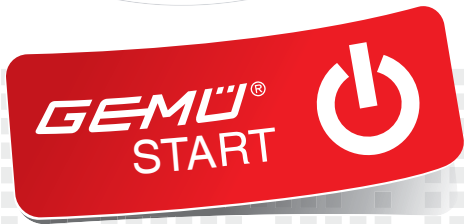


# GEMÜ® news

Magazine for the customers, staff and friends of the GEMÜ group

Edition 04/2011



## 2011 - a good year The outlook is growth

Dear Employees, Customers and Business Partners, Since its founding 48 years ago the GEMÜ group has grown continuously, and this continued in 2011. I would therefore like to take this opportunity to thank you for all your excellent support.

In this year I was very pleased to visit the GEMÜ locations in Brazil, France, Sweden, England and Switzerland for their 30-year anniversaries. A look at the development of our subsidiaries shows they have all improved over the years. And the outlook is also for further growth today. This is indicated very clearly by the number of our employees. In this year ending 2011

alone, the number of employees in the GEMÜ group world-wide has increased by 92 to 1,237. This equates to an increase of 7.4 per cent! Another signal is our vigorous construction projects and relocations into larger premises. For instance, in Switzerland we celebrated the ground breaking ceremony for our

new plant for the medical industry, a sector with a strong potential for growth. Construction work has begun for our new logistics centre in Waldenburg on the A6 between Heilbronn and Nuremberg. In China we are building a new production plant, to allow us to serve the rapidly growing Chinese market even better in the future. The subsidiaries in



GEMÜ Managing Directors f. l. t. r.: Stephan Müller, Gert Müller and Fritz Müller

Belgium and the United Kingdom have occupied larger and to some extent their own premises during the year. This also emphasizes: the internationalization of our group is accelerating to an increasing degree. Today, we are "at home" on all continents, and we are committed world-wide to facing up to new developments and responding with

appropriate solutions for our customers. And in this regard we profit from the country-specific expertise of our subsidiaries. During the coming holiday I wish you all and your families a restful time, peace and relaxation, and a joyful and optimistic start for 2012.

Fritz Müller

## Meeting the young skilled worker GEMÜ at the Career and Recruitment Day for the first time in 2011

The "Family Business Career and Recruitment Day" is a joint initiative of leading owner-operated businesses, the Entrepreneurs Club and the German Foundation for Family Businesses. Since 2006 it has been taking place at alternating locations in Germany. The organizer is always a family-operated business.



f.l.t.r.: Susanne Thoma, Heike Siegmeth, Bernd Haidt and Ilka Rölke

For the first time in June this year GEMÜ attended the Recruiting and Contact Trade Fair at the Wöhrl company in Nuremberg. The trade fair provides the opportunity for graduates, young professionals and qualified specialist technicians from all specializations, in particular engineering

and economics, to familiarize themselves with career potentials at family-owned enterprises. As opposed to conventional career trade fairs, at this event it is possible to talk about one's personal future directly with top decision-makers - often actually with the managing directors and

representatives of the owner family.

### Selection is restricted

The special fair is focussed on "hidden champions" ("hidden" global market leaders, barely known to the public) and family-owned enterprises. Provision of the brief curriculum vitae prior to the fair day allows participating companies to carry out screening. This means interviews and meetings can be run based on targets and efficiently, though without preventing "looking" and "new discoveries". Exhibiting companies as well as candidates are selected and restricted to ensure high quality. Around 600 applicants gained the opportunity to talk to managing directors and personnel managers at Nuremberg in 2011.

### Meetings in a 45-minute cycle

"The event has been very well prepared," said GEMÜ Head of Human Resources Heike Siegmeth. From the list of applicants, GEMÜ was able to preselect 30 applications and make appointments for the Career and Recruitment Day. Together with Gert Müller - still a member of the GEMÜ advisory board at that time - Managing Director Stephan Müller, Training Manager Ilka Rölke and Heike Siegmeth held numerous meetings with potential applicants. "Each meeting was limited to 45 minutes," she said, to

give as many candidates as possible the opportunity of getting to know the company. However, the stand was also frequented by many other interested persons who did not have an appointment.

There were further meetings in the follow-up to the Career and Recruitment Day. For Heike Siegmeth the event is a very good platform for GEMÜ to introduce itself to the young scientists. GEMÜ stays in the memory of the meeting participants, even if a job is not offered straight away. They recommend the company to others - or apply themselves later on.

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### GEMÜ is seeking...

- ⇒ Manufacturing control staff member (m/f)
- ⇒ Consultant for supply chain management (m/f)
- ⇒ Trainees for technical sales (m/f)
- ⇒ Technical support staff member (m/f)
- ⇒ Development engineer, electronics software (m/f)





# Living responsibility

## Gert Müller - Managing Director at GEMÜ



Since 1st October Gert Müller, son of the company founder Fritz Müller, has been in GEMÜ executive management and is responsible for Engineering and Sales. Here is a short interview:

*Mr Müller, did you fulfil your dream when you came into your father's business?*

It was actually more a consequence from my path through life. It had always been in discussion from my childhood times, and it was always clear for me, that I would enter into our family owned enterprise GEMÜ. And when someone grows up with something, then they will also want it. In this respect, it is now only logical to assume responsibility in the company and to continue management of my father's plant in his honour and spirit.

*What experience do you bring with you, and how have you prepared yourself for the new task?*

I have been working at GEMÜ now for many years and am therefore well acquainted with the structures in the company. Between 1996 and 1999 I built up the company INNOTECH Inc. in Atlanta USA for GEMÜ. My special focus there was on the manufacture and finishing of metal bodies made of stainless steel for valves in the American market. I was then assistant to the Executive Board at GEMÜ Switzerland from 2000 to 2002, where I acquired valuable experience in a managerial position. After that I worked for two years at the headquarters in Ingelfingen, before I founded my own company GFM Solutions in 2005. GFM develops and sells contactless hand disinfection devices. As the Managing Director, I developed the fundamentals in management and leadership, so that I could now start at GEMÜ as the Managing Director for Engineering and Sales.

*What do you regard as being your tasks, and what do you want to achieve with GEMÜ?*

As the Managing Director for Engineering and Sales I would like to help shape GEMÜ. We produce many innovative products for highly sensitive and in turn innovative areas of application. I will therefore work hard to ensure that GEMÜ continues to create many ideas and innovations. My father created excellent conditions for this with the GEMÜ DOME development centre in Waldzimmern. Our new plant in Emmen, Switzerland for the medical industry and our new logistics centre in Waldenburg will provide further support for ensuring that GEMÜ remains one of the top leaders in innovation.

*You have taken up the cause of "Green Engineering" as a priority. What is the importance of this for the future of GEMÜ?*

Economical use of resources and energy efficiency bring cost advantages, for us as well as for our customers! "Green Engineering", as we call the initiative at GEMÜ, therefore pays off in economic terms on the one hand. On the other hand, the plea for Green Engineering also has a very strong, image-building effect, both externally to the public as well as internally. I therefore do not consider Green Engineering to be merely an initiative, rather as a GEMÜ standpoint with high identification. With sustainable business operations, with "green" products, we are winning new customers and acquiring new areas of application – and we are simultaneously actively doing something to protect the environment for future generations as well as is possible. For this purpose, I would like to motivate the employees, encourage them, to act actively in support of environmental protection. We shall prepare this concept further piece by piece, and reinforce it with specific projects. Accordingly, GEMÜ has been certified compliant with EMAS since the middle of this year. The consequence of EMAS is that we actively incorporate our employees in topics relevant to the environment. Environmental management is not a paper exercise for us, rather it is lived. We have also documented this to the public with our environmental statement.

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**EMAS** – The "Eco-Management and Audit Scheme" (EU Eco Audit) is a tool developed by the European Union for the purpose of improving the environmental performance of businesses. It is made up from environmental management in accordance with the international environmental standard DIN 14001 and an environmental audit. EMAS is more than a simple management system. The system is actually performance orientated. It requires that companies improve their environmental performance above and beyond the requirements in the applicable environmental laws. Furthermore, EMAS also requires that employees be involved in decisions on environmentally-relevant topics. Participation in EMAS is voluntary. However, participating companies are obligated to publish an environmental statement in which they report on their direct and indirect effects upon the environment, their environmental contributions and their environmental objectives. It is examined by an independent environmental verifier and must be updated annually. "Revalidation", as it is called, is carried out at least once every three years. In this process, the environmental management system, compliance with the environmental policy, compliance with statutory regulations and the current environmental statement are checked.

Certified companies may have themselves entered in the EMAS Register and may use the EMAS logo for their corporate environmental protection. The environmental officer Jürgen Kerl is responsible for compliance with the EMAS directives at GEMÜ.

[www.go-green-gemu.de](http://www.go-green-gemu.de)



# Premium employer on the search for personnel

On account of the ongoing favourable economic climate, the Hohenlohe region currently enjoys full employment. The local labour market has been picked clean. In its search for personnel, GEMÜ has set its sights beyond regional borders.

GEMÜ continues to grow and accordingly it needs staff. The Heilbronn-Franken region has a very low unemployment rate as a result of its economic power. "We are currently experiencing conditions similar to those in 2007 and 2008, where it is becoming increasingly difficult to source skilled labour," said Head of Human Resources Heike Siegmeth. This not only concerns management staff. Qualified skilled workers for jobs in manufacturing, assembly, logistics etc. are as sought-after as IT specialists and engineers for jobs in sales and technology. "GEMÜ is an attractive company and a premium employer, and like all other businesses in the region, it is competing for the best skilled workers," Heike Siegmeth explained.



## Stopping the brain drain

A further complication is that Hohenlohe is still an "emigration region", i.e. more young people are leaving than arriving. "All local businesses need to join forces and stop, or at least slow down this trend. We have to find a way of holding on to people, and that of course means convincing them to stay," added Managing Director Stephan Müller. He believes we have to show people what opportunities there are here. In this connection both Stephan Müller and Heike Siegmeth like the slogan "Region of the world market leaders". "Convincing enough skilled workers to move here from outside the region will be quite a challenge," she said.

## Making staff feel at home

GEMÜ has set its sights beyond regional borders. The region offers not only attractive jobs, but also a wide variety of cultural and recreational opportunities. The quality of life here is high, particularly for young families. For example, GEMÜ assists new employees who move from outside the region to Ingelfingen-Criesbach with finding rooms or apartments, choosing the right school for their children and obtaining medical treatment. "We want new employees coming from other areas and other cultural backgrounds to feel at home with us right away," Heike Siegmeth added.

## Training is in heavy demand

Vocational training and further education are high on GEMÜ's list of priorities. "17 young people began their training at GEMÜ's Ingelfingen headquarters in September. We currently have our highest number of trainees ever," Heike Siegmeth said. GEMÜ co-operates with schools and colleges from the region, is in contact with universities and institutes of higher education, offers internships for students and gives students the opportunity to write their thesis on projects at GEMÜ. GEMÜ promotes young professionals and qualified skilled workers through a specially tailored vocational training and further education programme. GEMÜ has been active and so far very successful in overcoming the shortage of skilled workers.

[www.gemu-group.com/jobs](http://www.gemu-group.com/jobs)

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# Align Sales internationally Patrick Zurbuchen at GEMÜ



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**On 1st August this year Patrick Zurbuchen took over the International Sales and Marketing Department at GEMÜ. GEMÜnews spoke to the graduate economic expert.**

*Mr Zurbuchen, are you happy to work at GEMÜ?*

Yes, immensely. I worked for many years at InterApp, which was then GEMÜ's largest commercial partner. During this period, I followed the development of this company and learned to appreciate it from the point of view of a business partner. In this regard I am already acquainted with the company. I also know many people at GEMÜ personally, so that my entry into the company was not particularly difficult and I quickly found my feet. But what I really enjoy is the challenge to bring this strong company further forward. And I can utilize my many years of experience as a Product and Export Manager, as Managing Director and Marketing & Sales Manager in valves, measurement and control systems in support of this.

*What are your priorities in your work?*

In Sales our attention is, on the one hand, on consolidation and further expansion of our world-wide market leadership in the area of sterile valves

for the pharmaceutical industry, and on the other hand we are concentrating on massive expansion of our market presence in the environmental systems sector. Water treatment, such as sea water desalination, waste water and drinking water treatment, plays a central role here. GEMÜ has developed new products for this market, and they are already in use with great success. Even though we are focussing on these areas, we will of course not neglect the other areas and will also naturally look around for new areas of application with a high potential of success. One goal is therefore also further expansion of existing GEMÜ product lines that allow us to enter new and promising market segments.

*GEMÜ is growing – but also GEMÜ's customers are growing and with international orientation to an increasing degree. How are you reacting to this in Sales?*

We always want to be one step ahead of the increasing demands of the market. Our international key accounts expect competent local support and a reliable delivery service at prices applicable all over the world. Key Account Management has the task, on the one hand, to give competent support to these strategic customers and fully exploit their

potential, and on the other hand to integrate the interests of each GEMÜ subsidiary. This is why we will further strengthen our Key Account Management systems. Additionally, we will network the GEMÜ group better internationally by an effective CRM, and create more transparency on our customers' operations. Customer information required for Sales will be available within the group faster and more efficiently, to the customer's benefit: our customer consultants will then be able to prepare themselves even faster and more meticulously for discussion with customers – regardless where in the world.

*At which locations are you preparing to push forward GEMÜ growth?*

I see growth potential for us in Asia and India as well as in Brazil and the USA. The manufacturing sites established in Atlanta, Curitiba and Shanghai provide a very good basis for successful expansion of these markets. Similar to Waldenburg for Europe, we also want to construct logistics and assembly centres on the other continents, and thus further improve our delivery service.



## GEMÜ at the international peak when it comes to hygiene and sterile applications

For decades, GEMÜ has focused on the requirements of the pharmaceutical industry and complies with all standards in the manufacture and verification of pharmaceutical products. With design-based solutions for defense against extraneous germs, pharmaceutical manufacturers can ensure that their production process is GMP-compliant.

### GEMÜ as a pioneer in the field of GMP

As a manufacturer of important components such as valves for medicinal production plants, GEMÜ is thoroughly committed to the ideas and principles of GMP. Valves produced by GEMÜ have gained an almost legendary reputation, particularly in the area of sterile applications in Biotechnology plants. One reason for this is that the company has worked continuously on the implementation of GMP requirements in its products for over 45 years. This is particularly the case for GMP and "Red Biotechnology" (medicinal biotechnology - "red" represents blood) as well as hygiene and sterility as the basic prerequisites for GMP-compliant production. GEMÜ valves are at the peak of international competition in this regard.

### Red card for foreign matter

GEMÜ always focuses on germs and hard deposits at the start of development. With this in mind, the company has developed valves for Red Biotechnology, which are setting the standard in terms of GMP requirements.

For example: if extraneous germs or any kind of contamination enters a biotechnological process, this can have fatal consequences. Inevitably, this contamination affects the target culture and destroys entire fermentation batches extremely quickly, along with large quantities of expensive culture media - without any opportunity for intervention. These germs not only ruin weeks or months of work, they also cause immense financial damage and even delivery shortages of the medicine in question. Contamination of this nature with extraneous germs is the worst possible event for anyone involved in Red Biotechnology plants.

### Unique valve solutions

GEMÜ recognized this extremely sensitive context and decided to go down a new and different path when developing valves for Red Biotechnology. First of all, the valve specialist is investing a considerable amount of time in trying to fully understand extraneous germs, biofilms, deposits and fouling - so-called "filter cake formation" - and the accumulation of organic substances such as bacteria or inorganic substances such as hydroxide. These substances, their behavior and will to survive in the components of biotechnology facilities are therefore studied intensively. Only with the knowledge of how they get into production plants for Red Biotechnology, where they linger and how they actually get into production flows to wreak havoc, can the actual development work at GEMÜ begin.

An understanding of the survival strategies of bacteria, fungi and other organic and inorganic substances is therefore the real starting point for the unique valve solutions from GEMÜ. They are always designed in such a way that they allow very small living things no option to retreat or inorganic foreign matter to accumulate. Micro-organisms and other substances are also comparably simple to remove and the valves can therefore be sterilized easily and frequently under milder conditions. They also counteract hard deposits very effectively, which also helps to make cleaning them quick and uncomplicated.

### A crucial point: the sealing lip

Most manufacturers of diaphragm valves equip their diaphragms with a sealing lip which seals the body against its environment (Figure 1). This design feature inevitably results in a recess and a gap which the liquid medium can enter and then work its way into the cavity behind - an ideal hiding place for unwanted germs and hard deposits.

Worse still is what has become known as the "pump effect". This can occur

when the diaphragm valves in this design are actuated (Figure 2). Each time the diaphragm closes, the liquid located in this cavity, which actually represents nothing more than unwanted dead volume, is pumped back into the fluid flow. The consequences are obvious: a high risk of bringing extraneous germs from this dead volume into the biotechnology process and a constant danger of impurities and cross-contamination if deposits from the dead volume get back into the fluid flow.

### GEMÜ's new path

The design of the GEMÜ valve body "immunizes" the diaphragm valves against the dangerous penetration of germs, unwanted hard deposits and carry-over (Figure 3). In contrast to many other manufacturers, the sealing lip on GEMÜ valves is not on the diaphragm itself, but is instead machined or cast on the valve body. This unique technology keeps the diaphragm flat over its pressed surface. And this is exactly why fluid cannot get behind it - the result being the legendary lack of dead volume of GEMÜ diaphragm valves. The preventative design of the GEMÜ diaphragm valves often makes the key contribution to GMP. In the final analysis, GEMÜ's detailed research into impurities and extraneous germs enables GMP-compliant production ("currentGMP"), which is based on the state-of-the-art expertise and makes use of the best technology available.

Figure 1

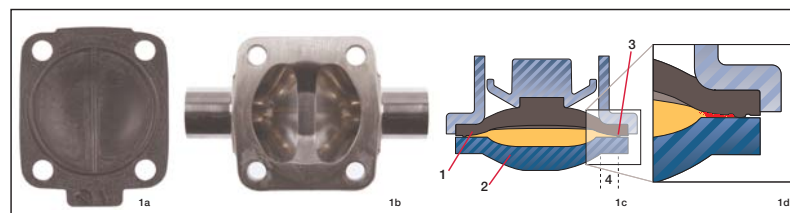


Figure 2

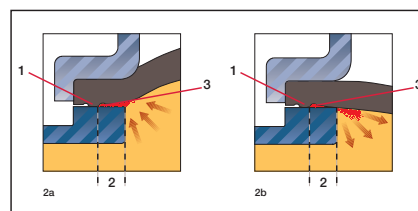
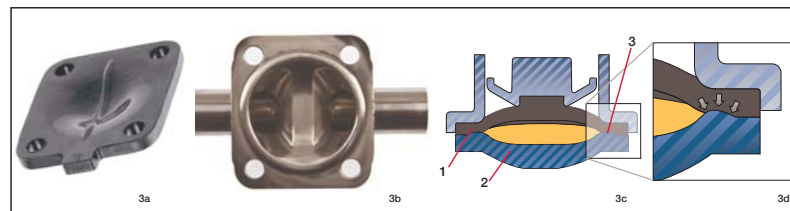


Figure 3



Good Manufacturing Practice is a regulatory code for production procedures in pharmaceutical facilities and for the verification of the pharmaceutical products these procedures produce. Pharmaceutical companies manufacturing products under GMP conditions must integrate GMP into their existing QA system. This applies, in particular, where they intend to market their products worldwide.

### Tested and safe

The European Hygienic Engineering & Design Group (EHEDG) has comprehensively tested and approved the sealing system of GEMÜ diaphragm valves. It is therefore not surprising that GEMÜ diaphragm valves are used by all major pharmaceutical companies. These companies appreciate the valves' design-based "immunization" against contaminants, because they make the production of promising new medicines with Red Biotechnology both simpler and safer.

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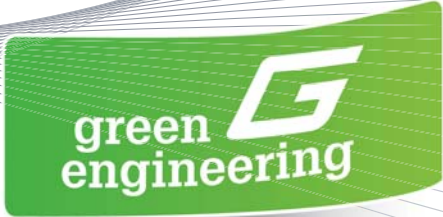
Standard diaphragm valve: (a) Diaphragm with sealing bead, (b) valve body with flat flange, (c) cross-section (1) diaphragm, (2) sealing bead, (3) valve body, (4) recess, (d) gap or dead volume

"Pump effect" of standard diaphragm valves: (a) Suction of medium (1) through the diaphragm sealing bead, (2) recess, (3) dead volume, (b) ejection of the liquid

GEMÜ diaphragm valve without "pump effect": immune to extraneous germs and deposits, (a) GEMÜ soft line diaphragm, flat in the sealing area, (b) valve body with sealing flange and machined sealing lip, (c) cross-section, (1) diaphragm, (2) sealing lip on valve body, (3) no recess, (d) no gap and almost dead volume free







# Compact combi switchbox

## GEMÜ 4242 for secure and high integrity applications

The new GEMÜ 4242 combi switchbox is suitable for secure and high integrity applications in most industrial sectors and process plant. It will be available at the beginning of April 2012.

It is small, compact, light, and is ideal for pneumatically operated linear actuators. With its integrated 3/2-way pilot valve made of anodized aluminium or stainless steel, the new combi switchbox 4242 is designed especially for small and medium nominal sizes. "It is particularly well suited for secure and high integrity valve applications with a linear stroke of 2 to 30 mm," says Martin Schifferdecker, product manager at GEMÜ.

### Smaller than the competition

The design is compact, saves material, and in comparison with competitors' products, it is much smaller. "That is a major advantage in plant engineering," explains Martin Schifferdecker. The combi switchbox requires little space and can also be installed quickly and without great effort. The plant has a correspondingly smaller design and reduced installation time. This saves operating costs that can be utilized elsewhere.

On the other hand, the material-saving construction has a favourable effect on pricing – a powerful purchasing argument. And for the plant designer it brings a full performance and function range despite the smaller design. Finally, the compact design conserves the environment and therefore supports sustainable development. Sustainability is growing in importance. In production and also plant engineering, increased preference is being given to so-called green engineering products as compared to products with the same performance and a similar range of functions.

### Green Engineering brings benefits for the customer

Green Engineering is part of the future-oriented company philosophy. It brings customers twofold economic advantages: competitive pricing in purchasing, and also in assembly and the range of functions. The pneumatic and electrical connections of the combi switchbox save space and enable easy access positioned in one direction. This means that the combi switchbox can be fitted quickly and easily without any great need for cabling, and there are no problems during servicing either. Furthermore, mounting and commissioning is made simpler by a speed-AP function. A manual override enables fast diaphragm change. This all saves time and money, lowers the planning efforts and reduces construction time.

### Large range of functions

Moreover, GEMÜ 4242 integrates functions that render other accessories superfluous.

The way the combi switchbox works is with a microprocessor-controlled, intelligent position sensor and an analogue, integrated travel sensor system. The combi switchbox provides extended diagnostics, and reports various programming, sensor and pneumatic faults on an optical high visibility display. The end positions are programmed on site via a reed contact, using a solenoid on the top of the housing, but without a PLC connection. The position of the reed contact in the housing is clearly marked. The housing therefore need not be opened. Mechanical openings in the body for buttons and switches are therefore not required.

### High system reliability

The robust body has been solidly built to meet ATEX requirements, and it has a transparent cover. Travel sensors, switching valves and status LEDs have been integrated into the housing. Connection is made using a standard M12 connector. Shielded cables and multi-pin parallel wiring are no longer necessary. This makes installation easier.

In addition to discrete switching and feedback, there are field bus connections for the AS interface, DeviceNet and also the option to connect using the IO link communication interface.

Provision of the high quality electronic system increases process system safety and gives the option of communicating in various ways. "The available communication methods together with the large range of functions of the

combi switchbox distinguish it considerably from comparable devices," says Martin Schifferdecker. The communication interfaces are state of the art. With the GEMÜ 4242, more parameters can be set and controlled by software than for comparable models. This allows the combi switchbox to deliver more data to the central control unit with considerable expansion of diagnostic facilities. "This provides much greater system reliability. Because, as the data flow increases, the central control unit is better able to estimate the current position, respond accordingly and therefore control the running process more specifically and economically," explains the product manager. In particular with regard to the increasing degree of process automation, the IO link interface allows simple transmission of process, parameter and diagnostics data to the control unit. GEMÜ is a member of the IO-Link Consortium and participates in working groups on the design and marketing of this uniform communication standard for sensors and actuators.

### Solutions for complex procedures and processes

The combi switchbox can be used in most industrial sectors and process plants for local activation of valves. "GEMÜ provides solutions for complex procedures and processes. The 4242 combi switchbox sets the standards, thanks to its intelligent position sensor with integrated travel sensor system and the high visibility position indicator," says Martin Schifferdecker.



GEMÜ 4242 combi switch box  
GEMÜ 550 globe valve



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## Exhibitions 2012 international

Name	Date	Place	Name	Date	Place
ISMI	10.01.–12.01.	Austin (USA)	SNEC	16.05.–18.05.	Shanghai (CN)
Semicon	07.02.–09.02.	Seoul (KOR)	KoreaPack	22.05.–25.05.	Seoul (KOR)
HygieniCon	28.02.–01.03.	Karlsruhe (D)	Gas.Oil.Technology	22.05.–25.05.	Ufa (RUS)
Toteg	01.03.–04.03.	Istanbul (TR)	H2O	23.05.–25.05.	Ferrara (I)
Semicon	20.03.–22.03.	Shanghai (CN)	Norrkama	23.05.–24.05.	Oulussa (FIN)
MSR-Spezialmesse	21.03.	Frankfurt (D)	FCE	29.05.–31.05.	Sao Paulo (BR)
AnugaFoodTec	27.03.–30.03.	Cologne (D)	Interpex Asia	28.05.–29.05.	Singapore (SPG)
WIN	29.03.–01.04.	Istanbul (TR)	Fooma	05.06.–08.06.	Tokyo (J)
Pumps & Valves	18.04.–19.04.	Antwerp (B)	Achema	18.06.–22.06.	Frankfurt (D)
Expoforma	18.04.–20.04.	Mexico City (MEX)	MSR-Spezialmesse	27.06.	Leverkusen (D)
Pharma-Kongress	24.04.–25.04.	Düsseldorf (D)	Interpex Japan	27.06.–29.06.	Tokyo (J)
Food Industry	25.04.–27.04.	Krasnodar (RUS)			
Romcontrola	28.02.–02.03.	Bucharest (RO)			
Interpex	01.05.–03.05.	New York (USA)			
IFAT	07.05.–11.05.	Munich (D)			
ISPE	16.05.	St Charles (USA)			

Exhibition dates for the 2nd half year 2012 will be stated in the next edition.

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## Plastic Multi-Port Valve Blocks

### Compact, safe and multifunctional

When it comes to mass produced industrial plant in particular, compact components not only save space and installation time, but also offer significant cost advantages. Multifunctional plastic multi-port valve blocks meet all application specific requirements relating to the control of liquids and gases in the smallest of spaces.

Plant designers are in competition with one another at an international level and in the face of strong competition, there is enormous pressure to keep costs down particularly when it comes to mass produced plant, and plant with complex process sequences. Designers and buyers of industrial plant and machinery are very conscious of utilizing cost advantages. There are four key criteria: the plant should be as compact as possible, the individual plant components should be lightweight, installation time should be kept as short as possible, and it should be possible to group functions together within the smallest of spaces. Compact plant saves space – and ultimately frees up capital resources that can be invested elsewhere. Lightweight components simplify installation and reduce transport costs. Quick installation reduces the lead time and saves on energy, wear and labour costs. Multifunctional units reduce material usage, shorten installation time and keep space requirements to a minimum.

#### Plastic valve portfolio for cost-efficient plant design

Plastic multi-port valve blocks are ideal for typical industrial applications – be it for reasons of cost or corrosion resistance. With its high-performance small and lightweight plastic diaphragm valve solutions, GEMÜ has a portfolio of products for implementing compact, safe and cost-effective plant designs that meet current plant engineering requirements. The range of compact plastic valves now includes several product lines: the GEMÜ R690 and R677 diaphragm valve ranges and the P600 flexible multi-port valve blocks for multifunctional, customized applications in the smallest of spaces. A manual diaphragm valve – the type R617 model – with an optional built-in electrical position indicator is currently under development.



GEMÜ R690

GEMÜ R677

GEMÜ R617

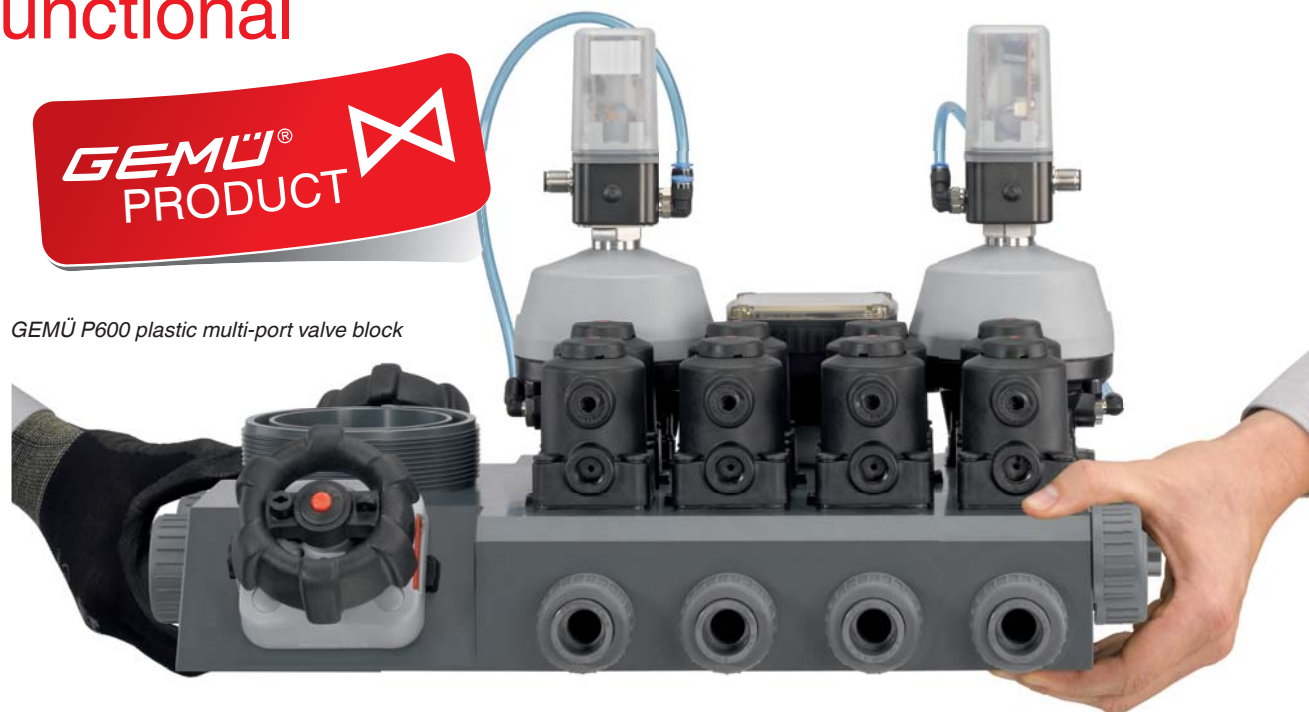
#### Advantages over conventional valve designs

Multi-port valve blocks in particular have a major advantage over conventional valve design solutions. They are compact, space-saving and, due to their individual design, are able to perform a range of quite different functions in the most confined spaces, such as mixing, dividing, diverting, draining, feeding and cleaning – all in one block! Safety and control functions as well as the integration of sensors, filters and non-return valves are also possible. Application specific tasks can then be assigned to these individual functions, such as distributing chemicals or connecting cleaning media – or they can be used to implement process engineering solutions, such as a minimum flow rate or a block and bleed function.

Combining functions offers several advantages and measurably minimizes the dwell time of media in the system. This enhances the performance of the entire system. Another advantage of blocks is that they provide junction points within plants, allowing easier maintenance and servicing. The GEMÜ multi-port valve blocks are also tried and tested, absolutely leakproof units. They are designed to assure process and plant reliability. An advantage from the purchaser's point of view is that customers buying the customized multi-port valve block receive a single article with a single article number that simplifies materials management. It is also the case with application specific developments that the processes themselves are invisible – even from the outside. Therefore, multi-port valves offer a high level of copy protection.



GEMÜ P600 plastic multi-port valve block



#### Basis for system components

Intelligently designed, multi-port valve blocks form the basis for compact plant components with high functionality. Block solutions provide a greatly simplified alternative to complex pipework, valves and sensors. The block houses all the required pipework, connections and valves. This largely eliminates the need for additional adapters and moulded parts. Quick and simple installation is ensured by the integration of standard connection types, such as union ends, butt weld spigots, solvent cement spigots and flanges.

#### Wide range of applications

GEMÜ compact, lightweight multi-port valves are suitable for a wide range of applications in various industrial sectors. The range of cost effective applications extends from installations for chemical processes in the chemicals industry and environmental chemistry and plant solutions in surface finishing, coating and electroplating, as well as municipal and industrial water treatment, all the way through to solutions for power stations. Even when it comes to sensitive processes and technologies, such as reverse osmosis plants, neutralization, swimming pools with microfiltration systems and chemical processes involving aggressive and corrosive media, multi-port valves are a cost-effective alternative to conventional valve designs. But, of course, they can also be used where inert media and processes are controlled.

#### Applying our knowledge of stainless steel applications to plastics

Each installation has different requirements and calls for different customized solutions. This is why GEMÜ co-operates very closely with customers in the development of multi-port valve solutions for industrial plant. GEMÜ's engineers develop ideas and initial drafts as early as during the project stage. The drafts are then implemented constructively and processed in a highly efficient machine fleet by experienced staff.

The basis for this is the wide range of standard valves. GEMÜ is therefore able to solve the problems for which valves are required – as both standard and custom solutions.

Here, the company draws on many years of know-how from the stainless steel sector, and particularly in the production of thousands of stainless steel product variants for the pharmaceuticals industry. The company has successfully transferred this know-how to plastic valve blocks for typical industrial

applications. Plastic multi-port valves ensure high flow rates and, depending on valve specification, operate reliably at temperatures ranging from -20°C to +80°C and pressures of up to 10 bar. Moreover, they are highly resistant, even to aggressive and corrosive media.

#### Complex process engineering in the smallest spaces

In particular, the combination of single valves and multi-port valve blocks offers significant cost advantages for plant designers as complex process engineering solutions can be implemented in the smallest of spaces to customer specification. In addition to valves, GEMÜ offers a comprehensive range of accessories including flow-meters, controllers, stroke limiters and customized sensors all possible to integrate into the multi-port valve block.

GEMÜ is continuously expanding its resources for the production of plastic multi-port valve blocks. The experience gained is also incorporated in installation. For example: Our block valve specialists are currently developing an efficient, flexible test rig for multi-port valve blocks. GEMÜ will thus be able to offer even greater process reliability in future – a key factor when it comes to designing process plant from plastic.

A video about plastic multi-port valve blocks is currently being made.

A short and an extended version of the video will be available.

#### Contact:

Plastics Department  
plastic@gemu.de





# Butterfly valves GEMÜ 410, 417 and 423 in 2012 also available up to nominal size 100

The lightweight and compact butterfly valves by GEMÜ can be installed quickly and easily.

In the field of plant engineering key factors for the selection of equipment and components are weight, size and installation time. Functional range and performance are in turn very important criteria for process engineering. The GEMÜ 410 butterfly valve and its versions 417 and 423 meets stringent requirements in both respects. They are compact and lightweight, and can be installed quickly and easily. Furthermore, thanks to their wide range of functions, they are suitable for numerous applications in very diverse fields.

## Space saving and easy to install

The butterfly valves in nominal sizes 15 – 50 - and up to 100 beginning in January 2012 - can be installed quickly and easily. They are easier to install than wafer and LUG type butterfly valves. In addition, the valve bodies of the butterfly valves come as standard with male threads. Therefore, no additional flanges, bolts, nuts and washers are required for installation in pipe systems. This simplifies installation and saves time and materials. Another advantage is compact installation length in all nominal sizes. This saves space and allows for cost-effective plant design.

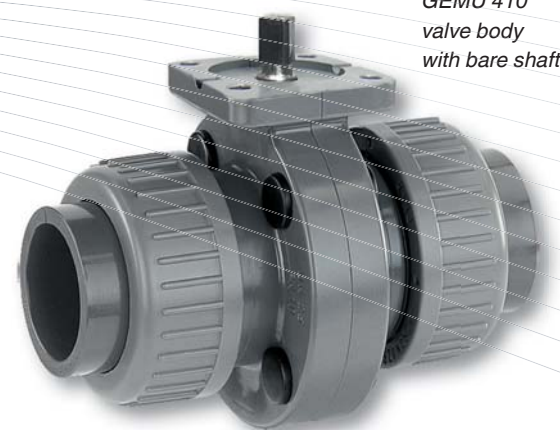
## Available with three operators

Depending on requirements, butterfly valves have pneumatic, manual or motorized operators custom-built for each specific application. The GEMÜ 410

butterfly valve is equipped with a low-maintenance, corrosion-resistant plastic pneumatic quarter turn actuator. Control functions "normally closed", "normally open" and "double acting" are available. The butterfly valve is optionally available with a stroke limiter and position indicator. GEMÜ 417 has an ergonomically designed manual operator with integrated locking device and intermediate stop in nominal sizes to DN 50. In DN 50 and larger the butterfly valve is fitted with a lockable hand lever which protects the butterfly valve against accidental operation. GEMÜ 423 has a low-maintenance motorized actuator with a powerful DC motor. The actuator features an optical position indicator and manual override as standard. The end positions can be adjusted electrically using microswitches.

## Applications in nearly every industrial sector

All wetted parts of the soft-sealing butterfly valves are manufactured from high-grade plastic. They are corrosion resistant and are particularly well-suited for use in corrosive environments. To a certain extent, media may also contain solid matter. The potential applications of butterfly valves are highly diverse, from control and regulation of inert to corrosive media at medium temperatures between 10 and 60 degrees Celsius and pressures up to 6 bar.



GEMÜ 410  
valve body  
with bare shaft

The applications are wide-ranging. GEMÜ butterfly valves operate just as reliably in water treatment plants, swimming pool processes and irrigation systems as in the electroplating and chemical processing industries.

## Contact:

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plastic@gemu.de



GEMÜ 410  
butterfly valve  
with pneumatic  
actuator



## GEMÜ 480 butterfly valve receives DVGW approval

The German Gas and Water Association (DVGW) has certified the GEMÜ D480 butterfly valve. It is now officially approved for drinking water applications. The approval covers the complete valve.

The GEMÜ 480 is essential for quality assurance in drinking water treatment and supply while extending the range of uses of the butterfly valve. The potential applications of the GEMÜ 480 extend from filling machines in the brewing sector, chemical installations and irrigation systems right through to sewage treatment plants, service water installations and well equipment. Contact: Industrial Department industry@gemu.de



## High-purity non-return valve

GEMÜ now also offers a lightweight, compact plastic non-return valve with all standard connections for high-purity applications. The GEMÜ CV non-return valve comprises a PTFE body, various PTFE functional parts and two flare connections, which are optionally available in PVDF, PFA or CPFA depending on application. Special versions for direct integration in a block valve are also available. The lightweight and compact plastic non-return valve is ideal for ultra pure processes, and complements the process equipment in supply systems for ultra pure chemicals, ultra pure water treatment and distribution systems in the semiconductor industry and in the medical sector for example. Contact: Semiconductor Department semicon@gemu.de



## GEMÜ R677 and R690 available up to DN 100 in January

GEMÜ has extended its range of Compact Plastic Valves GEMÜ R677 (see photo below) and R690. Since 1st October of this year diaphragm valves for nominal sizes 15 and 50 have been available in PVC-U and ABS hard plastic, which is flame retardant and resistant to acid, alkalis, alcohol, oil and petroleum. Since 1st November valve bodies have also been available in PP-H, a material resistant to nearly all solvents and greases. From January 2012 diaphragm valves will also be available in nominal sizes 65 to 100. All product lines of the Compact Plastic Valve series are compact and of lightweight construction. They can easily be fitted with all conventional types of connection in different plant designs and, in addition to providing high flow rates, operate at temperatures from -20°C to +80°C and pressures up to 10 bar depending on valve specification. Contact: Plastics Department plastic@gemu.de



## Hand lever for butterfly valve GEMÜ 487

An additional hand lever is now available for the GEMÜ 487 Victoria butterfly valve. It comes in four versions for nominal sizes 50 to 150. Thanks to the hand lever, the butterfly valve is now infinitely adjustable and allows both controlled manual fluid flow reduction and rapid manual media flow shutoff. A gearbox is required for nominal size DN 200.

Contact: Industrial Department industry@gemu.de



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# GEMÜ 650TL Manual Valve with AutoStop Function

## Increases the operational reliability of pharmaceutical quality water manifolds

GEMÜ has developed the only manual valve world-wide with a pneumatic actuator which can, if necessary, be closed via the central plant control system. In this way, the groundbreaking GEMÜ 650TL prevents contamination of the working medium if a malfunction occurs when the valve is open.

Human beings are not machines; they make mistakes. And these can have fatal consequences in processes. Therefore, plant designers always try to automate processes as much as possible to minimize the likelihood of operator error. However, for quality assurance reasons, sampling is a mandatory part of most processes. These samples are usually taken manually. This can be done quickly and easily by using a manual valve. The basic idea behind the manual valve is to control the flowing medium continuously and allow for samples to be taken at this point.

### Central plant control system closes automatically

Now, it could happen that a malfunction occurs while sampling is in progress. This would be the case, for example, if the pump in the system were to run dry and have to be shut down. By stopping the pump, the central plant control system creates a problem, because a vacuum occurs at the tapping point. The vacuum can cause extracted medium to be drawn back into the ring main, thereby contaminating the system. Even if

the manual valve is reclosed manually, it will be too late as even the briefest exposure to contamination is enough to detrimentally affect the entire production run and possibly ruin the complete batch. If medicinal and pharmaceutical products are being processed, an incident such as this can result in very high losses. The GEMÜ 650TL Manual Valve puts a stop to that. The diaphragm valve has an integrated pneumatic actuator which the central plant control system uses to close the valve. When the plant is shut down, the plant control system automatically shuts off the air pressure, and the manual valve closes automatically, thus preventing contamination. The GEMÜ 650 TL allows all tapping points to be closed automatically via the central process monitoring system in an emergency. This emergency safeguard overrides manual adjustment of the handwheel. A "closed" proximity switch ensures that the process monitoring system is able to check the position of the manual valve at start-up of the control medium and keep the valve closed if it has not yet been reset

manually. This prevents sampling medium from escaping unnecessarily when the manual valve is open.

### Solving everyday problems

Before the plant is restarted, the valve has to be reclosed manually because the handwheel does not function when the control medium is shut off. But the handwheel determines the position of the valve when the control medium is started up again. The valve then returns to the position which has been set with the handwheel.

This new development by GEMÜ is an elegant solution to everyday sampling problems in process control applications. It not only prevents contamination of working medium, but also reduces sampling quantities at points of use. Other applications include for example closing all tapping points during the cleaning phase so that no hot steam can escape. The tapping points are not reopened until the temperature has dropped to within an acceptable range.

#### Contact:

Sterile Valves Department  
bio@gemu.de



GEMÜ 650TL diaphragm valve



## Current training dates 2012

### ⇒ GEMÜ Information day

Only on demand by Sales GEMÜ Germany. Other divisions and departments should ask whether a date has been fixed.

### ⇒ Technical principles of valve technology

4 and 5 January 2012 (German)  
6 and 7 January 2012 (English)  
10 and 11 April 2012 (German)

### ⇒ Product training for valves and accessories

10 to 12 January 2012 (German)  
8 to 10 January 2012 (English)  
16 to 18 April 2012 (German)

### ⇒ Technical principles of measurement and control systems

16 January 2012 (German)  
5 March 2012 (English)  
23 April 2012 (German)

### ⇒ Product training for measurement and control systems

18 to 20 January 2012 (German)  
6 to 8 March 2012 (English)  
7 to 9 May 2012 (German)

### ⇒ Service trainer "Diaphragm replacement"

20 and 21 February 2012 (German)  
29 and 30 May 2012 (English)

Training dates for the second half year will be stated in the next edition.

For registration and further information on procedure, time and location, please contact Marie-Luise Krenz!

#### Contact:

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## Delicious Christmas pastries from the global market leader

We are even world champions when it comes to delicious baking. Along with many other successful global market leaders from the Heilbronn-Franken region, we have put proof of this on our websites. In doing so, we are supporting a campaign which is supporting the region and its companies in a charming and relaxed manner.

We invite you to take a closer look at the campaign – and the recipes, of course! You will find the download on: [www.gemu-group.com](http://www.gemu-group.com). The editorial staff wishes you fun making your pastries, baking and nibbling away.

**Ingredients:** 300 g flour, 150 g icing sugar, 1 packet of vanilla sugar, 1 pinch of salt, 200 g butter, 3 egg yolks, 2 tbsp. chopped almonds, 100 g raspberry jelly

**Instructions:** Knead the flour, icing sugar, vanilla sugar, salt, butter and two egg yolks into a smooth dough and shape it into a ball. Wrap the dough in foil and cool it for one hour. Preheat the oven to 200°C. Roll out the dough to a thickness of 3 mm on a flour-covered surface and use a heart-shaped biscuit cutter to cut out hearts with a diameter of 4 to 5 centimetres. On half of the hearts, cut out smaller hearts so they can be used as the top pieces. Whisk the remaining egg yolk, brush the edges of the hearts with it and sprinkle with almonds. Place baking paper on a baking tray and place the dough cutouts on it. Bake all of the hearts for about 10 minutes. With the bottom parts still warm, coat them with jelly, then sprinkle icing sugar on the top parts and place them on top of the bottom parts.