

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com

**GEMÜ®**

VALVES, MEASUREMENT AND  
CONTROL SYSTEMS

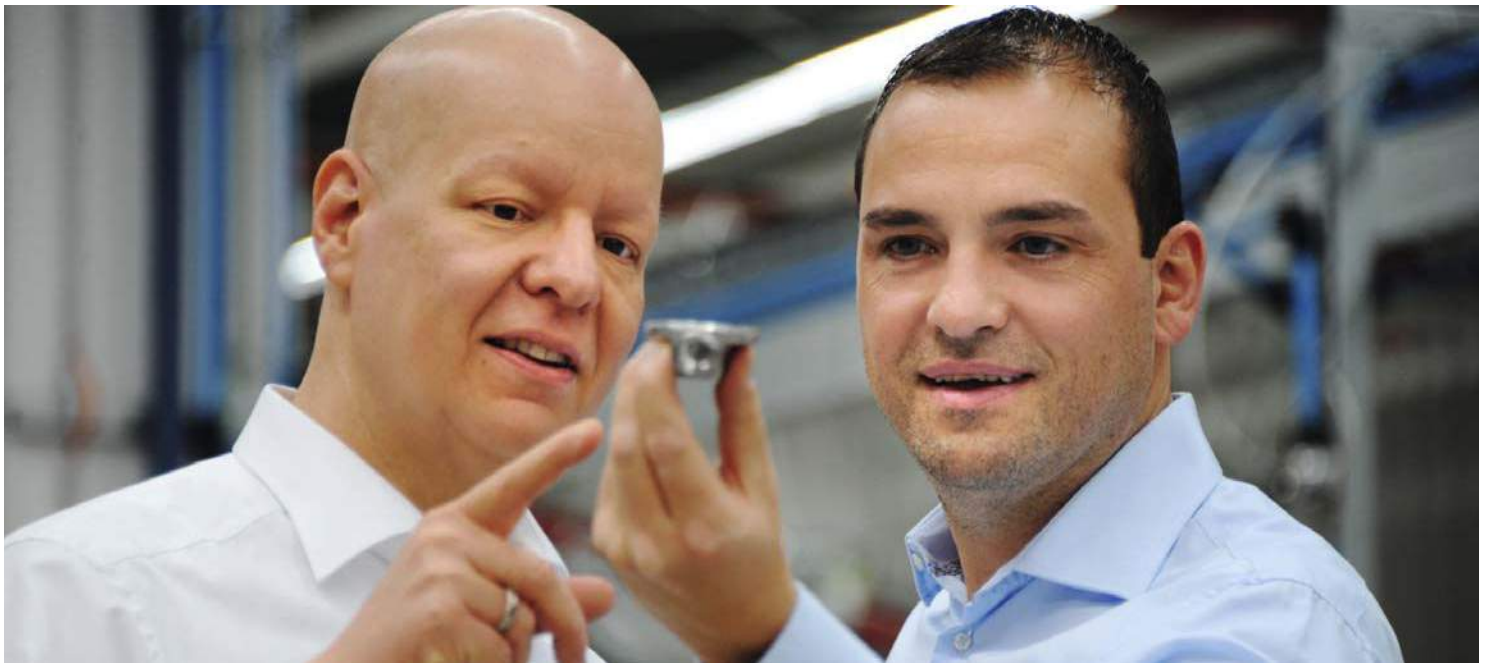
***Components and system solutions***  
*for complex applications and processes*



## ***Local roots, global network***

*Our performance and passion for technology  
make us the world market leader*





Managing Directors Stephan Müller and Gert Müller

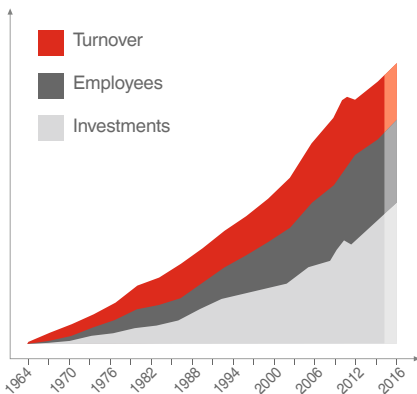
## GEMÜ Group

**1964**  
founded

over  
**1,400**  
employees worldwide

**6**  
manufacturing sites

**26**  
sales companies



GEMÜ company development

Through continuous innovative design and a focus on quality and proximity to customers, GEMÜ is one of today's leading worldwide manufacturers of valve, measurement and control systems. We are the global market leader for sterile applications in the pharmaceutical and biotechnology industries. GEMÜ has achieved this status by investing extensively in application-focussed research and development.

After more than 50 years of healthy growth, Gert Müller, son of founder Fritz Müller, now directs the independent family-owned enterprise alongside his cousin Stephan Müller.

### Technological leader

Fritz Müller's invention of the world's first plastic process valve formed the starting point for the company's foundation. This innovative strength remains just as strong today. Over the last two decades, customized GEMÜ multi-port valve blocks milled from stainless steel block material have had a significant impact on the plant engineering

industry. They make it possible to create plants that are considerably more compact while also being more flexible. Requirements of this kind are also becoming increasingly important in plastic plant engineering. Our decades of experience in stainless steel block design and manufacturing creates synergies that now also apply to the manufacture of plastic multi-port valve blocks. This expertise makes GEMÜ the technological leader in the field of complex plastic multi-port valve blocks.

### Achieving more together

Our broad product range offers solutions for a variety of different customer groups. As a result, GEMÜ products must comply with the highest standards of quality and are developed according to current market requirements by our qualified employees on a daily basis around the globe.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com



From initial consultation, research & development, and the complete production process, right through to sales, service and maintenance – we implement the whole value chain, producing solutions that offer lasting maximum performance.

**Over 1,400 specialists**

The GEMÜ group currently employs over 1,400 employees worldwide, approx. 800 of whom in Germany. The comprehensive range of GEMÜ products is produced at six manufacturing sites in Switzerland, China, Brazil, France, the USA and Germany. Research & development, design and the majority of the production and assembly are located in Germany. With 26 subsidiaries and a large network of commercial partners, GEMÜ is now active in over 50 countries on all continents.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
 1-877-705-9864  
 info@wtmi-usa.com  
 www.wtmi-usa.com

**Over 400,000 product versions**

The wide-ranging modular system and the precisely configured automation components enable more than 400,000 product versions to be produced. This variety is unique to GEMÜ and provides an appropriate response to the increasingly specialized nature of process engineering.

**From individual manufacture to major projects**

We have flexible production structures in order to provide intelligent solutions to the individual requirements of specific industrial sectors and areas of application. Our capacities are capable of adapting to both individual products and all that is required for large projects.



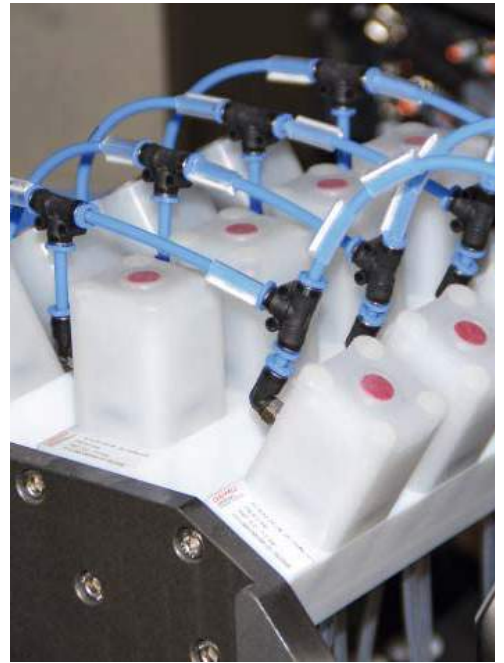
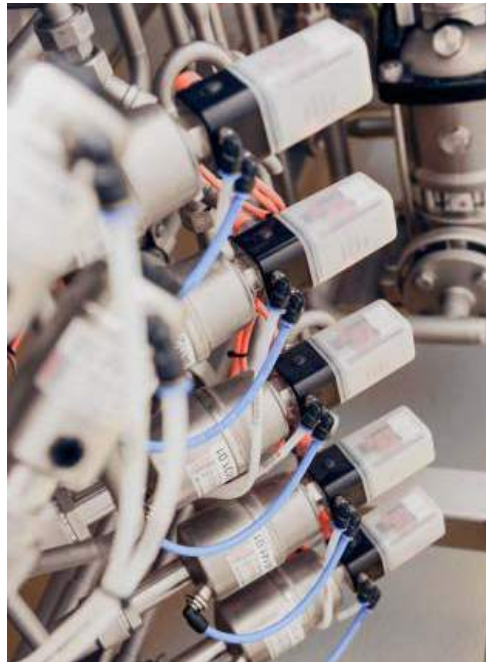
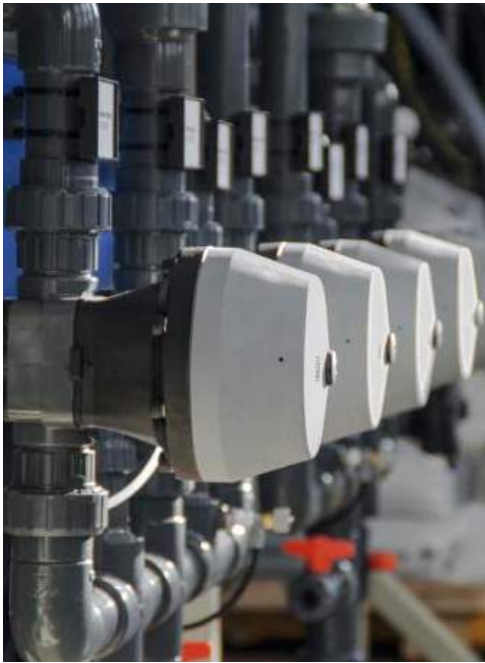
Precise: GEMÜ 554 – globe valve with customized regulating cone and positioner



Tried and tested: GEMÜ 650 BioStar® – high-quality diaphragm valve for sterile and hygienic processes

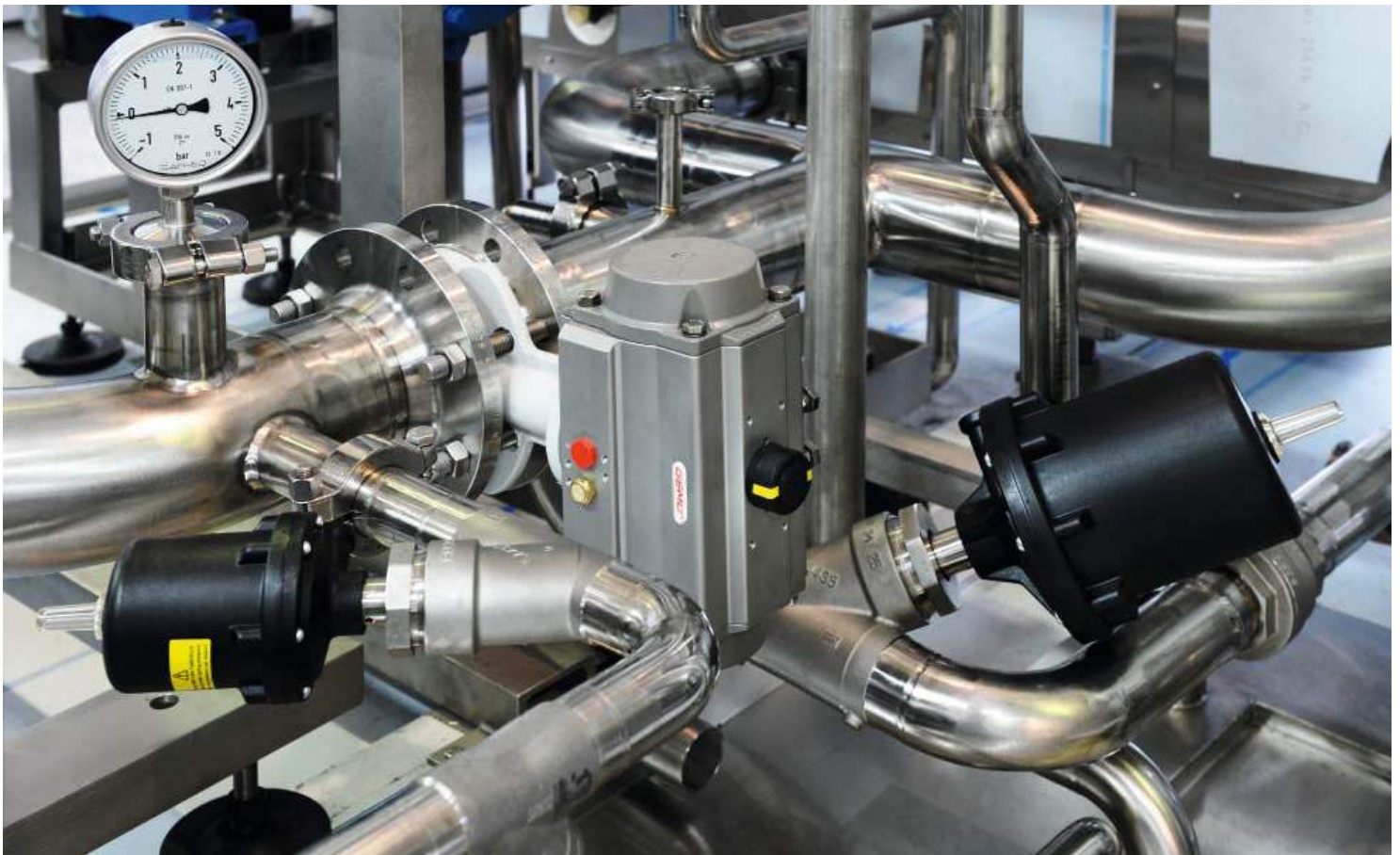


Individual: GEMÜ M-block – customized multi-port valve blocks in plastic or stainless steel



Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com

***Product and system solutions***  
*for a wide range of requirements*





### **Areas of application**

- *Pharmaceutical, biotechnology and cosmetics industries*
- *Food and beverage industries*
- *Chemical industry and environmental systems*
- *Power generation*
- *Water treatment*
- *Processing industry*
- *Microelectronics and semiconductor industries*
- *Medical systems*

Valves, measurement and control systems by GEMÜ are used successfully in process engineering and adjacent fields of activity. Our system technology covers the complete process cycle: From individual standard components and tried and tested systems, through to customized product versions.

### **Creating value through innovative system solutions**

Specialist technical design departments at GEMÜ develop application focussed system solutions and high quality components which make a significant contribution to the value created in plant engineering and in production.

By collaborating with our customers, our application engineers and technicians ensure that our products and further product developments are constantly influenced by current industry requirements.

### **Wide range of requirements profiles**

Valves, measurement and control systems are subject to widely different requirements depending on the areas of application. Chemical and physical properties of the working media as well as other operating parameters have a direct influence on the selection of components and materials.

To do justice to the given operating conditions on an individual basis, we offer our customers a wide range of valve types, body materials, seal materials and connections. This facilitates the successful control and regulation of liquids, vapours and gases.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com



## Pharmaceutical, biotechnology and cosmetics industries

### Products

- Aseptic stainless steel diaphragm valves
- 2/2-way and T body valves, tank valves, tandem welded configurations, multi-port valve blocks and bypass valves
- Globe and control valves
- High-quality stainless steel actuators
- Customized solutions

### Product advantages

- Autoclavable, sterilisable and minimal deadleg stainless steel valves
- All products are designed in compliance with GMP directives

### Approvals and certificates

- Tested in accordance with USP Class VI
- Compliance with FDA requirements
- BSE/TSE compliant
- EHEDG-certified seal system for diaphragm valves
- TA Luft (German Clean Air Act)
- 3A-versions

The highest level of purity must be ensured when producing medicines and cosmetics. GEMÜ components and system solutions for the pharmaceutical, biotechnology and cosmetics industries meet the regulations and approval criteria for the manufacturing processes of these products.

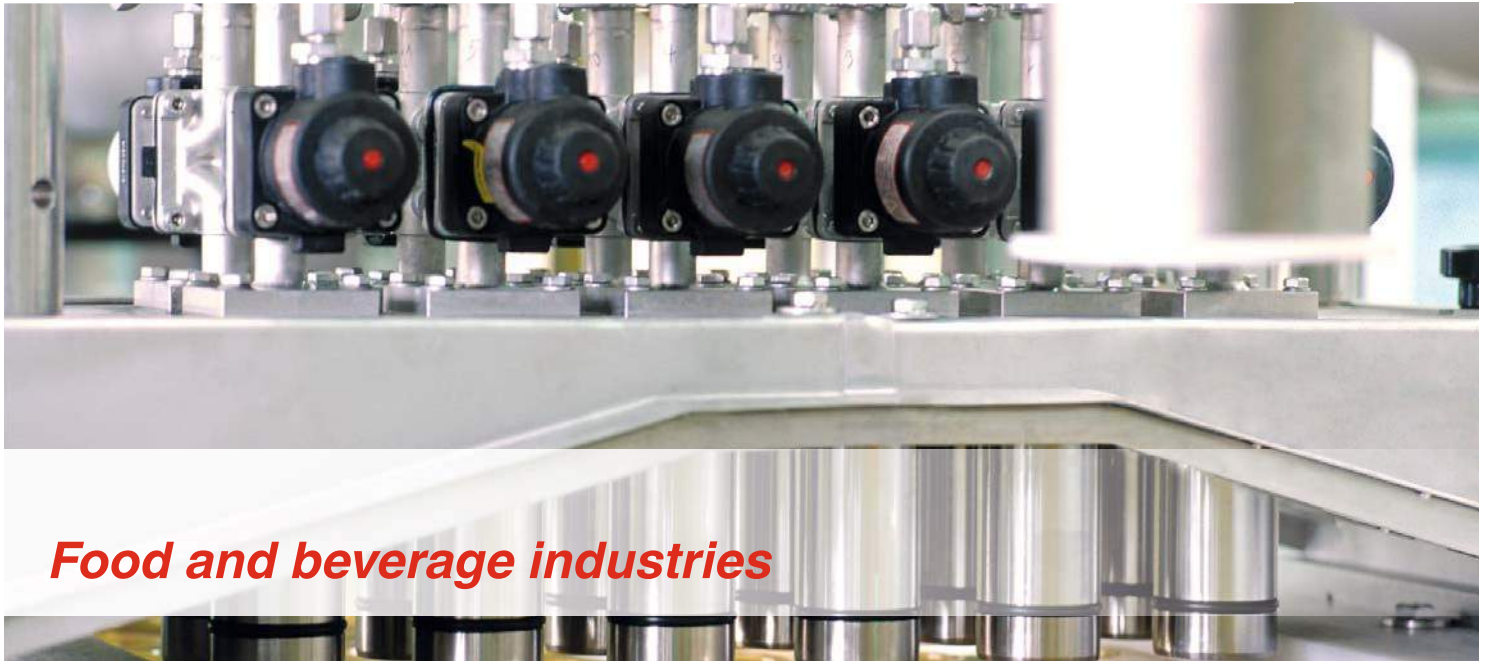
### Continuous improvement

The quality of these processes has been improved in particular by aseptic sterile valves and highly efficient multi-port valve blocks, with which GEMÜ leads the market. A GEMÜ multi-port valve block makes plants smaller, more compact, lighter and easier to clean. Each multi-port valve is designed and manufactured individually by GEMÜ on the basis of the plant-specific requirements. To date, several thousand variants have been produced for a variety of customers.

### Always the right valve

GEMÜ diaphragm valves are used in all the fields of application in green, red and white biotechnology. They control the manufacture and filling of eye ointments, insulin, monoclonal antibodies and many other pharmaceutical active substances. The most notable feature is the certified GEMÜ seal system. It improves and reduces the purification process.





## Food and beverage industries

### Products

- Aseptic diaphragm valves
- Globe and control valves
- Automation components
- Product solutions for machines and plants for filling, cleaning, mixing, separating, sterilising, autoclaving, pasteurising, etc.
- Customized solutions

### Product advantages

- Easy to clean
- Easy to service

### Approvals and certificates

- EHEDG-certified seal system for diaphragm valves
- EC regulation 1935/2004

GEMÜ valves have been developed for aseptic and hygienic processes. They are used in the production of yoghurt, sugar solution, fruit juice and smoked products, as well as the filling of bottles containing water, soft drinks and dairy products. The individual production processes are as varied as they are complex: injection, peeling, heating, boiling, smoking, cooling, filling, homogenisation, mixing, separation, sterilisation, autoclaving, pasteurisation, cleaning (WIP/CIP/SIP), degassing and drying. Across this spectrum, GEMÜ offers the right valves for the precise control of liquids, gases, smoke and steam.

### Certified diaphragm seal

GEMÜ is a member of the "European Hygienic Engineering & Design Group" (EHEDG). The GEMÜ seal system for diaphragm valves has been EHEDG-certified since June 2006. The diaphragm seal is at the heart of every valve. It hermetically separates the actuator from the body and enables optimal cleanability.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
 1-877-705-9864  
 info@wtmi-usa.com  
 www.wtmi-usa.com







## Chemical industry and environmental systems

### Products

- Diaphragm valves and globe valves as well as ball valves and butterfly valves in plastic
- Lined diaphragm valves
- Highly resistant butterfly valve GEMÜ 490 Edessa®
- Multi-port valve blocks in PP, PVC, ABS and PVDF

### Product advantages

- Different valve types as well as instrumentation and automation components directly from the manufacturer
- Large variety of valve body materials
- Numerous seal materials
- Special products for higher pressures and temperatures with corrosive media

### Approvals and certificates

- ATEX
- TA Luft (German Clean Air Act)

The varied processes in industrial chemicals plants have stringent requirements for the valve technology employed. High temperatures, high pressures and critical working media require very specific valve solutions and components.

Diaphragm valves, which are especially suitable for corrosive media, can be precisely adapted to the working media by means of various diaphragm materials. In addition, the diaphragm valves can be lined with high-tech plastics, for example, PFA or PVDF. This combines the resistance of plastics with the robustness of industrial valves. This flexibility regarding material selection ensures maximum process and plant reliability, thus providing optimum customized solutions for:

- Electroplating
- Filtration
- Neutralisation
- Distillation
- Biodiesel production
- Paper manufacture
- Chromatography
- Fertiliser production

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
 1-877-705-9864  
 info@wtmi-usa.com  
 www.wtmi-usa.com





## Power generation

### Products

- Butterfly valves in metal and plastic
- Ball valves in metal and plastic
- Plastic diaphragm valves
- Lined diaphragm valves

### Product advantages

- Three operator types available
- Great variety of valve body versions: 2/2-way, 3/2-way, multi-port valve blocks

### Approvals and certificates

- ATEX
- TA Luft (German Clean Air Act)

The versatile options produced by the intelligent combination of valve solutions and automation technology provide the optimal prerequisite for the different areas of application in power generation. These include, for example:

- Hydraulic control of wind power plants
- Filling large batteries
- Automatic control system for cooling circuits in power stations
- Biogas plants
- Bioreactors for algaculture
- Flue gas desulphurization plants
- Pumped storage plants
- Refuse incineration plant

### Robustness and long service life

GEMÜ has the optimal solution for these specific applications – from standardized products through to customized designs. Our products can be monitored by means of a central or a local control unit and offer the option of controllability. GEMÜ provides robust and durable components for harsh environmental conditions and adjusted process systems for efficient plant design.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
 1-877-705-9864  
 info@wtmi-usa.com  
 www.wtmi-usa.com





## Water treatment

### Products

- Butterfly valves in metal and plastic
- Globe and control valves in metal and plastic
- Check valves
- Gate valves and knife gate valves
- Ball check valves

### Product advantages

- Insensitive to particulate media
- Customized design
- Space-saving multi-port valve blocks

### Approvals and certificates

- DVGW
- ACS
- WRAS
- Compliance with FDA requirements

Water is valuable and becoming increasingly scarce. People and agriculture need a safe, secure water supply. On the other hand, the supply of process water for energy production and industry also needs to be safeguarded. These tasks are performed by water treatment plants. The GEMÜ product range can provide numerous components for these plants: butterfly valves, diaphragm valves, globe and control valves, ball valves as well as measurement and control systems. The products have a long life, are robust and have been optimized for their specific application.

### A wide field of applications with great flexibility of use

The field of applications covered by GEMÜ's product range starts with control and regulation of heavily contaminated sea, river and brackish water and extends to ultra pure water production in the semiconductor and pharmaceutical industries. The broad range of GEMÜ products enables huge flexibility in use. This applies as much to small, mobile drinking water treatment plant as to large-scale stationary sea water desalination plant.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com





## Processing industry

### Products

- *Globe and control valves*
- *Butterfly valves*
- *Diaphragm valves*
- *Ball valves*
- *Solenoid valves*

### Product advantages

- *Great variety of valve body materials and seal materials*
- *Automation options*
- *Customized design*

### Approvals and certificates

- *ATEX*
- *EC regulation 1935/2004*

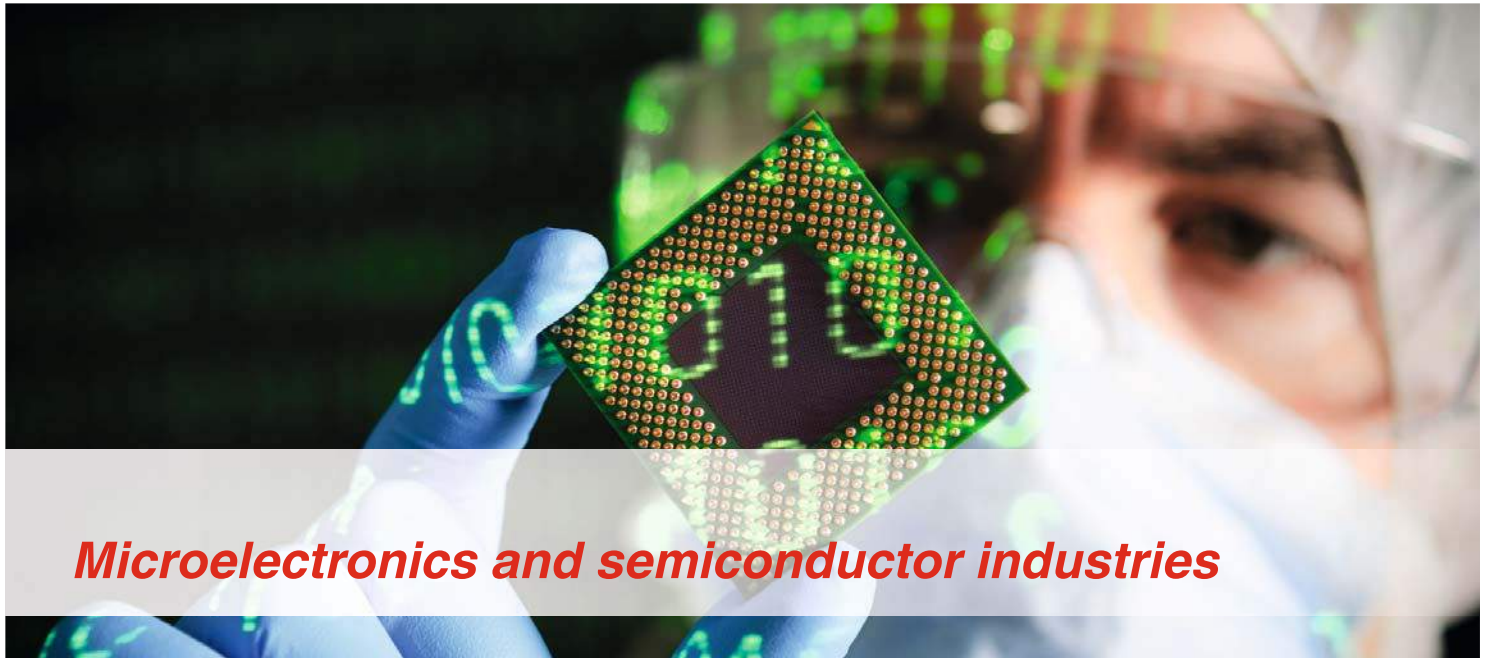
GEMÜ offers the appropriate solutions for the majority of industrial applications in process engineering. The specific product range includes diaphragm valves, globe valves, butterfly valves, ball valves and solenoid valves, each available in metal or plastic versions. This range can be used, for example, in the production of textile dyes, foams for dashboard panels, car seats or platinum for jewellery. The wide range of applications makes GEMÜ valves reliable all-rounders.

### Numerous application possibilities

GEMÜ products are working around the globe in industrial plant and machinery sectors, the automotive industry, water and waste water treatment, steel works, the paper industry, the petrochemical industry, mining and metal extraction, the sugar industry and in many other areas. No other area subjects valve bodies to such a varied range of stresses as those found in industrial applications. Which is why GEMÜ valve designs are based on the expertise gained during decades of application experience.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com





## Microelectronics and semiconductor industries

### Products

- Valves and measurement equipment made of PFA, PVDF, PP and PP natural
- Customized valve solutions integrating several valve seats, fittings, connections and sensor systems

### Product advantages

- Manufactured under cleanroom conditions
- Space-saving
- Reduced installation time for multi-port valve blocks
- High resistance
- High flow rates
- Largely metal-free valves
- Various connection options

### Approvals and certificates

- Standards Semi F-57-0301 2001 Specifications

Authorized Distributor:

W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com

GEMÜ has far-reaching experience and excellent references in connection with the use of valves in the semiconductor industry and other areas of application with high purity requirements. Our high purity solutions are developed in close cooperation with users, designers, equipment manufacturers and end users. They are produced at the manufacturing site in Switzerland under stringent quality control conditions and are used in treatment, supply and distribution of ultra high purity chemicals and ultra pure water.

The precision-adjusted, ultra-pure product range for critical fluid management includes the following products:

- **CleanStar®**: ultra high purity PFA valves, measurement and control systems
- **iComLine®**: PTFE/PVDF diaphragm globe valves and multi-port valve blocks
- **PurePlus®**: PVDF-HP and PP-HP diaphragm valves as well as PVDF-HP flowmeters
- **HydraLine**: pressure gauges with PFA pressure transmitters
- **SonicLine®**: ultrasonic flowmeters in PFA
- **FlareStar®**: PFA fittings
- **TubeStar®**: PFA tubing





## **Research & development** Decades of innovative products



GEMÜ SUMONDO® – the world's first controllable single-use diaphragm valve

Customer benefits have been the main area of interest at GEMÜ from the outset. Our founder, Fritz Müller, set new groundbreaking standards with the very first product – a process valve made of plastic. It was approximately 80% smaller than the valves commonly available on the market and replaced metal with durable plastic. This was of enormous advantage, particularly for applications using corrosive process media.

invests in product optimization and new products and innovations. More than 5% of turnover is invested in research & development every year. The focus here is on the GEMÜ Dome Development and Innovation Centre in Niedernhall-Waldzimmern. Over 100 employees from research & development, design and product management are responsible for the respective product specifications at this location.

### **Reliable product classics**

In the last 50 years, GEMÜ has brought products to market that were, and still are, very popular. These products were and are being continually improved and optimized, leading to tried and tested, extremely reliable products, which, alongside completely new developments, represent a significant innovative factor at GEMÜ.

### **New technologies**

"An idea is only useful if you make something of it!" This motto coined by Fritz Müller continues to shape the technicians and engineers in different specialist disciplines today. They put new developments to the test and work on the latest technology. In the end, each product must pass the tests carried out in the technical centre, during quality control and, not least, on the market. Numerous series products have been and are being created through direct collaboration with customers. Special valves for individual, customized applications are being designed at the same time.

### **Research & development**

In discussion with customers, development partners and educational establishments, GEMÜ continuously



GEMÜ 1436 cPos® and 1434 μPos® – electro-pneumatic positioners



GEMÜ 553 – modular globe valve configuration for industrial applications

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com



GEMÜ 555 with mounted GEMÜ 4242 – pure steam valve with combi switchbox



GEMÜ M-block – multi-port valve block made of stainless steel



GEMÜ *iComLine*® – with innovative seated diaphragm technology

### New standards

GEMÜ does not just implement new, expanded or modified standards in a targeted manner, but also promotes the development of these standards. As such, GEMÜ developed the IO link communication interface together with leading manufacturers of automation solutions, and is a founding member of the IO link consortium. Sensors and actuators can be controlled uniformly using this standard.

GEMÜ fitted the redesigned GEMÜ 1235 intelligent electrical position indicator and the GEMÜ 4242 combi switchbox with an IO link interface. This makes GEMÜ the first IO link device manufacturer in the valve and process technology sector. The new communications standard will now be implemented in other GEMÜ products.

### Innovative solutions for process engineering

GEMÜ is constantly addressing new applications and markets so that it is always able to provide customers with solution-focused concepts. These are then brought to series production in collaboration with development partners and selected customers. One example of this is the world's first single-use

diaphragm valve, GEMÜ SUMONDO® for the control of single-use processes.

GEMÜ is the technological leader in stainless steel or plastic multi-port valve block solutions and continually expands the possibilities for their application. Since hygienic globe and control valves can now also be integrated into a bypass, for example, the design of the multi-port valve blocks has become even more variable. Furthermore, a variety of sensor systems and different actuators can be installed.

Alongside classic pneumatic or manually actuated valves, motorized valves have complemented the GEMÜ product range for two decades now. The latest generation facilitates even more efficient and completely precise control and regulation.

### Modern manufacturing methods

Another innovative factor at GEMÜ is that manufacturing and assembly are continuously adapted to fit new and modified requirements. For example, GEMÜ is one of the first manufacturers to produce high purity valves under cleanroom conditions.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
 1-877-705-9864  
 info@wtmi-usa.com  
 www.wtmi-usa.com



GEMÜ designs products that control and regulate their respective applications safely, precisely and reliably. In order to ensure proper control and regulation, quality assurance measures are defined and implemented with the entire manufacturing process in mind.

#### **Product qualification and validation**

The qualification and validation of new products, redesigns or product optimizations are of particular importance here. Simulations and thorough testing are carried out in GEMÜ's in-house technical centre prior to the sales launch, in order to meet market requirements. The processes can then be implemented in collaboration with specialists who have in-depth knowledge of the respective industry requirements.

#### **In-house CIP/SIP test rig**

In order to test diaphragm valves in cleaning and sterilisation processes under real conditions, GEMÜ has a CIP/SIP test rig at its disposal in the technical centre. This test rig makes it possible to test all diaphragm sizes in the most varied, customized cleaning and sterilisation processes. It allows the user to stipulate

the number of cycles and their duration, as well as the media; compressed air, hot water (up to 85 °C), cold water, vacuum, steam (up to 150 °C), acid, alkali and cleaning agent are all available. It is also possible to run specific test cycles and to determine the service life of diaphragms. Our customers therefore benefit from significant time savings due to low validation costs, for example. Process reliability is being increased at the same time.

#### **A precisely coordinated manufacturing process**

Incoming-goods, manufacturing and assembly procedures are controlled by a computer-aided quality management system (CAQ) at GEMÜ. For example, this system stores all the incoming goods and manufacturing test data, and manages the test equipment, including all calibration documents. Compliance with the specified processes is ensured by means of regular audits.

Modern machinery and optimized workstations (handling systems, documentation and assembly aids, etc.) enable our specialist technicians to design every manufacturing step in

a practical and efficient manner and to minimize error sources. Specially constructed test rigs are also available for testing individual components or entire systems.

The manufacturing process for ultra pure valves, measurement and control systems and for medical industry products takes place in the cleanroom plant in Emmen, Switzerland. The site, which opened in 2012, manufactures products in accordance with EN ISO 14644-1 class 8 (in operation) and GMP class C.

Every effort is made to ensure the quality of each individual weld seam when manufacturing and producing stainless steel actuators and other stainless steel products. This endeavour is also reflected in our status as a DIN EN ISO 3834 certified welding company.

Authorized Distributor: W. T. Maye, Inc. (WTMI)  
1-877-705-9864  
info@wtmi-usa.com  
www.wtmi-usa.com



Authorized Distributor:

W. T. Maye, Inc. (WTMI)

1-877-705-9864

info@wtmi-usa.com

www.wtmi-usa.com



**GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG**  
Fritz-Müller-Straße 6-8 · D-74653 Ingelfingen-Criesbach  
Phone +49 (0)7940 123-0 · info@gemue.de

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