swimming pool processes. There are two key steps here: 1. Preparing the raw water for use in public pools; 2. Continuously pumping the water in the swimming pool through a circuit and thereby cleaning it to maintain its quality and keep it free of contaminants/germs that could potentially cause illnesses. Any water that has been lost, for example due to evaporation in open air pools, is also replaced during this process



The water in the swimming pool must comply with a wide range of quality criteria. Alongside microbiological requirements (limit values to be met, e.g. for bacterial cultures such as E. coli or Legionella pneumophila), these also include chemical and physical requirements (e.g. pH value, nitrate concentration and concentration of free and bound chlorine). DIN 19643, known as the "swimming pool standard", provides orientation with regard to the guideline values to be met and documentation of the prevalent water quality. Among other things, it includes standards pertaining to the pH value, which must be between 6.5 and 7.2, as well as the concentration of free and combined chlorine.

But what exactly happens when the water leaves the swimming pool via the overflow channel and what processes are required to prepare the water for re-use?

First of all, the raw water flows into a raw water reservoir. From here, it is pumped back out again using a circulating pump. At the same time, a flocculant containing specific aluminium salts is added. This causes the dirt particles in the water to clump together, which has a positive impact on sedimentation and filtration. This flocculation also helps control phosphate-based components that would otherwise promote excessive growth of algae. The raw water treated in this way is then filtered. The task of the filter is removing a wide range of suspended matter (solids and minute organisms) from the water. Alongside the hair, saliva and skin of those using the pool, these contaminants also include leaves, blades of grass, soil, insects or similar, especially in outdoor pools.

Filtration with a multi-layered system is a standard procedure used for this, whereby gravel or sand are typically used as the filter material. To ensure optimum cleaning of the water flowing through the filter, as well as to prevent any contamination, these multi-layer filters are cleaned regularly. This is the only way to prevent bacteria from settling on the surface of the filter material and thereby re-contaminating the water that has already been pre-purified. However, multi-layer filters are not the only way to filter swimming pool water. Ultra-filtration is another option that is occasionally encountered at swimming facilities.

The water pre-purified in this way is classed as filtrate and disinfected in the subsequent process step. This is performed through chlorination, e.g. using chlorine gas. Clean and reliable results for those using the swimming pool can only be achieved through a combination of physical methods (e.g. filters) and chemical methods (e.g. chlorination) for cleaning and preparing the water.

The water quality in a swimming pool is permanently monitored. This typically involves an automated process for taking samples of pool water at regular intervals, so that the water quality can then be adjusted as necessary following analysis. This can include increasing or reducing the chlorine content of the water. If an excessively high concentration of combined chlorine is detected, the water is then passed through an activated carbon filter, for example. This additional process step allows combined chlorine to be removed.

Once the raw water has been completely cleaned and treated, it is referred to as pure water, which can be fed back promptly into the swimming pool.

Sarah Mann
Product Marketing, Industry BU
sarah.mann@gemu.de

SERVICE BUSINESS SEGMENT THAT LITTLE BIT MORE

The new Service business segment (BS) came about as part of GEMÜ's new business area strategy. Since 1st March 2017, the previous service expertise of Technical Training and Repairs & Customer Service has been combined in the Service BS under the leadership of Daniela Schautzgy. In the following interview, Daniela Schautzgy answered some of our questions relating to GEMÜ Service.

GEMÜnews: Ms. Schautzgy, would you like to introduce yourself briefly first?

Daniela Schautzgy: Certainly. My name is Daniela Schautzgy and I originally come from the Allgäu region, or Oberstdorf to be more specific. I studied Technology and Biotechnology of Food at the Technical University of Munich. I then accepted a position as Product Manager at Kronos AG in Neutraubling and subsequently switched jobs within the company to become a Commissioning Engineer for beverage filling lines with worldwide duties. After over five highly varied years and numerous deployments around the globe, I was keen to try out something new, so spent two and half years as Head of After Sales Service at Pentair Südmo, a valve manufacturer in Riesbürg. I then joined GEMÜ this March as Head of the Service BS. My main duties here revolve around the expansion and strategic further development of this business segment.

GEMÜnews: So has GEMÜ only been addressing the topic of service since March?

Daniela Schautzgy: No, most definitely not! GEMÜ has always placed great emphasis on service. Our customers can count on us, as we have always provided fast and uncomplicated support for purchasers of our products. We are actually known for this in the market. The two departments Technical Training and Repair & Customer Service have been part of the Service BS since they were established on 1st March 2017.

The Technical Training department offers a wide range of high-quality training on our valve, measuring and control systems and their applications. This training is available all over the world, both internally and to our customers and commercial partners. The training covers both theoretical and practical aspects. The Repairs & Customer Service department is the contact for technical warranty cases and repair work on our products. The focus here is on providing customers with a fast and flexible service for our product range. With our team, we can be on site anywhere in the world if something should go wrong.

Although both of these specialist areas have already been established for some time, they have never been combined to create a single Service unit. In the next step, we are keen to centralize more typical service activities, such as technical support, within the Service BS, merge resources, establish new resources and act as the central partner for service requests of all kind. This also involves us being proactive in the future by offering all services relating to the complete lifecycle of our products.

GEMÜnews: Where exactly will the focus of the Service BS lie?

Daniela Schautzgy: Well, our customers are obviously the key focus of activities in the Service BS. Our mission for GEMÜ Service is to fulfil specific customer wishes and requirements in relation to the point-of-sale throughout the entire lifecycle of our products. One important factor in this regard is examining our product range through the eyes of customers. It is extremely important to identify what our customers require and also appreciate by talking to them and listening to their ideas. This added value is precisely what we wish to offer, while also highlighting benefits and solutions and making it as easy as possible for our customers to get excited about the service we provide. To this end, we will be defining and continually updating a Service product range.

In keeping with our GEMÜ guiding principle, we will adopt an approach that is both innovative and customer-specific here. Digitization is currently making rapid progress and this is also impacting the world of service. We are keen to establish a modern customer service, in which we offer our customers personalized services in real time via numerous communication channels. GEMÜ has actually already adopted this approach in its new online shop with live chat function and the CONEXO system for captive electronic identification and paperless maintenance. We are, for example, also keen to support our technical training courses with new and modern training tools. This allows those taking part in the courses to enjoy even greater practical and interactive participation in the tuition on offer, which leads to more intensive and faster learning. Come and visit us on our stand at the 2018ACHEMA trade fair and see the innovations for yourself!

However, we will not lose sight of traditional services and are actually set to further expand services such as technical support, product maintenance and repairs. Just like our products, our top priority in the Service BS is quality. Our engineers are GEMÜ experts with specialist qualifications and many years of experience. Alongside maintaining a high professional level in the service business, speed and flexibility are obviously also key factors when performing our work.

We consider it extremely important to provide our customers from all market segments with the kind of support they need where they need it. This helps us ensure that

their systems can work safely, reliably and highly productively with our components, which in turn enables us to make a valuable contribution to increasing productivity and cost optimization.

To this end, we now have a fantastic opportunity to be creative and establish something new, as we are not really tied excessively to existing structures. We can still make a big difference and achieve a lot here. Hence my appeal to everyone involved: Please come and chat to us about your ideas. We are more than happy to check implementation options, as we are keen to cater to our customers' requirements through versatile and customized "service packages". Our eyes are firmly fixed on the future here, with the objective of establishing close, long-term partnerships with our customers.



GEMÜnews: So what objectives have you set yourselves for the next few years?

Daniela Schautzgy: After setting up the new Service BS, it is now particularly important for me to establish it as a unit both internally and among our customers.

Of course, the objectives are also to make the GEMÜ Service known throughout the market, to be present and to generate recognition value through innovative complete solutions. However, this also requires internal foundations to be laid, so that our Service BS has a solid framework on which we can build to guarantee a smooth workflow. The key here is to build on the rules for successful collaboration, apply these increasingly to internal processes and optimize procedures.

Service is a department that cooperates very intensively with numerous other departments. Effective interface management is absolutely essential here, particularly with Sales, Quality Management, Production and Engineering. An active flow of information in both directions needs to be ensured. Alongside contact with Sales, we therefore also maintain intensive customer contact and need to have the right expertise. Our duties also include incorporating knowledge acquired in the field into our central operations, so that departments such as R&D can draw corresponding conclusions and continue to improve our products.

It is also essential to both strengthen and further develop the service organization from the inside out in a step-by-step process. In this vein, I would say the top priority is to be forward-looking in recruiting the right personnel to ensure that we are ready to adapt to future challenges early on and can continue to deliver consistently high quality.

We will launch the new operations from our headquarters in Ingelfingen-Criesbach. In a subsequent step, we are also keen to establish a comprehensive worldwide service network that will guarantee particularly fast availability through close collaboration with our subsidiaries and commercial partners.

There is already a lot to do and I am looking forward to getting started. GEMÜ has always been, and continues to be, a successful company. I am now proud to have the opportunity to play an active part in shaping operations and strategy in the Service BS and thereby make a contribution to securing the success of tomorrow. I should probably also mention at this point that I absolutely love working in service and derive great personal pleasure from customers expressing their satisfaction in our work.

GEMÜnews: OK, we have now talked quite a lot about your duties at GEMÜ. But what do you enjoy doing in your free time?

Daniela Schautzgy: Travel is definitely my greatest passion. Indeed, you will rarely find me at home when I get time off work. I have always loved travelling and been curious to discover new countries and cultures, customs and traditions, as well as different smells and exotic food. I really enjoy trying everything (well, almost!).

I actually prefer travelling alone, as this allows me to get as close as possible to the local population and experience real life in the countries that I visit.

I also discovered a passion for sailing around three years ago and now spend one week every year on a sailing boat with a fantastic crew touring the Mediterranean. I absolutely love it when the wind gets up and sea becomes wild. Overall, it is fair to say that I enjoy spending time outdoors in nature. However, I still spend a lot of time at home in Oberstdorf on weekends, as it is obviously great to live in such a beautiful area, where others come on holiday. I enjoy walking in the mountains from spring to autumn. Many people from the region actually choose Oberstdorf as a destination for short breaks and weekend trips.

Now that I have familiarized myself somewhat with the Hohenlohekreis district, I am quite keen to join a local association. I used to be an active member of various sports clubs and, since I feel right at home working for GEMÜ, am now keen to get more involved on a personal level here.

A GLIMPSE INTO THE NEAR FUTURE VR WILL SOON BECOME REALITY AT GEMÜ

VR GEMÜ®

Daniela Schautzgy
Head of Service BS
daniela.schautzgy@gemue.de

Virtual reality (VR) is a modern trend that is here to stay. Once considered futuristic, this topic is now becoming reality at GEMÜ. In connection with Industry 4.0, an interesting range of applications is created that goes beyond pure presentations.

"We would rather not say too much at this point," comments Daniela Schautzgy, Head of the new Service BS. "But our customers can look forward to a genuine highlight next year at theACHEMA trade fair." The starting point for the use of VR will be GEMÜ CONEXO. Key aspects of GEMÜ CONEXO are valve components, which are equipped with an RFID chip, and an IT infrastructure that comprises the CONEXO app and the CONEXO portal. The CONEXO app, which can be installed on mobile devices, will make the maintenance process much more reliable and easier to document in future.

"Service is also increasingly being combined with innovations that go beyond the actual valve as a component of a system," explains Daniela Schautzgy. "Industry 4.0 is presenting us with new challenges." At theACHEMA trade fair, anyone taking a look through the VR glasses will be able to get a feel for the kind of solutions GEMÜ has developed for this.



EVEN AT HIGH TEMPERATURES AND UNDER COMPRESSIVE STRESS GEMÜ 677HP PUREPLUS® ULTRA-PURE DIAPHRAGM VALVE

Thanks to making consistent improvements to processes and investments in state-of-the-art manufacturing technologies, GEMÜ can offer its customers plastic diaphragm valves with a significantly higher pressure-temperature rating.

Numerous applications in the semiconductor, foodstuff and pharmaceutical industries benefit from plastic diaphragm valves with a high pressure-temperature rating. They ensure safe operation not only at high temperatures but also under high pressures. The diaphragm valves in the GEMÜ 677HP PurePlus® series exhibit improved properties with regard to the relationship between pressure and temperature. This makes them perfect for treating and distributing high-temperature ultra-pure water (hot deionized water) and means that they play a direct role in ensuring the reliability and efficiency of users' production processes.

Users working in the semiconductor industry need a downstream cleaning process with ultra-pure water in the wet process section in order to remove the caustic agent. To minimize cleaning times, they use high-temperature ultra-pure water (between 60 °C and 90 °C). However, the chemically aggressive properties of high-temperature ultra-pure water pose a challenge for the process valves. All the valves that come into contact with high-temperature ultra-pure water must be able to guarantee resistant and low-maintenance sealing at elevated and varying temperatures. This is made possible by the reliable valve seat seal used in the diaphragm valves in the GEMÜ 677HP PurePlus® series, which is capable of withstanding high loads. The integrated sealing contour in the chemically resistant valve bodies made of Solef® PVDF, combined with the precision-fit GEMÜ PTFE diaphragm, makes the diaphragm valve suitable for this demanding application. The results of extensive qualification and fields tests – as well as feedback from long-standing customers – have gone into optimizing the valve seat seal. This means that the GEMÜ 677HP PurePlus® valve can be reliably employed in an ultra-pure water treatment system even at media temperatures of between 60 °C and 80 °C, and at an operating pressure of 5.9 to 7.9 bar (depending on the media temperature).

The valve body of the GEMÜ 677HP PurePlus® is available both in a 2/2-way version and in a T-body configuration with a nominal size of DN 15 to DN 100. A lockable, low-maintenance bonnet ensures operational safety, and can be delivered with an integrated electrical position indicator upon request.



GEMÜ 677HP PurePlus®
with 2/2-way body



GEMÜ 677HP PurePlus®
T-body configuration

Maximilian Schneck
Team Leader for
Product Management,
Semiconductor Business Segment
maximilian.schnecke@gemue.de

Topical training dates

ALLROUNDER-LEVEL

⇒ Basic technical principles of valve designs

GV0100GB GEMÜ, its products and markets
half-day training course, on request

GV0101GB Functional principles of valves and their selection criteria (basic module)
9th April 2018, 8:00 – 17:00

GV0102GB Plastics and elastomers in valve and pipeline construction
10th April 2018, 8:00 – 12:30

GV0103GB Metals in valve and pipeline construction
11th April 2018, 08:00 – 12:30

GV0104GB Pipe connectors and assembly information
12th April 2018, 8:00 – 14:30

⇒ Basic technical principles of application technology

GA1000GB Procedures and processes in the biotechnology, pharmaceutical, foodstuffs and cosmetics industries
16th April 2018, 8:00 – 17:00

GA2000GB Procedures and processes in the high purity, semiconductors and critical media industries
17th April 2018, 8:00 – 14:30

GA3000GB Procedures and processes in the chemical, processing and water industries
18th April 2018, 8:00 – 17:00

⇒ Basic technical principles of measurement and control systems

GM0101GB Introduction to electric systems, electronic systems and pneumatics (basic module)
15th May 2018, 8:00 – 17:00

GM0102GB Measurement variables and measurement principles in process engineering
16th May 2018, 8:00 – 17:00

GM0103GB Control circuits: Their construction and function
17th May 2018, 8:00 – 17:00

SPECIALIST LEVEL

⇒ Product training in valve designs

PV1000GB Valves for the biotechnology, pharmaceutical, foodstuffs and cosmetics industries
19th April 2018, 8:00 – 17:00

PV1100GB Single-use valves for the biotechnology and pharmaceutical industries
20th April 2018, 08:00 – 14:30

PV2000GB Valves for high purity, semiconductors and critical media industries
27th April 2018, 8:00 – 17:00

PV3000GB Globe valves and diaphragm valves in the chemical and processing industries and water
23rd and 24th April 2018, 8:00 – 17:00

PV3001GB Butterfly valves and ball valves in the chemical and processing industries and water
25th and 26th April 2018, 8:00 – 17:00

PV4000GB Valve designs – accessories and instrumentation for linear valves and quarter turn valves
14th May 2018, 8:00 – 17:00

PV5000GB Innovations, upgrades and refresher course
Training course on request as required

⇒ Product training in measurement and control systems

PM0101GB Measurement devices and measurement principles for pressure, temperature, level and volumetric flow
4th June 2018, 8:00 – 17:00

PM0201GB Positioners: Function and application
5th June 2018, 8:00 – 17:00

PM0301GB Process controllers: Function and application
6th June 2018, 8:00 – 17:00

PM0501GB Innovations, upgrades and refresher course
Training course on request as required

The training courses will be held in English.

 **Bettina Klostermann**
Global Marketing Team Assistant
training@gemue.de

LARGE NOMINAL DIAMETERS AND HIGHEST DEMANDS GEMÜ MULTI-PORT VALVE BLOCKS

For more than 20 years, GEMÜ has developed and produced high-quality diaphragm valve blocks in stainless steel for use in the most varied of industrial sectors. Constant optimizations in the areas of design and manufacturing technologies, among other things, have enabled GEMÜ to establish itself as a global market leader with this product group.

The M-blocks, as they are also known, are "Customized Units", meaning that they are often developed, designed and produced on a case-by-case basis for the particular specifications and requirements of customers.

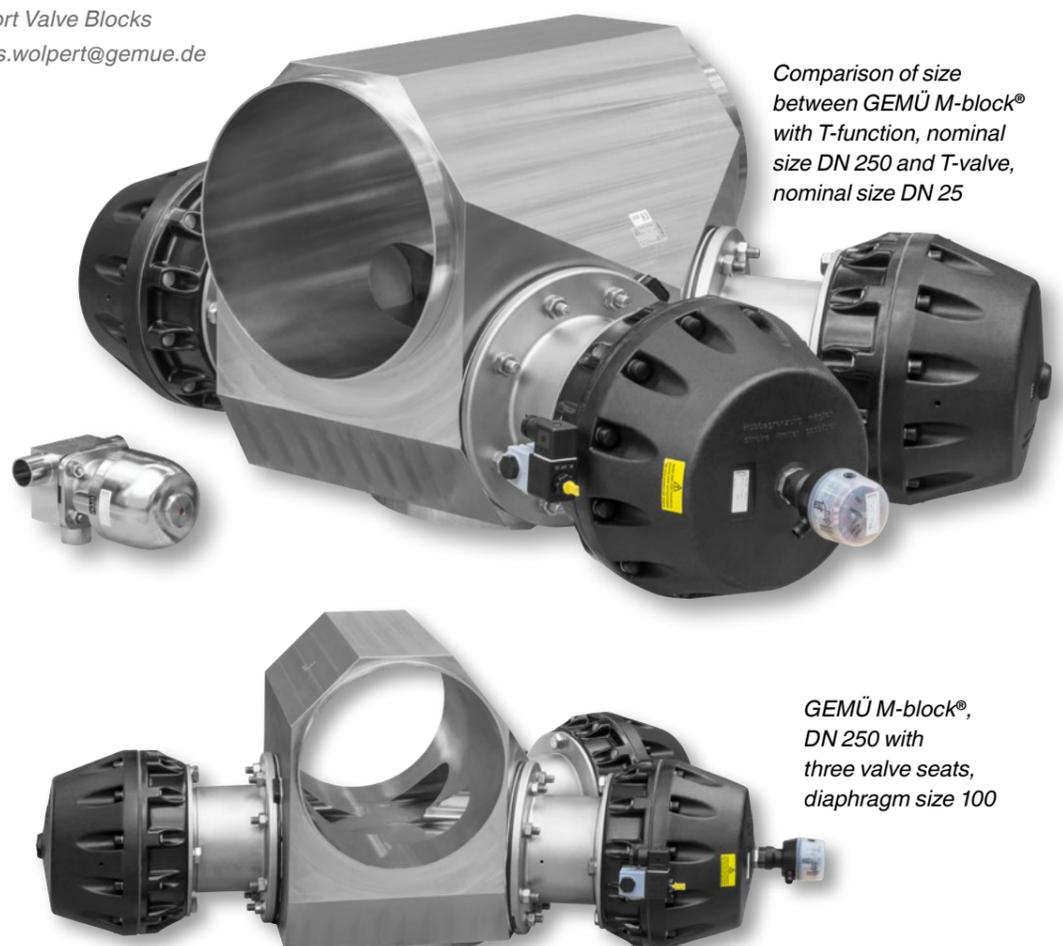
GEMÜ's customers benefit from the company's wide range of manufacturing options, modern machinery and expertise, which enable us to implement new valve solutions adapted to fit specific applications on a daily basis. A multi-port valve block is generally machined from a single block. Even the process connections required for the connecting pipework in customer plants are not welded on but instead machined directly from the raw material block. This represents significant added value in terms of process reliability. A compact design, optimized for draining, and a minimal L/D ratio, which is used as a guide value for evaluating cleanability, are other standard features.

For plants in the pharmaceutical and biotechnological industries, nominal sizes above DN 100 are rarely used, but are occasionally required. GEMÜ can even offer suitable solutions for these requirements, which are of course provided in conjunction with the required FDA conformities. Typical applications that require large nominal sizes include bioreactor or fermentation plants, for example. In order to ensure optimal oxygen supply to the cells or to keep the fermentation going in a controlled manner, depending on the application, appropriate dimensioning of the piping is required, depending on the reactor size, to ensure adequate supply of sterile air or nitrogen and other gases.

Precisely these kinds of applications are where the illustrated M-block®, which essentially fulfils the function of a T valve, is used. The most notable feature is the nominal sizes, which are implemented in DN 250 in this example. As there are no actuators or diaphragms suitable for pharmaceutical applications available in these dimensions, three valve seats of diaphragm size 100 are connected in parallel, to ensure that the required volumetric flow can be ensured. The particularly impressive feature is not simply the visual difference between an M-block® that functions as a T valve with a nominal size of DN 250 and a T valve with nominal size DN 25 used as standard in pharmaceutical plants, but also the mass of each valve assembly. The large valve, including all required mounting equipment, weighs 215 kg. The standard valve of size DN 25 weighs just 4 kg.

The raw material block used for manufacturing the M-block in question with a nominal size of DN 250 weighed 720 kg prior to machining. The completed valve body, on the other hand, now weighs "only" 160 kg. Hence, over half a tonne of material was machined, which was fed into a recycling process. This means that the machined volume makes up 78% of the original raw material.

 **Matthias Wolpert**
Strategic Product Manager for
Multi-Port Valve Blocks
matthias.wolpert@gemue.de



Comparison of size between GEMÜ M-block® with T-function, nominal size DN 250 and T-valve, nominal size DN 25

GEMÜ M-block®, DN 250 with three valve seats, diaphragm size 100

NEW ASEPTIC CONTROL VALVE GEMÜ 567 BIOSTAR® CONTROL

GEMÜ is investing in a new technology for hygienic and aseptic control valve applications for small volume dosing in the pharmaceutical industry, the biotechnology industry, as well as the foodstuff and beverage industries.

The requirements for hygienic and operational safety in the pharmaceutical industry, the biotechnology industry and the foodstuff and beverage industries are becoming ever stricter as a result of legal requirements such as the German Medicinal Products Act (Arzneimittelgesetz, AMG), the German Food and Feed Act (Lebensmittel-, Bedarfsgegenstände und Futtermittelgesetz, LFBG), the Food and Drug Administration (FDA), Regulation (EC) No. 1935/2004 or the Hazard Analysis and Critical Control Point (HACCP). GEMÜ developed the PD (plug diaphragm) design as a way of meeting the legislator's requirements and catering to customer requirements associated with this. With this design, the valve specialist combines the advantages of proven diaphragm valve technology – which has always guaranteed hermetic separation of fluid from the drive unit – with excellent control characteristics. With the PD design, a PTFE diaphragm has been developed that achieves the controllability of a globe valve and, at the same time, fulfils the strictest purity requirements. When complying with specific control parameters, it is even possible to dispense with elastomers entirely.

To further improve the quality and purity of our own foodstuffs and medicines, all processes in the food and pharmaceutical industries will be controlled more effectively in future, while the purity and hygiene of the processes involved will be subject to stricter requirements. For example, aseptic valves are currently being deployed in sections of the pharmaceutical and foodstuff industries where no aseptic valves have previously been used. The improved cleaning and sterilization associated with this, as well as the gentler processing of the food ingredients / pharmaceutical active substances, result in our foodstuffs and medicines having both a longer shelf life and better quality.

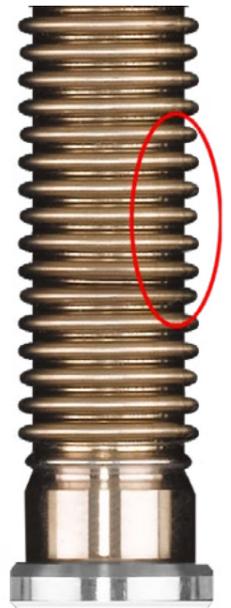
When looking for a valve that is easy to clean and suitable for both CIP and SIP processes, a diaphragm valve is the first choice. Diaphragm valves can also be used for rough control applications, insofar as the desired flow rates are sufficient. However, diaphragm valves soon reach their limits when a fine batch is required or a large control range must be covered, as they do not offer any option for enabling a defined cross-sectional area. Although globe valves with flow restrictor are precise control valves, they are not aseptic. The so-called lift effect on the valve spindle means that medium is transported into the gland packing and no longer removed during system cleaning. This allows dirt particles to accumulate in this area and/or the multiplication of bacteria.

In order to avoid this, bellows made from PTFE or in a stainless steel version are often used as actuator seals. But with this design solution, too, medium can be deposited between the folds. Depending on the fineness and depth of the bellow folds, it is virtually impossible to clean the system adequately – particularly in sections of the bellows that do not see a great deal of flow.

Cleaning problems can occur with bellow valves, particularly with fibrous media or media containing pulp.

For the GEMÜ 567 BioStar® control aseptic control valve, a new solution approach was therefore adopted to achieve hermetic separation of the medium from the actuator, while simultaneously achieving excellent valve control characteristics. The separation of the area conveying the medium from the actuator was implemented through a newly developed PTFE diaphragm, while control is effected via a parabolic plug.

The basis for this was the GEMÜ PD (plug diaphragm) design. The benefits of the diaphragms and the angle valve body are associated with their cleanability and the cavity filled geometry. This makes the valve a suitable control valve for aseptic areas and a very wide range of control applications. However, it can also be used in other sectors with strict demands on control accuracy and cleanability. As the GEMÜ 567 BioStar® control valve has been designed for use in aseptic applications, not only the elements which come into contact with the media, but also the valve body and actuator, are made of stainless steel or resistant high performance thermoplastics. The use of stainless steel also allows the outer surfaces to be cleaned using all standard cleaning agents.



Low-flow zones on valves with bellows are difficult to clean and also increase the valve's dead space

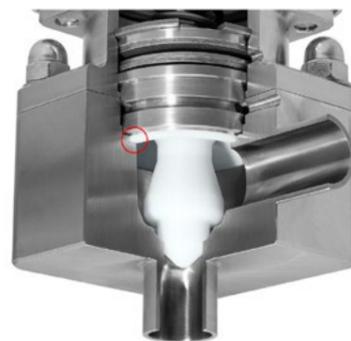


Structure of the GEMÜ 567 BioStar® control valve with PD design

Left: Standard version with stainless steel regulating cone

Right: Detail of a 3A version, whose media wetted section is completely free of elastomers.

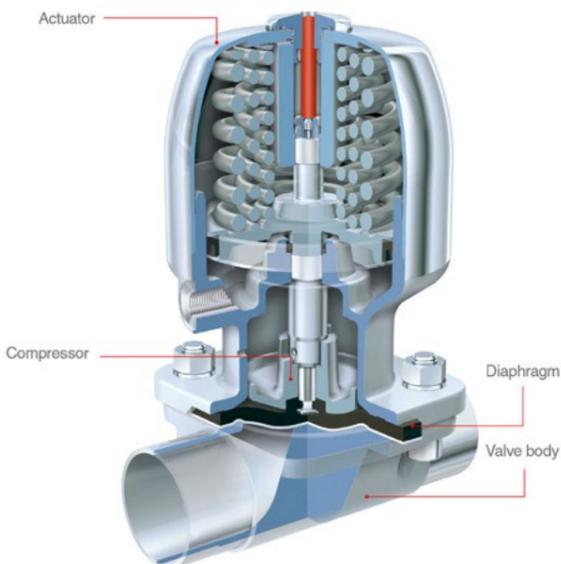
Hermetic seal between the medium and the actuator via the PD diaphragm (see marks).



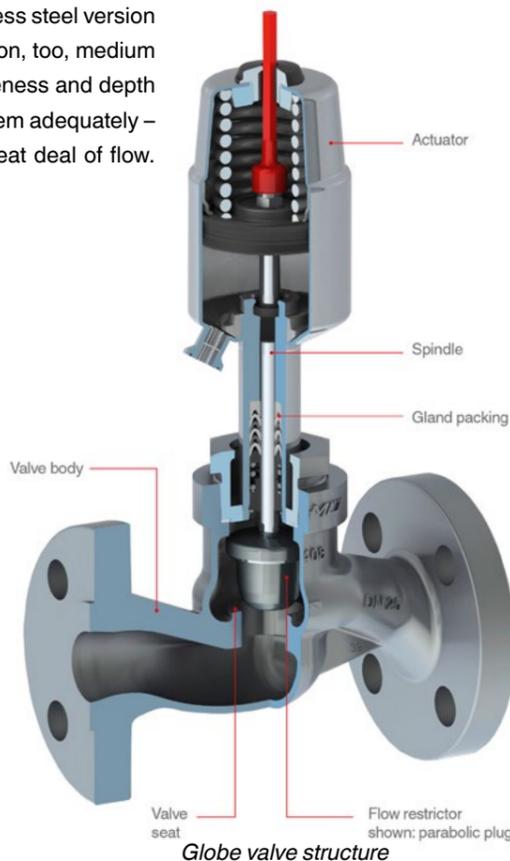
In summary, the GEMÜ 567 BioStar® control valve offers the following benefits:

- ⇒ Hermetic separation of the actuator from the medium flow
- ⇒ Unique sealing concept via PD diaphragm (plug diaphragm)
- ⇒ Diaphragm made of a PTFE second-generation material (TFM™)
- ⇒ Proven, reliable actuator design (GEMÜ 650 BioStar®)
- ⇒ Linear and equal-percentage control characteristic options
- ⇒ Regulating cone geometry can be adapted
- ⇒ Suitable for CIP/SIP
- ⇒ High-grade surface finish (standard 0.4 µm; optional 0.25 µm)
- ⇒ No "lift effect"
- ⇒ Easy integration of a bypass function, e.g. for additional and higher flow rates

Klaus Heller
Technical Consultant
Project & Applications
klaus.heller@gemue.de



Diaphragm valve structure



Globe valve structure

With the newly developed GEMÜ PD design, the GEMÜ 567 BioStar® control aseptic control valve allows small volumes to be regulated extremely accurately and under aseptic conditions in the range from 80 l/h to 4,100 l/h for the pharmaceutical industry, the biotechnology industry, as well as the foodstuff and beverage industries. Plant operators and plant designers can use this control valve to implement typical applications, such as dosing of gaseous and liquid media. Indeed, the GEMÜ 567 BioStar® control allows a very wide range of aseptic applications to be handled both generally or for filling processes, such as high-precision dosing and control of trace elements, additives, growth substances, flavourings or colourings, preparation of biocultures, pressure control for WFI systems, aseptic tanks and fermenters, conditioning solutions and pressure and flow controls. It can also be used in the manufacture of beverages, e.g. for the carbonation of beer, soft drinks and mineral water, as well as in the production of foodstuffs, such as in UHT systems, analyzers, inline mixing systems and high-gravity installations. In conclusion, it can be said that the GEMÜ 567 BioStar® control valve opens up countless opportunities and potential applications in the field of aseptic media control.