



**Valves, measurement and control systems
for industrial applications**

Contents

01	General information	5
02	Valve designs	23
	Diaphragm valves.....	30
	Manually operated diaphragm valves made of metal	38
	Manually operated diaphragm valves made of plastic.....	50
	Pneumatically operated diaphragm valves made of metal.....	56
	Pneumatically operated diaphragm valves made of plastic	66
	Motorized diaphragm valves made of metal	72
	Motorized diaphragm valves made of plastic.....	78
	M-block diaphragm valves	84
	Diaphragms	90
	Globe valves	110
	Manually operated globe valves	116
	Pneumatically operated angle seat globe valves.....	122
	Pneumatically operated globe valves	128
	Motorized globe valves.....	136
	Multi-port and M-block globe valves.....	150
	Diaphragm globe valves	164
	Manually and pneumatically operated diaphragm globe valves.....	166
	Motorized diaphragm globe valves.....	172
	M-block diaphragm globe valves	176
	Butterfly valves	180
	Butterfly valves with bare shaft made of metal	186
	Butterfly valves with bare shaft made of plastic.....	196
	Manually operated butterfly valves made of metal	200
	Manually operated butterfly valves made of plastic.....	210
	Pneumatically operated butterfly valves made of metal.....	214
	Pneumatically operated butterfly valves made of plastic	224
	Motorized butterfly valves made of metal.....	228
	Motorized butterfly valves made of plastic.....	238
	Ball valves.....	244
	Ball valves with bare shaft.....	248
	Manually operated ball valves made of metal	254
	Manually operated ball valves made of plastic.....	262
	Pneumatically operated ball valves	266
	Motorized ball valves.....	276
	Process solenoid valves.....	288
	Directly controlled process solenoid valves.....	290
	Servo-assisted process solenoid valves	300
	Process solenoid valves with positive lift diaphragm	304
	Check valves and strainers.....	308
	Check valves and strainers.....	310
03	Control systems	323
	Control systems.....	328
	Positioners and process controllers	332
	Pressure control valves.....	344

04	Measurement and control technology	353
	Electrical position indicators and combi switchboxes	354
	Electrical position indicators	356
	Combi switchboxes	374
	Pilot valves	380
	Flowmeter	390
	Variable area flowmeter	392
	Electrical flowmeters	398
	Pressure and temperature measurement devices	404
05	Connection technology	411
06	Accessories	415
	Valve mounting accessories	416
	Connection accessories	417
	Commissioning and maintenance accessories	419
	Clamping devices	420
	Position indicators and travel sensors	421
	Stroke limiters	422
	Manual override	423
	Sensor accessories	424
	Accessories for motorized actuators	425
07	Valve knowledge	427
08	Product directory	442

General information

GEMÜ Group

The GEMÜ Group is a leading manufacturer of valves, measurement and control systems, and employs over 2500 members of staff worldwide.

With six production companies and 27 subsidiaries, as well as a tight network of commercial partners, GEMÜ is active in over 50 countries on all continents.

50+

Countries

Subsidiaries and
long-term partners



Employees

2500+



Even closer to the customer

Products for different customer requirements

Thanks to continuous innovative capacity and a focus on quality and proximity to our customers, GEMÜ is one of today's leading worldwide manufacturers of valves, measurement and control systems. With our broad product range and the strategic business units anchored behind this, we offer solutions for different customer groups and areas of application.



[1] Pharma, Food & Biotech

- Pharmaceutical industry
- Foodstuffs and beverages
- Biotechnology industry
- Cosmetics



[2] Industry

- Industrial water treatment
- Chemical engineering and surface finishing
- Power generation and environmental systems
- Mechanical engineering and processing industries



[3] Semiconductors

- Microelectronics
- Semiconductor production
- Battery production



Global manufacture

We develop and manufacture virtually all products at six different locations. At sites in Germany, Switzerland, the USA, China, Brazil and France, we draw on our many years of experience in the manufacture of valves, measurement and control systems to offer you products and solutions worldwide which conform to GEMÜ standards of quality.

To ensure that we can also continue to impress you with high quality and expert advice in the future, we are continually investing in modernizing our production centres.

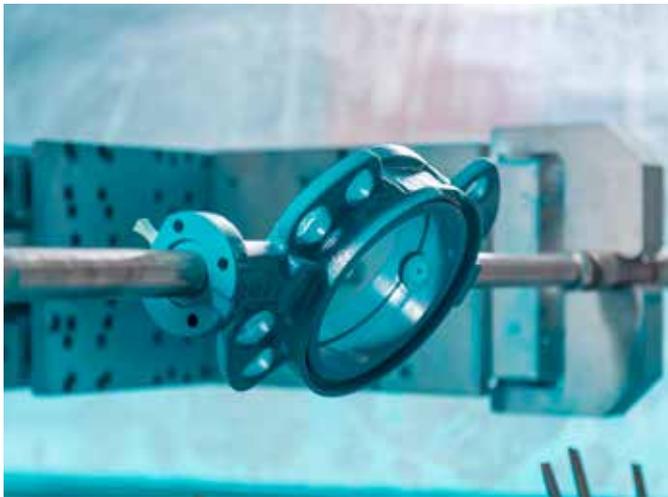


Machining and coating technology

Whenever valves with high-grade corrosion protection are required, the right coating method can have a decisive influence on product quality. For this reason, at GEMÜ, we place considerable importance on our high level of vertical integration.

In our state-of-the-art machining centre at GEMÜ Valves China, casting unmachined parts are mechanically processed in-house. The most notable feature here is that our butterfly valve bodies and discs are milled in one clamping position. This allows us to achieve precise shape and positional tolerances for our butterfly valves.

A further highlight is the fully automated coating system. The coating is applied by whirl sintering in the shortest possible time and without interruption, using state-of-the-art robot technology to produce a high-quality coating of the flap components with a uniform layer thickness of at least 250 µm. With it, we can offer our customers reliably robust equipment for their systems that is classified to DIN EN ISO 12944 in the top corrosion protection class, C5-M.



Diaphragm production

GEMÜ leaves nothing to chance in the development and manufacture of diaphragms. As well as many years of experience in the area of diaphragm valves, GEMÜ can draw on the Group's ever increasing expertise in the field of diaphragm production. In addition to the development of compounds, this also includes production and permanent control of the diaphragms during the manufacturing process. Random sampling of the finished products completes the comprehensive test cycle.

GEMÜ ensures its usual diaphragm quality thanks to the following measures:

- Raw materials are sourced exclusively from selected suppliers
- Comprehensive testing of the raw materials in our in-house laboratory or in external, accredited institutions
- Storage of raw materials under controlled conditions
- Automated testing and documentation processes during production
- State-of-the-art production facilities
- The diaphragms are tested on our own test rigs

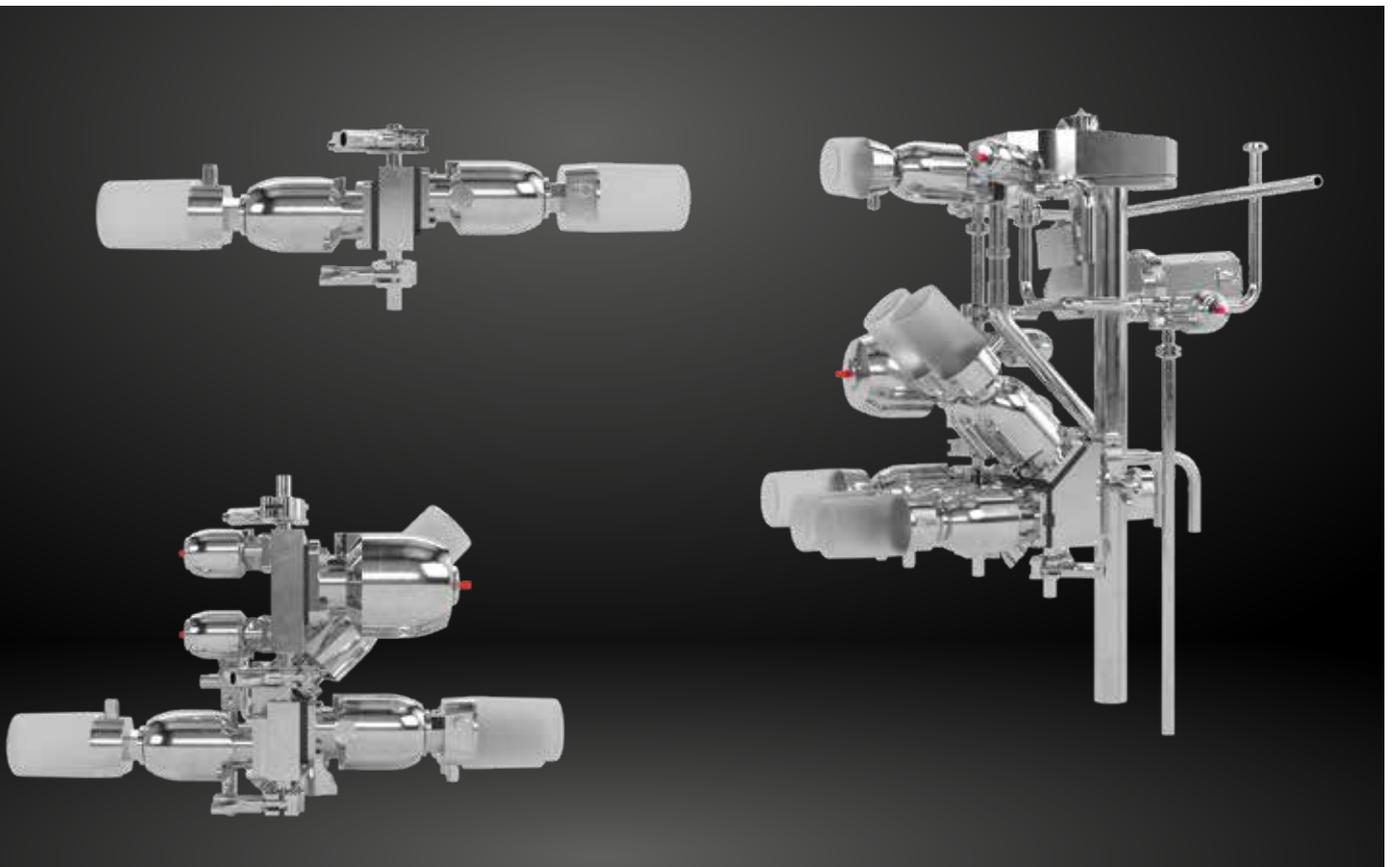


GEMÜ Systems

As a specialist in valve design, we also offer you individual system solutions. From the idea stage to development and right through to manufacture – the entire process is taken care of under one roof. This means you can benefit from system solutions tailored to your specific requirements.

All from a single source

- Subassemblies, small systems and partial sections
- Individual connection solutions
- Sample and low-volume production
- Process optimization and special solutions
- Test rigs and prototype construction



Our range of services

GEMÜ Systems supports you with your individual requirements, from inquiries about customized individual components and ready-to-fit assemblies through to the joint development of complete systems.

GEMÜ Systems differentiates between different levels. We are by your side, from simple welding configurations through to robotics.

Level 1:
Simple component assembly

Level 2:
Component assembly with control unit

Level 3:
Control systems and system development

Leading through experience

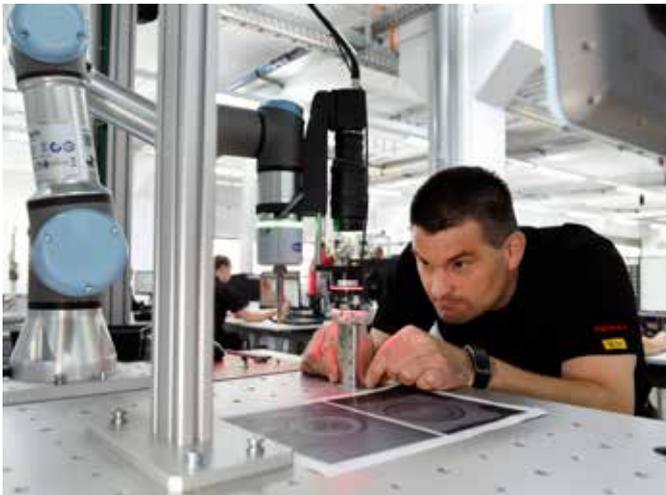
Thanks to our many years of experience in measuring, valve and control systems technology, we have specialist skills and technical expertise in various areas of application. We value collaborative partnership when working on your project plans.

Your advantages

- Simplified procurement process
- Reduced number of interfaces
- Time and cost savings
- Outsourcing of order peaks

State-of-the-art manufacturing

Using the latest technologies and manufacturing processes, we can update our knowledge as a component manufacturer and carry this through to our system creation. With the latest construction tools, we are ideally prepared and can help you take the next step towards your future.



GEMÜ Customer Service and Training

Regular maintenance is essential to increase the service life and effectiveness of your components. Our service technicians carry out the maintenance work on site at your premises or in modern repair facilities. For fast identification of shortcomings in your processes, we offer regular plant screening. We have many years of experience in commissioning plants and their components. With our expert knowledge, we support you with correct installation and integration into the existing system landscape.



GEMÜ Customer Service

Maintenance

- Increased reliability of your plant
- Extended system operating time
- Increase in production volume
- Maintenance documentation in accordance with your requirements

Maintenance support

Do you have a staff shortage? We offer highly motivated employees with the appropriate training, experience and routine in GMP-compliant maintenance documentation.

Repair work

- Short and flexible reaction time
- Large stock of spare and wearing parts
- Remote diagnostics with innovative software solution
- Equipment tests on modern test rigs

Plant screening and findings

- Recognition of shortcomings in processes
- Transparent explanation and documentation
- Condition analyses on used devices
- Optimisation proposals through device analyses

Commissioning

- Ideal adjustment of single components
- Programme optimizations on electrical devices
- Ensuring high assembly quality
- Documentation of settings and operations

Contact our Customer Service

E-mail service@gemue.de
Telephone +49 (0) 7940 123 450

GEMÜ Training

GEMÜ offers you a comprehensive training and further education programme. The technical training courses are aimed at new entrants and people changing career as well as experienced specialists. Select your optimal further training from our wide-ranging portfolio of training courses – from basic training to valve designs and service training.

Your advantages

- Creating understanding for the huge variety of valve designs
- Recognising faults and initiating optimizations
- Practical learning on functional models
- Live online training courses and classroom training at GEMÜ or on site at your premises
- Notes and information on replacing wearing parts and commissioning

Contact our training team

E-mail training@gemue.de
Telephone +49 (0) 7940 123 450

Current training dates can be found on our website.



CONEXO

Digital information management and maintenance support

In addition to clear identification of components, CONEXO also offers support with the qualification of plants and paperless maintenance. These are identified via an RFID chip using the CONEXO pen or via a QR code with CONEXO Webview and the GEMÜ app directly on the component within the plant.



Overview of the CONEXO system

Identification

- Electronic identification of components using CONEXO tags (QR code or RFID chip)
- Scanning the CONEXO tag
- Displaying the product information and documentation

Documentation

- Construction of the plant structure on the CONEXO portal
- Integration of the component data
- Creation of step-by-step instructions for each maintenance type
- Definition of the maintenance tasks with location, cycle, implementation period and operator

Maintenance support

- Implementation of maintenance work via step-by-step instructions
- Automatic documentation of the implementation
- Electronic signature through user login
- Distribution of the maintenance report via PDF
- Calling up the maintenance report

Digital product label

Since mid-2021, in addition to the normal product label, GEMÜ products have gradually also included an additional label with a QR code and serial number. You can use this to positively identify our products all over the world and, in addition to the classic product label, call up lots of additional product-related information in digital format.

The following data is available to you in digital format, directly in the plant:

- Product description
- Article information
- Product documentation
- Certificates

With the QR code label, GEMÜ fulfils the requirements of DIN SPEC 91406 for the automatic identification of physical objects and information about the physical object in IT systems, in particular IoT systems.



GEMÜ app

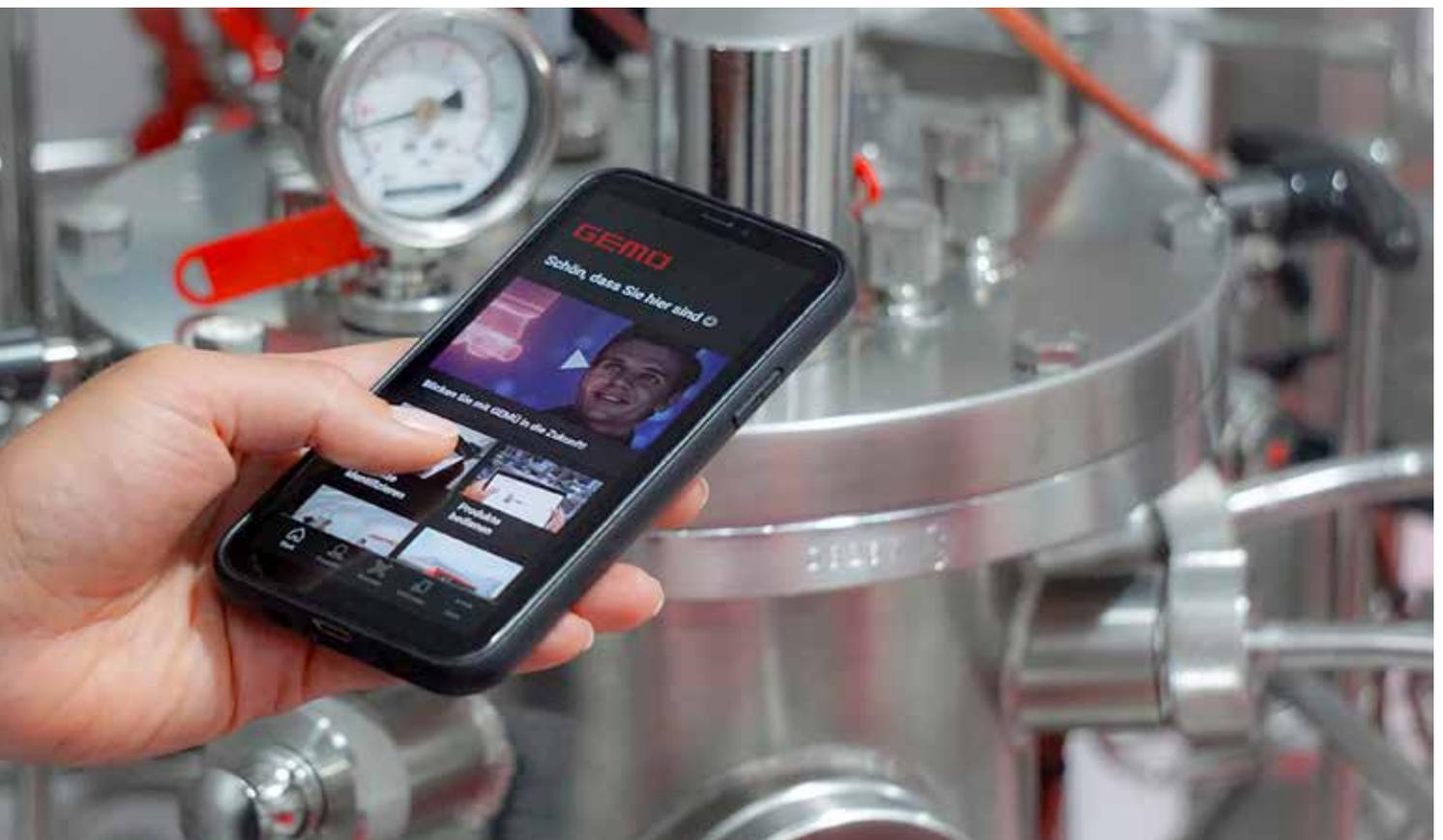
Numerous functions in one mobile application

Take a step with us into a mobile era!

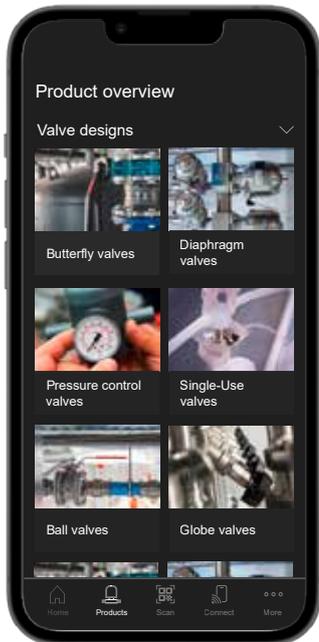
Discover the new GEMÜ app – with numerous functions that simplify your life. The complete GEMÜ product range will also be available right away – from the convenience of your pocket. With our app for smartphones and tablets, you can call up product information anywhere and benefit from our digital services.

Advantages

- Product documentation on all GEMÜ products can be downloaded while you're on the go
- Call up item-specific information without spending a long time searching
- Clear identification of GEMÜ products with QR code or RFID tag
- Convenient operation and configuration for GEMÜ products with Bluetooth interface
- Quick and easy way to get in touch

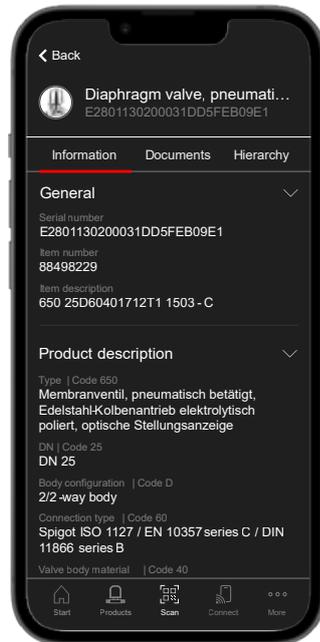


Overview of main functions



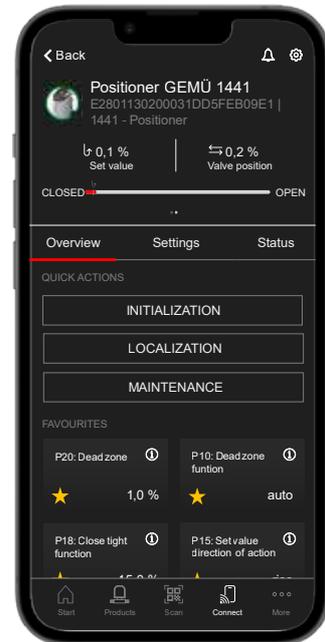
Calling up product information

- General product data
- Datasheets
- Operating instructions
- Product flyer
- etc.



Clearly identifying products

- Scanning QR codes or RFID tags
- Direct access to specific item information
- Display of appropriate product documentation and customized certificates
- Overview of installed product components



Configuring and operating products

- Initialization, configuration and parameterization
- Detailed depiction of process values and status information
- Error analysis
- Setting the operating mode

Download the GEMÜ app now!

The GEMÜ app is available in German, English and French, and can be used both on Android and on iOS operating systems.



Overview of industrial sectors

GEMÜ products are used around the globe in industrial water treatment and waste water treatment, the chemical industry, power generation and environmental systems, the industrial plant and machinery sectors, surface finishing and many other areas.

Our decades of application experience feed directly into the new and further development of our valves. This is why, in the demanding industrial environment, GEMÜ valves have proven very successful to date.



Industrial water treatment

In industry, barely a single production process can manage without water. Whether it is for cooling, cleaning or as a starting material for aqueous solutions – depending on the application, unwanted substances must be removed from the raw water or desired substances added.

This task is performed by water treatment plants, thus ensuring a functioning circuit. The GEMÜ product range can provide numerous solutions for these plants.

Power generation and environmental systems

The signs all point towards sustainable modernization of power and heat. Whether renewable or conventional – innovative, efficient and durable valves are essential in power generation. This is why, at GEMÜ, we always offer solution-focused concepts.

Chemical processes

Specific valve and component solutions are required when dealing with critical working media, high temperatures and high pressures.

GEMÜ offers numerous valves made of plastic and high-performance thermoplastics, e.g. PFA or PVDF. This flexibility regarding valve selection ensures the highest possible degree of process and plant reliability even for critical media.

Surface finishing

Numerous products today come with high-quality functional or decorative surfaces. When it comes to valve selection, the high flexibility in terms of material selection is one of GEMÜ's selling points. You can also choose to receive our valves and individual components, such as diaphragms, free from substances that prevent paint adhesion.

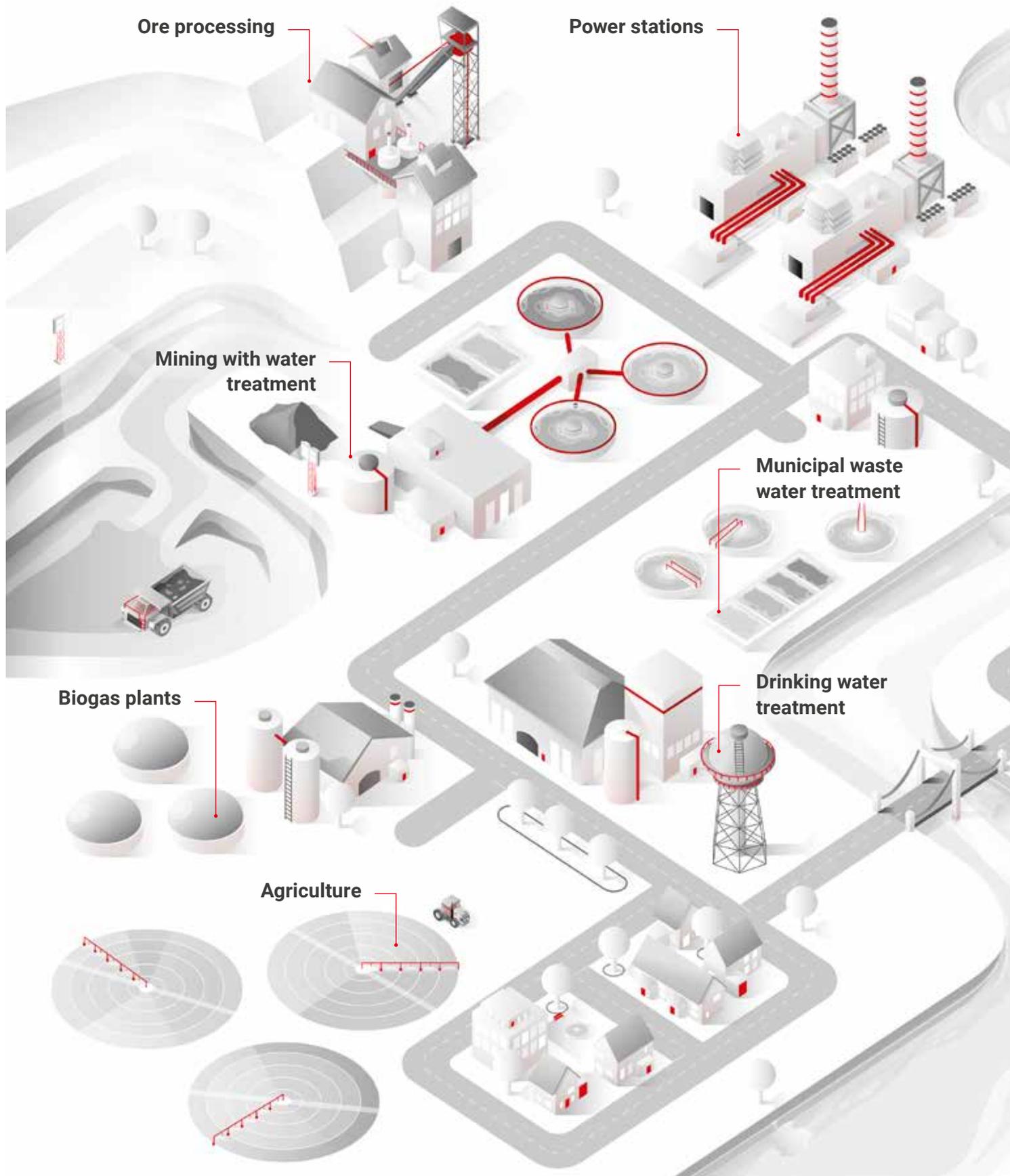
Mechanical engineering

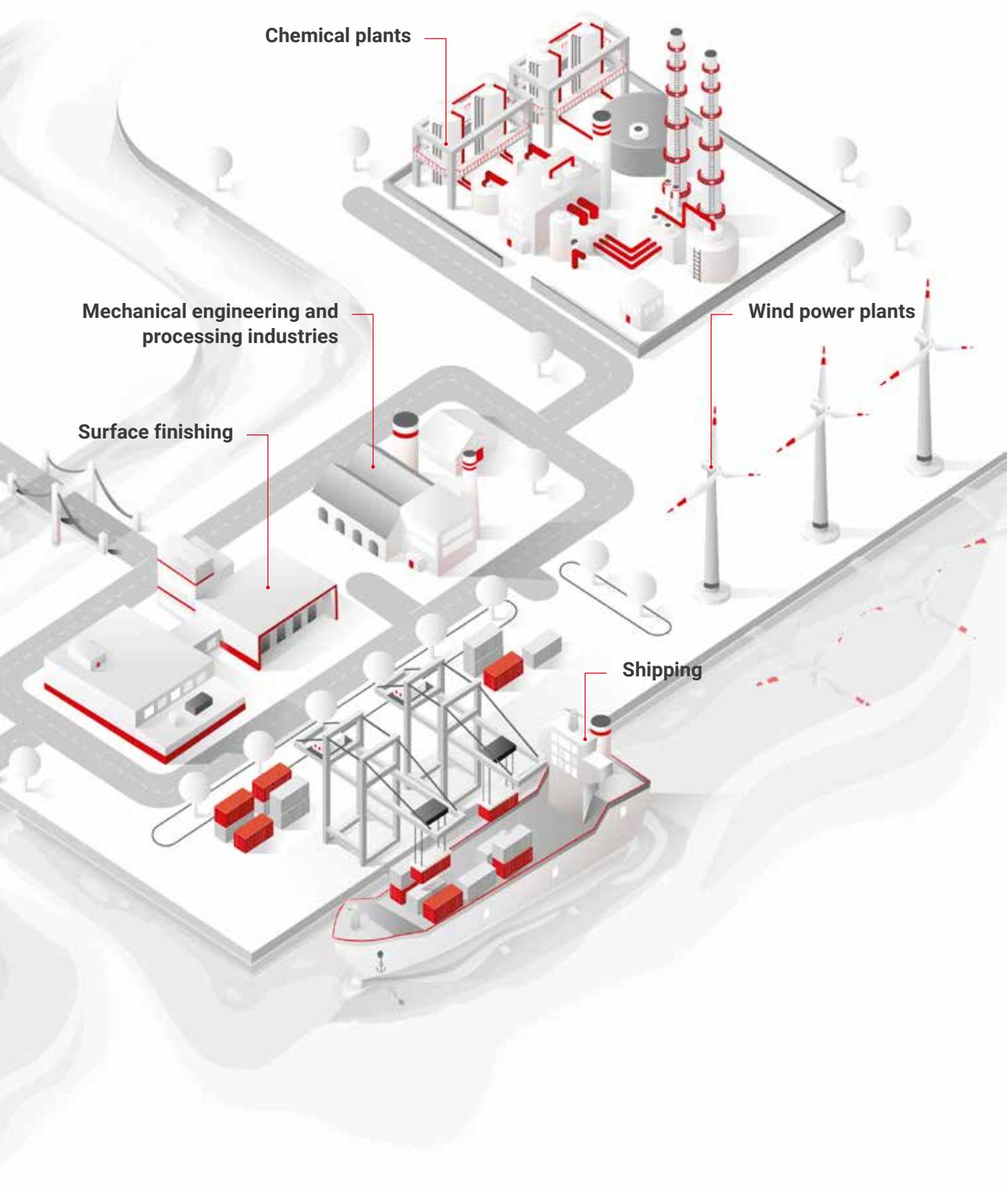
Technological progress is leading to changing procedures and processes both in the mechanical engineering industry and in the processing industry. The GEMÜ product range includes robust valves and customized solutions for valves, measurement and control systems.

Also – and in particular – when new requirements arise in plant and mechanical engineering, we are the right partner when it comes to the distribution, mixing, supply and isolation of media.



Areas of application for valves, measurement and control systems





Chemical plants

Mechanical engineering and processing industries

Surface finishing

Wind power plants

Shipping

Valve designs

Valve types

Whether it is for water, gas or air – valves are used for shutting off or regulating a medium in piping. But which functional principle is the right one? The designations of various valve types are frequently more numerous than the types themselves. That is why we are giving you an overview here of the most common designs in the industrial plant and machinery sectors.



Valves with linear movement



Diaphragm valves

Diaphragm valves are the all-rounders in the world of valves. One of their major advantages is that only two components come into contact with the working medium – the diaphragm and the valve body.

The flexible shut-off diaphragm is deformed by the compressor and, during the closing movement, is pressed onto the sealing weir of the valve body with a positive and non-positive fit.



Globe valves

Globe valves are suitable for clean, liquid media, as well as gases and steam. Due to their linear movement and favourable mechanical conditions, they often perform automated tasks with fast cycle duties and high switching frequencies.

Globe valves involve a gasket, the valve plug, pressing against a seal seat, which then blocks the volumetric flow.



Diaphragm globe valves

Valves that combine the advantages of the hermetic sealing of an actuator and the medium of a diaphragm valve with the advantages of a globe valve are designated as diaphragm globe valves.

The flexible PD (plug diaphragm) is compressed onto the valve seat for sealing. The actuator is hermetically separated from the medium by a diaphragm globe valve.

Quarter turn valves



Butterfly valves

If pipes are large, then butterfly valves are required. Most frequently, they are used for controlling mechanically pure liquids. In the right material combination, however, slightly abrasive liquids or gases pose no problem either.

Butterfly valves comprise a ring-shaped housing into which a liner and a butterfly disc are inserted. The disc swings 90° into the gasket.



Ball valves

Ball valves are versatile and can also be used in extreme circumstances. This type of valve is particularly well-suited to safely shutting off liquid and gaseous media at a very high operating pressure.

The ball valve comprises a ball with a hollow bore, which sits in a body between sealing rings. The valve can be opened and closed by rotating it through 90°.

Selection guide

The following table aims to give you an overview of which valve function is most appropriate for which processes and media. In addition to these categories, we also offer valves for special applications.

Valve groups according to valve function

Criterion	Diaphragm valves		Globe valves	Butterfly valves	
	Metal	Plastic	Metal	Metal	Plastic
MEDIUM					
Gaseous	○	○	●	●	-
Steam	○	-	●	●	-
Liquid	●	●	●	●	●
Viscous	●	●	○	●	●
Particulate, abrasive	●	○	-	●	○
Granular	○	○	-	○	○
Corrosive (depends on material)	●	●	-	●	●
PROCESS					
Multi-port design available	●	●	●	-	-
Piggable	-	-	-	-	-
Controllable	○	○	●	For larger diameters	
Media temperature	Up to 100 °C	Up to 150 °C	Up to 185 °C	Up to 230 °C	Up to 90 °C
Operating pressure	Up to 10 bar	Up to 10 bar	Up to 40 bar	Up to 40 bar	Up to 10 bar
Frequent cycle duties	○	○	●	-	-

- Extremely suitable
- Conditionally suitable
- Not suitable

Further process accessories



Check valves



Strainers

Ball valves		Diaphragm globe valves	Process solenoid valves	
Metal	Plastic	Plastic	Metal	Plastic
•	•	○	-	-
•	•	○	-	-
•	•	•	•	•
○	○	•	○	○
-	-	-	-	-
-	-	-	-	-
-	•	•	-	○
•	•	•	•	-
•	•	-	-	-
○	-	•	-	-
Up to 220 °C	Up to 100 °C	Up to 150 °C	Up to 60 °C	Up to 60 °C
Up to 137 bar	Up to 16 bar	Up to 6 bar	Up to 20 bar	Up to 6 bar
-	-	•	•	•



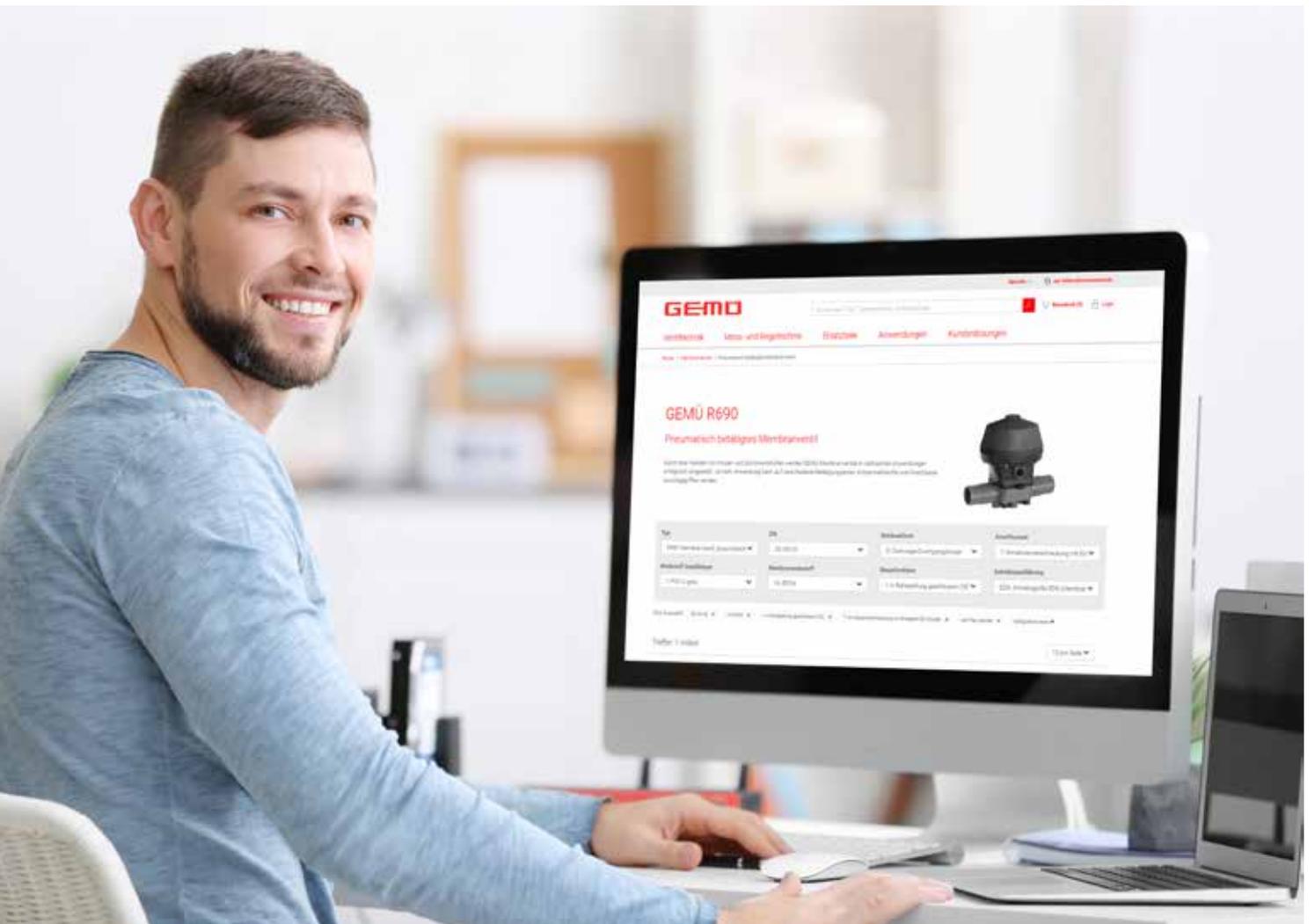
Control systems



Pressure control valves

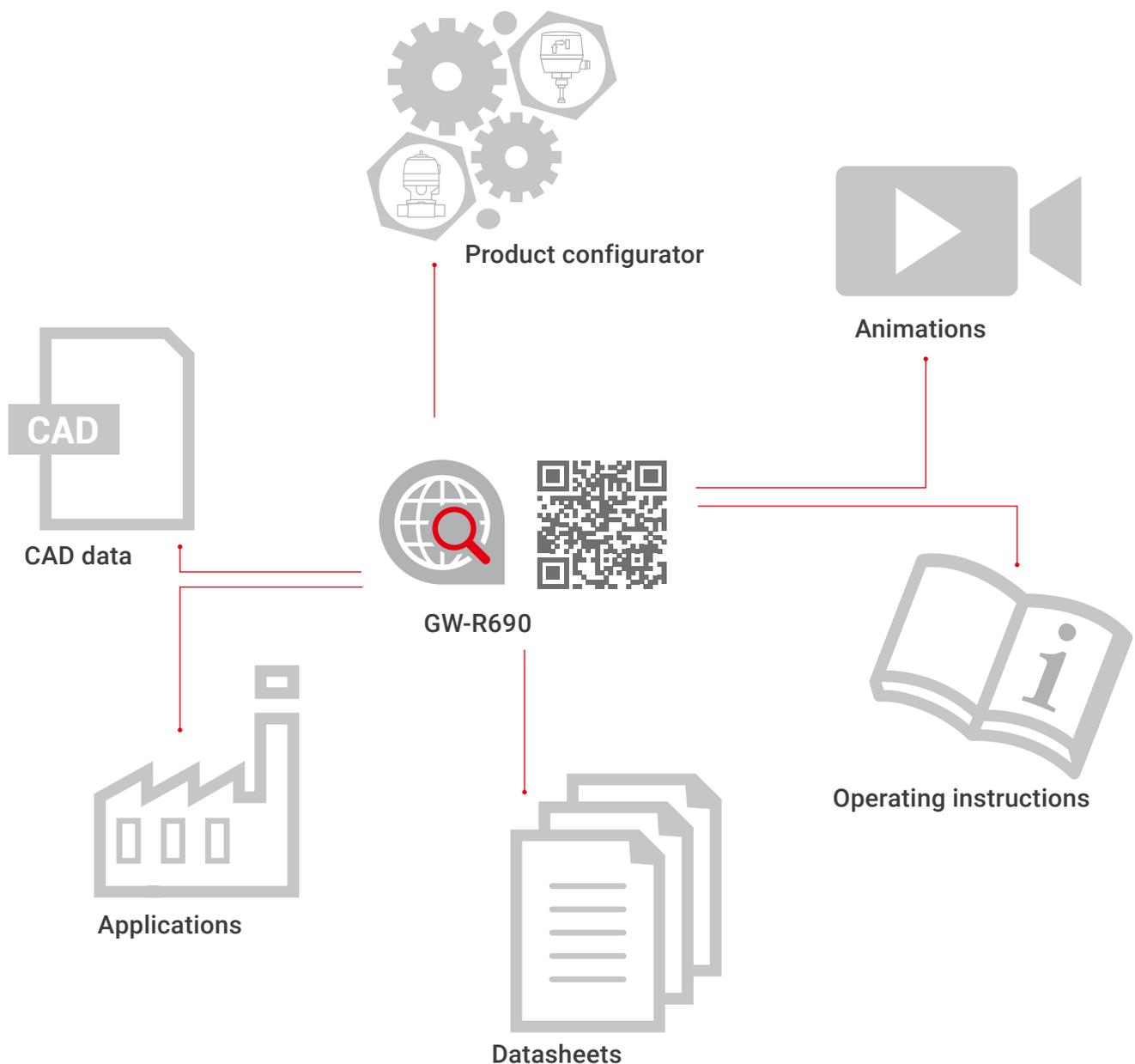
Configure easily online

With this product range, we want to offer you a quick overview of all standard products in our range. We have, therefore, listed the most important technical specifications for individual products in this catalogue. But there's still more to discover! On our website, you can find a great deal of further useful information, such as datasheets, operating instructions and animations, allowing you to configure a valve completely in line with your requirements.



Go directly to the online product page using the web code

The web code consists of the abbreviation "GW-" and the respective product type. For example, the GEMÜ R690 diaphragm valve has the web code GW-R690. Enter the web code in the search frame on the GEMÜ website www.gemu-group.com and you will be taken straight to the associated product page. Alternatively, you can scan the QR code.





Diaphragm valves

Description

Diaphragm valves are the all-rounders in the world of valves. One of their major advantages is that only two components come into contact with the working medium – the diaphragm and the valve body. Diaphragm valves are amongst the valve types with minimal dead space and are, therefore, insensitive to particulate media and can be cleaned safely. They are the first choice for applications in which deposits of the medium are to be avoided at all costs.

The large material selection means that GEMÜ diaphragm valves are ideally suited for corrosive, abrasive or high-viscosity media, which are often found in chemical processes and in the industrial water treatment and processing industries.

Features

- For ultra-pure to heavily contaminated abrasive media
- Optional flow direction
- Hermetic separation between medium and actuator
- Very good cleanability

Typical working media

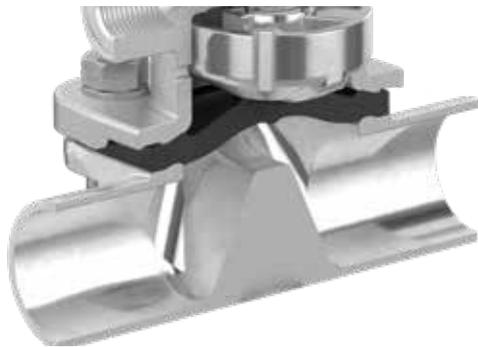
- Inert and corrosive media
- Clean and contaminated abrasive media
- Liquids and gases
- Slurries, powder and dust

Applications

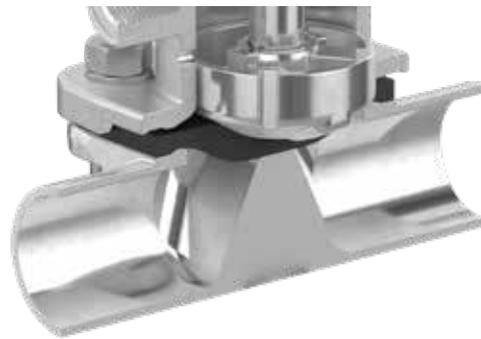
- Treatment of waste water, sewage, sea water, drinking water, process water
- Woodpulp and paper manufacture/processing
- Paint and coating manufacturing/processing
- Gemstone, metal and mineral extraction and mining/processing
- Fertilizer production
- Brine and salt extraction
- Power plants
- Sewage clarification plants
- Dyeing
- Granulate manufacture
- Sugar production
- Ceramics industry



Functional principle of diaphragm valves



Open



Closed

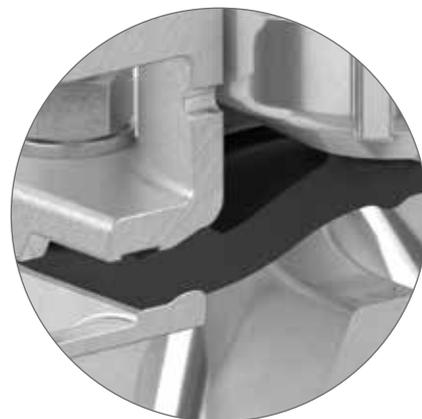
The diaphragm valve works thanks to the interaction of perfectly tuned components. These are the valve body, the shut-off diaphragm, the diaphragm fixing, the compressor as well as the actuator.

The flexible shut-off diaphragm is deformed by the compressor and, during the closing movement, is pressed onto the sealing weir of the valve body with a positive and non-positive fit. You can choose the flow direction here.

GEMÜ seal system

GEMÜ valve bodies are distinguished by a sealing bead running close to the seat diameter. The defined sealing edge between the valve body and the diaphragm makes it ideal for sterile applications. This measure reduces the ring-shaped gap between diaphragm and valve body in the external sealing area. This special feature makes GEMÜ diaphragm valves suitable for sterile applications. When developing our diaphragms, we also consider this crucial functional and design characteristic, which was developed by GEMÜ more than three decades ago and has been continually refined since then. This is the only way to ensure that our customers can rely on the valve as a complete unit.

GEMÜ diaphragms have been developed, tested, and approved for applications with GEMÜ valve bodies. Therefore GEMÜ does not recommend the use of other manufacturers' diaphragms with GEMÜ valve bodies. We shall not accept any liability resulting from the use of diaphragms of other manufacturers inside GEMÜ diaphragm valves.



GEMÜ seal system

Modular system for diaphragm valves

With the GEMÜ modular system, we offer you the opportunity to put together a suitable valve in line with your requirements. Discover all configuration options at www.gemu-group.com

Measurement and control technology

Electrical position indicators and combi switchboxes | Positioners and process controllers | Accessories



Actuators

Manual | Pneumatic | Motorized
Metal | Plastic



Diaphragms

EPDM | FKM | NBR | NR | IIR | PTFE/EPDM



Body

2/2-way body | Multi-port body
Metal | Metal with plastic lining | Plastic



Configure your valve online
at www.gemu-group.com

Weir-type and full bore bodies

Depending on area of application, designs with or without a sealing weir can be advisable. The differences will be compared in the following section.

Weir-type bodies

Features

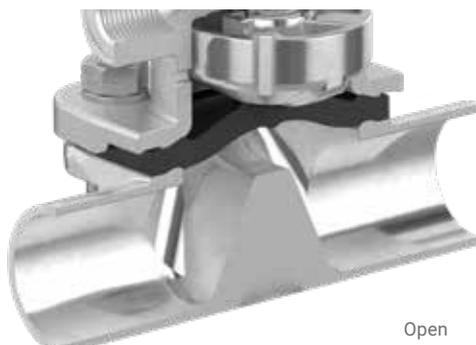
- Depending on the version, up to 10 bar operating pressure and 150 °C operating temperature
- Good flow characteristics
- All mechanical components are located outside of the media-wetted area. The working medium comes into contact only with the internal surface finish of the valve body and the diaphragm surface
- The valve is also suitable for higher cycle duties

Areas of use

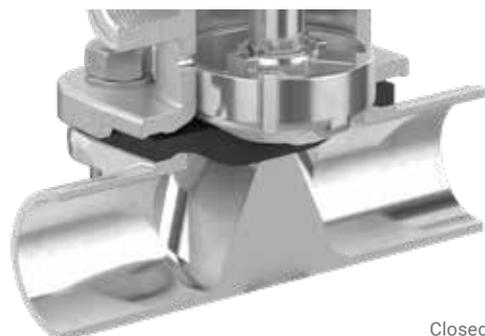
- Suitable for clean and heavily contaminated, liquid and gaseous as well as inert and corrosive media
- Slurries, powder and dust
- Can be used for abrasive media
- Controlling liquid media

Typical areas of application

- Waste water, sewage, sea water, cooling water, service water and drinking water treatment
- Woodpulp and paper manufacture/processing
- Dyestuff and paint manufacturing/processing
- Gemstone, metal and mineral extraction and mining/processing
- Fertilizer production
- Extraction/processing of plaster, cement, sulphur and lime
- Brine and salt extraction
- Power plants
- Sewage clarification plants
- Dyeing
- Granulate manufacture
- Sugar production



Open



Closed

Full bore bodies

Features

- Depending on the version, up to 7 bar operating pressure and 100 °C operating temperature
- Very good flow characteristics
- All mechanical components are located outside of the media-wetted area. The working medium comes into contact only with the internal surface finish of the valve body and the diaphragm surface

Areas of use

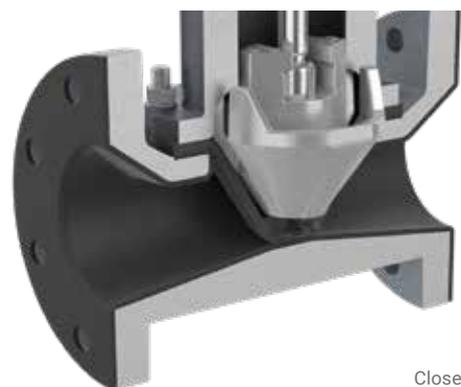
- Suitable for heavily and extremely contaminated liquid, inert and corrosive media
- Heavily contaminated waste water and slurries
- Granular materials
- Suitable for abrasive media

Typical areas of application

- Woodpulp and paper manufacture/processing
- Gemstone, metal and mineral extraction and mining/processing
- Fertilizer production/phosphate processing
- Extraction/processing of plaster, cement, sulphur and lime
- Sewage clarification plants
- Granulate manufacture



Open



Closed

Lined diaphragm valves

Lined valve bodies can be used if a valve is exposed to particularly heavy chemical or mechanical loads. The combination of robust body housing and durable plastics is preferable for corrosive media and safety systems, such as in the chemical industry.

At GEMÜ, we manufacture the injection moulding tools for the plastic linings ourselves.

Our special manufacturing processes and the sophisticated geometric suitability of the material transitions make lined GEMÜ valve bodies a long-term high-grade application solution. For additional reliability of application, we carry out an individual inspection of each lining.

The lined GEMÜ valve bodies are produced exclusively using high-quality materials and only at selected and certified foundries.

Lining/injection moulding

GEMÜ injects the plastic valve body linings subject to strict quality controls, e.g. spark testing.

When selecting the materials for the lining, you can choose between polypropylene (PP) and fluoroplastics (PFA), as well as soft and hard rubber.

Using an extruder, fluid thermoplastics and elastomers are injected between the metal bodies and into the metal mould core inside the bodies. The wall construction strength can, therefore, be defined precisely – and at a consistently high quality.

This is how high-quality, lined diaphragm valves are developed at GEMÜ

- Injection moulding is carried out via a central sprue from below through the valve weir, preventing the plastic layer from detaching from the metal body under vacuum operating conditions
- The metal/plastic material transition is designed at the pipe connections so that the plastic lining is fixed axially inside the pipe and no stress damage can occur as a result of thermal expansion
- A temperature-resistant coating on the metal bodies prepared for injection provides a high level of corrosion protection for the metal surface even underneath the plastic layer

Coating

In demanding ambient conditions, valves also need special external protection. This is why GEMÜ offers different coating solutions:

- Metal, paint or synthetic powder coating
- Coating applied by galvanisation, painting or immersion/enamelling
- Thin coating, less material coating
- Materials such as zinc, chrome, epoxy, phenol resins, nylon or fluoroplastics are used as coating materials



Single-use valves

GEMÜ also offers diaphragm valves for single use. These are designated as single-use valves and are used if it is crucial to avoid cross-contamination or if a simplified plant design is required. Secondary processes once required for cleaning and sterilization (CIP/SIP) are no longer at all necessary in single-use systems and processes. The necessary purity is guaranteed by using gamma rays to sterilize all the process components used.

Unlike with a conventional diaphragm valve, the two media-wetted components (valve body and diaphragm) are sealed together. This produces the central component, the single-use valve body, which is removed from the manual operator and disposed of after a single use. The actuator remains in the system for multiple use. The single-use diaphragm valve body and the actuator are joined using a clamp. These are locked together and unlocked through a defined opening and closing procedure.



Manually operated diaphragm valves made of metal

Overview

GEMÜ type	601 / 602 / 612 / 673	673P9	611/671	675
				
Special feature		Valve actuator with sealing		
Nominal sizes	DN 4 to 65	DN 4 to 65	DN 10 to 100	DN 15 to 150
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 80 °C	-10 to 100 °C
Ambient temperature	0 to 60 °C	0 to 60 °C	0 to 60 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 10 bar	0 to 10 bar	0 to 10 bar
Connection types				
Clamp	•	•	•	-
Flange	•	•	•	•
Spigot	•	•	•	-
Threaded connection	•	•	•	•
Body materials				
1.4408	•	•	•	-
1.4408, lined	•	-	•	-
1.4435	•	•	•	-
1.4435 (316L)	•	•	•	-
1.4435 (BN2)	•	•	•	-
1.4539	•	•	•	-
CW617N	-	-	•	-
EN-GJL-250	-	-	-	•
EN-GJL-250, lined	-	-	-	-
EN-GJS-400-18-LT	-	-	•	•
EN-GJS-400-18-LT, lined	•	•	•	•
EN-GJS-500-7, lined	-	-	-	•
Conformities				
3A	•	-	-	-
Belgaqua	-	-	•	-
CRN	•	•	-	•
EAC	•	•	•	•
FDA	•	•	•	•
Oxygen	•	•	•	-
Reg. (EU) No. 10/2011	•	•	•	•
Regulation (EC) No. 1935/2004	•	•	•	•
Regulation (EC) No. 2023/2006	•	•	•	-
TA Luft (German Clean Air Act)	•	•	-	•
USP	•	•	•	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	653 BioStar	654 BioStar	655
			
Special feature			Full bore valve body
Nominal sizes	DN 10 to 100	DN 4 to 100	DN 25 to 300
Media temperature	-10 to 100 °C	-10 to 100 °C	0 to 100 °C
Ambient temperature	0 to 60 °C	0 to 60 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 10 bar	0 to 7 bar
Connection types			
Clamp	•	•	-
Flange	•	•	•
Spigot	•	•	-
Threaded connection	•	•	-
Body materials			
1.4408	•	•	-
1.4408, lined	•	•	-
1.4435	•	•	-
1.4435 (316L)	•	•	-
1.4435 (BN2)	•	•	-
1.4539	•	•	-
CW617N	-	-	-
EN-GJL-250	-	-	•
EN-GJL-250, lined	-	-	•
EN-GJS-400-18-LT	-	-	-
EN-GJS-400-18-LT, lined	-	-	-
EN-GJS-500-7, lined	-	-	-
Conformities			
3A	•	•	-
Belgaqua	-	-	-
CRN	•	•	•
EAC	•	•	•
FDA	•	•	-
Oxygen	•	•	-
Reg. (EU) No. 10/2011	•	•	-
Regulation (EC) No. 1935/2004	•	•	-
Regulation (EC) No. 2023/2006	•	•	-
TA Luft (German Clean Air Act)	•	•	-
USP	•	•	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 601 / 602 / 612 / 673

Manually operated diaphragm valve

The manually operated GEMÜ 601, GEMÜ 612 and GEMÜ 673 2/2-way diaphragm valves have a temperature-resistant plastic handwheel. GEMÜ 602 has a stainless steel handwheel. The bonnet and internals are made entirely from stainless steel. A seal adjuster to increase the service life of the diaphragm and an optical position indicator are integrated as standard.

Features

- Long service life of the diaphragm due to patented seal adjuster (US-Pat. 5 377 956)
- Compact design (ideal when space is at a premium)
- Continuous minimum flow regulation thanks to closing stroke limiter
- Various lining materials are available for a wide range of media



Technical specifications

Media temperature :	-10 to 100 °C
Sterilization temperature:	max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 65
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4408, investment casting material, PFA lined 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material EN-GJS-400-18-LT, SG iron material
Body lining:	PFA PP
Diaphragm materials:	EPDM FKM PTFE/EPDM PTFE/PVDF/EPDM
Conformities:	3A CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 673P9

Manually operated diaphragm valve

The GEMÜ 673P9 2/2-way diaphragm valve has a temperature-resistant plastic handwheel and is manually operated. The actuator of the valve is specially sealed, making it ideal for demanding cleaning processes. A closing stroke limiter to increase the service life of the diaphragm and an optical position indicator are integrated as standard (diaphragm size 10 to diaphragm size 50).

Features

- Compact design (ideal when space is at a premium)
- Autoclave capability
- CIP, COP and SIP capable
- Continuous minimum flow regulation thanks to closing stroke limiter
- Specially sealed actuator version



Technical specifications

Media temperature :	-10 to 100 °C
Sterilization temperature:	Max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 65
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material EN-GJS-400-18-LT, SG iron material PFA PP
Body lining:	
Diaphragm materials:	EPDM FKM PTFE/EPDM
Conformities:	CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 611/671

Manually operated diaphragm valve

The GEMÜ 611/671 2/2-way diaphragm valves have a low-maintenance plastic actuator and are manually operated. An integral optical position indicator is standard.

Features

- Optional PVDF handwheel available in white (GEMÜ 611)
- Extensive range of accessories available, e.g. electrical position indicator for "open" handwheel position or lockable handwheel clamp (GEMÜ 671)



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 100
Body configurations:	2/2-way body i-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material, PFA lined 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material CW617N, brass EN-GJS-400-18-LT, SG iron material, PFA lined EN-GJS-400-18-LT, SG iron material, PP lined
Body lining:	PFA PP
Diaphragm materials:	EPDM FKM PTFE/EPDM PTFE/PVDF/EPDM
Conformities:	Belgaqua EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

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GEMÜ 675

Manually operated diaphragm valve

The GEMÜ 675 2/2-way diaphragm valve has a metal handwheel and is manually operated. An integral optical position indicator is standard.

Features

- Suitable for particulate and abrasive media
- Various lining materials are available for a wide range of media
- Standard integral optical position indicator



Technical specifications

Media temperature :	-10 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 150
Body configurations:	2/2-way body
Connection types:	Flange Threaded connection
Connection standards:	ANSI BS DIN EN
Body materials:	EN-GJL-250, cast iron material EN-GJS-400-18-LT, SG iron material EN-GJS-400-18-LT, SG iron material with hard rubber lining EN-GJS-400-18-LT, SG iron material, PFA lined EN-GJS-400-18-LT, SG iron material, PP lined EN-GJS-500-7, ductile iron material, PFA lined EN-GJS-500-7, ductile iron material, PP lined
Body lining:	Hard rubber PFA PP
Diaphragm materials:	CR EPDM FKM NBR PTFE/EPDM PTFE/FKM PTFE/PVDF/EPDM
Conformities:	CRN EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GEMÜ 653 BioStar

Manually operated diaphragm valve

The GEMÜ 653 2/2-way diaphragm valve has a stainless steel bonnet and is manually operated. The valve features a handwheel made of temperature and chemically resistant plastic. An integral optical position indicator is standard.

Features

- CIP/SIP capable
- Autoclave capability
- Extensive range of accessories available
- Opening stroke and closing stroke limiter
- Handwheel locking available upon request (electric or mechanical)
- Configurable with proximity switches for position feedback



Technical specifications

Media temperature :	-10 to 100 °C
Sterilization temperature:	Max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 100
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material
Body lining:	PFA
Diaphragm materials:	EPDM FKM PTFE/EPDM PTFE/PVDF/EPDM
Conformities:	3A CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 654 BioStar

Manually operated diaphragm valve

The GEMÜ 654 2/2-way diaphragm valve has a stainless steel bonnet and is manually operated. The valve has a handwheel made from stainless steel. An integral optical position indicator is standard.

Features

- Handwheel design allows minimal heat sink
- CIP/SIP capable
- Autoclave capability
- Extensive range of accessories available
- Opening stroke and closing stroke limiter
- Handwheel locking available upon request (electric or mechanical)
- Configurable with proximity switches for position feedback



Technical specifications

Media temperature :	-10 to 100 °C
Sterilization temperature:	Max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 100
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material
Body lining:	PFA
Diaphragm materials:	EPDM FKM PTFE/EPDM PTFE/PVDF/EPDM
Conformities:	3A CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 655

Manually operated full bore diaphragm valve

The GEMÜ 655 2/2-way diaphragm valve has a metal handwheel and is manually operated. The valve body has a full bore design.

Features

- High mechanical stability
- High flow rate due to straight through flow
- Can be retrofitted with a pneumatic actuator



EAC

Technical specifications

Media temperature :	0 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 7 bar
Nominal sizes:	DN 25 to 300
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN ISO
Body materials:	EN-GJL-250, cast iron material EN-GJS-400-18-LT, SG iron material EN-GJS-500-7, ductile iron material
Body lining:	Butyl Hard rubber Soft rubber
Diaphragm materials:	CR EPDM IIR NBR NR
Conformities:	CRN EAC

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GW-655



Manually operated diaphragm valves made of plastic

Overview

GEMÜ type	607	617	R677
			
Special feature	Angle valve body		High-Flow valve body
Nominal sizes	DN 10	DN 12 to 20	DN 15 to 100
Media temperature	-10 to 80 °C	-10 to 80 °C	-10 to 80 °C
Ambient temperature	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C
Operating pressure	0 to 10 bar	0 to 6 bar	0 to 10 bar
Connection types			
Flange	-	-	●
Flare	-	●	-
Solvent cement socket	-	●	-
Spigot	●	●	●
Threaded connection	-	●	-
Union end	-	●	●
Body materials			
ABS	-	-	●
Inliner PP-H/outliner PP	-	-	●
Inliner PVDF/outliner PP	-	-	●
PP	-	●	●
PP-H	●	●	-
PVC-U	●	●	●
PVDF	●	●	●
Conformities			
ACS	-	-	●
EAC	●	●	●
FDA	●	●	●
NSF	-	●	●

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 607

Manually operated diaphragm valve

The GEMÜ 607 2/2-way diaphragm valve has a low maintenance plastic bonnet and is manually operated. An integral optical position indicator is standard.

Features

- Compact design
- Integral optical position indicator
- Angle valve bodies save on additional holes in the pipe bends



EAC

FDA

Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 10
Body configurations:	Angle valve body
Connection types:	Spigot
Connection standards:	DIN
Body materials:	PP-H, grey PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM PTFE/EPDM
Conformities:	EAC FDA

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GW-607



GEMÜ 617

Manually operated diaphragm valve

The GEMÜ 617 2/2-way diaphragm valve has a low maintenance plastic bonnet and is manually operated. An integral optical position indicator is standard.

Features

- High flow rate
- Integral optical position indicator
- Choice of various body materials and connection types



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 12 to 20
Body configurations:	2/2-way body
Connection types:	Flare Solvent cement socket Spigot Threaded connection Union end
Connection standards:	BS DIN ISO
Body materials:	PP, reinforced PP-H, natural PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Conformities:	EAC FDA NSF

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GW-617



GEMÜ R677

Manually operated diaphragm valve

The GEMÜ R677 2/2-way diaphragm valve has a low maintenance plastic actuator and is manually operated. An integrated optical position indicator is standard. The high-flow valve body provides compact dimensions at high flow rates.

Features

- Same mounting height planes over multiple nominal sizes
- Integral optical position indicator
- Compact system design thanks to flow-optimized high-flow valve bodies



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange Spigot Union end
Connection standards:	ANSI ASTM BS DIN EN ISO JIS
Body materials:	ABS Inliner PP-H, grey / outliner PP, reinforced Inliner PVDF/outliner PP, reinforced PP, reinforced PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Conformities:	ACS EAC FDA NSF

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GW-R677



Pneumatically operated diaphragm valves made of metal

Overview

GEMÜ type	650 BioStar	660	605 / 625 / 687
			
Special feature		Precise stroke limiter	
Nominal sizes	DN 4 to 150	DN 4 to 25	DN 4 to 20
Media temperature	-20 to 130 °C	-10 to 100 °C	-10 to 100 °C
Ambient temperature	-20 to 60 °C	0 to 60 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 5 bar	0 to 10 bar
Connection types			
Clamp	•	•	•
Flange	•	•	•
Spigot	•	•	•
Threaded connection	•	•	•
Body materials			
1.4408	•	•	•
1.4408, lined	•	-	•
1.4435	•	•	•
1.4435 (≈316L)	•	-	-
1.4435 (316L)	•	•	•
1.4435 (BN2)	•	•	•
1.4539	•	•	•
CW617N	-	-	-
EN-GJL-250	-	-	-
EN-GJL-250, lined	-	-	-
EN-GJS-400-18-LT	-	-	-
EN-GJS-400-18-LT, lined	-	-	•
EN-GJS-500-7, lined	-	-	-
Conformities			
3A	•	•	•
Belgaqua	-	-	-
BSE/TSE	•	•	•
CRN	•	•	•
EAC	•	•	•
EHEDG	•	•	•
FDA	•	•	•
Functional safety	•	-	•
Oxygen	•	•	•
Reg. (EU) No. 10/2011	•	•	•
Regulation (EC) No. 1935/2004	•	•	•
Regulation (EC) No. 2023/2006	•	•	•
TA Luft (German Clean Air Act)	•	•	•
USP	•	•	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	615 / 695	620	656
			
Special feature			Full bore design
Nominal sizes	DN 10 to 65	DN 15 to 150	DN 25 to 250
Media temperature	-10 to 80 °C	0 to 100 °C	0 to 100 °C
Ambient temperature	0 to 60 °C	0 to 60 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 10 bar	0 to 7 bar
Connection types			
Clamp	•	-	-
Flange	•	•	•
Spigot	•	-	-
Threaded connection	•	•	-
Body materials			
1.4408	•	-	-
1.4408, lined	•	-	-
1.4435	•	-	-
1.4435 (≈316L)	-	-	-
1.4435 (316L)	•	-	-
1.4435 (BN2)	•	-	-
1.4539	•	-	-
CW617N	•	-	-
EN-GJL-250	•	•	•
EN-GJL-250, lined	-	-	•
EN-GJS-400-18-LT	•	•	-
EN-GJS-400-18-LT, lined	•	•	-
EN-GJS-500-7, lined	-	•	-
Conformities			
3A	-	-	-
Belgaqua	•	-	-
BSE/TSE	•	-	-
CRN	-	•	•
EAC	•	•	•
EHEDG	•	-	-
FDA	•	•	-
Functional safety	-	-	-
Oxygen	•	-	-
Reg. (EU) No. 10/2011	•	-	-
Regulation (EC) No. 1935/2004	•	-	-
Regulation (EC) No. 2023/2006	•	-	-
TA Luft (German Clean Air Act)	-	•	-
USP	•	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 650 BioStar

Pneumatically operated diaphragm valve

The GEMÜ 650 BioStar 2/2-way diaphragm valve has a stainless steel piston actuator and is pneumatically operated. The valve is designed for use in a sterile environment. All actuator parts are made from stainless steel (except seals). The compression springs of diaphragm sizes 80 and 100 are made of epoxy-coated spring steel. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available. An integrated optical position indicator is standard.

Features

- Compact design (ideal when space is at a premium)
- CIP/SIP capable
- Autoclave capability, depending on version
- Controlled exhaust air duct available as an option
- Wide range of adaptation options for add-on components and accessories
- Version according to ATEX on request



Technical specifications

Media temperature :	-20 to 130 °C
Sterilization temperature:	max. 150 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 150
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4408, investment casting material, PFA lined 1.4435 (316L), block material 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material
Body lining:	PFA
Diaphragm materials:	EPDM PTFE/EPDM PTFE/PVDF/EPDM
Conformities:	3A BSE/TSE CRN EAC EHEDG FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 660

Pneumatically operated diaphragm valve

The GEMÜ 660 2/2-way diaphragm valve has a stainless steel piston actuator and is pneumatically operated. The valve was designed for dosing and filling a wide range of products. All actuator parts are made from stainless steel (except seals). Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available. An opening stroke and closing stroke limiter and an optical position indicator are integrated as standard.

Features

- Easily adjustable, integrated opening stroke and closing stroke limiter
- Precise stroke scale (10 scale points per turn) on the actuator top
- High level of reproducibility of the flow rates thanks to distance sleeves integrated in the shut-off diaphragms
- Fast cycle duties due to minimized filling volume



Technical specifications

Media temperature :	-10 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 5 bar
Nominal sizes:	DN 4 to 25
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material
Diaphragm materials:	EPDM PTFE/EPDM
Conformities:	3A BSE/TSE CRN EAC EHEDG FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 605 / 625 / 687

Pneumatically operated diaphragm valve

The GEMÜ 605/625/687 2/2-way diaphragm valves have a low maintenance plastic actuator and are pneumatically operated. The valves have a metal distance piece. An integral optical position indicator is standard. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available.

Features

- Hermetic separation between medium and actuator
- CIP/SIP capable
- Wide range of adaptation options for add-on components and accessories



Technical specifications

Media temperature :	-10 to 100 °C
Sterilization temperature:	max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 20
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material CW617N, brass EN-GJS-400-18-LT, SG iron material
Body lining:	Hard rubber PFA PP
Diaphragm materials:	EPDM FKM PTFE/EPDM PTFE/PVDF/EPDM
Conformities:	3A BSE/TSE CRN EAC EHEDG FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GW-605



GW-625



GW-687



GEMÜ 615 / 695

Pneumatically operated diaphragm valve

The GEMÜ 615/695 2/2-way diaphragm valves have a low maintenance plastic actuator and are pneumatically operated. An integral optical position indicator is standard. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available.

Features

- Wide range of adaptation options for add-on components and accessories
- CIP capable



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 65
Body configurations:	2/2-way body i-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material CW614N, brass CW617N, brass EN-GJL-250, cast iron material EN-GJS-400-18-LT, SG iron material
Body lining:	Hard rubber PFA PP
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM PTFE/FKM PTFE/PVDF/EPDM
Conformities:	Belgaqua BSE/TSE EAC EHEDG FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

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GW-615



GW-695



GEMÜ 620

Pneumatically operated diaphragm valve

The GEMÜ 620 2/2-way diaphragm valve has a low maintenance membrane actuator made of metal or plastic and is pneumatically operated. The valve has a metal distance piece. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available.

Features

- Suitable for particulate and abrasive media
- Various lining materials are available, such as PFA, PP or hard rubber
- Standard optical position indicator
- Wide range of adaptation options for add-on components and accessories



Technical specifications

Media temperature :	0 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 150
Body configurations:	2/2-way body
Connection types:	Flange Threaded connection
Connection standards:	ANSI BS EN ISO
Body materials:	EN-GJL-250, cast iron material EN-GJS-400-18-LT (GGG 40.3), PFA lined EN-GJS-400-18-LT (GGG 40.3), PP lined EN-GJS-400-18-LT, hard rubber lined EN-GJS-400-18-LT, SG iron material EN-GJS-400-18-LT, SG iron material with butyl lining EN-GJS-400-18-LT, SG iron material with soft rubber lining EN-GJS-500-7, ductile iron material, PFA lined EN-GJS-500-7, ductile iron material, PP lined
Body lining:	Hard rubber PFA PP
Diaphragm materials:	CR EPDM FKM NBR PTFE/EPDM PTFE/FKM PTFE/PVDF/EPDM
Conformities:	CRN EAC FDA TA Luft (German Clean Air Act)

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GEMÜ 656

Pneumatically operated full bore diaphragm valve

The GEMÜ 656 2/2-way diaphragm valve has a low maintenance metal membrane actuator and is pneumatically operated. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available. The valve body has a full bore design.

Features

- High mechanical stability
- High flow rate due to straight through flow
- Valve can be cleaned without disassembly of actuator



EAC

Technical specifications

Media temperature :	0 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 7 bar
Nominal sizes:	DN 25 to 250
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN ISO
Body materials:	EN-GJL-250, cast iron material EN-GJS-400-18-LT EN-GJS-400-18-LT, SG iron material EN-GJS-500-7, ductile iron material
Body lining:	Butyl Hard rubber Soft rubber
Diaphragm materials:	CR EPDM IIR NBR NR
Conformities:	CRN EAC

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GW-656



Pneumatically operated diaphragm valves made of plastic

Overview

GEMÜ type	610	630	R690	C60 CleanStar
				
Special feature			High-Flow valve body	High-Flow valve body
Nominal sizes	DN 12 to 20	DN 12 to 20	DN 15 to 100	DN 4 to 50
Media temperature	-10 to 80 °C	-10 to 80 °C	-10 to 80 °C	-10 to 150 °C
Ambient temperature	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C	0 to 60 °C
Operating pressure	0 to 6 bar	0 to 6 bar	0 to 10 bar	0 to 6 bar
Connection types				
Flange	-	-	●	-
Flare	●	●	-	●
Flare SpaceSaver	-	-	-	●
Nexus Connect®	-	-	-	●
SpaceSaver	-	-	-	●
PrimeLock®	-	-	-	●
PrimeLock® SpaceSaver	-	-	-	●
Solvent cement socket	●	●	-	-
Spigot	●	●	●	●
Super 300 Type Pillar®	-	-	-	●
SpaceSaver	-	-	-	●
Threaded connection	●	●	-	-
Union end	●	●	●	●
Welded-on Nexus Connect®	-	-	-	●
Body materials				
ABS	-	-	●	-
Inliner PP-H/outliner PP	-	-	●	-
Inliner PVDF/outliner PP	-	-	●	-
PFA	-	-	-	●
PP	●	●	●	-
PP-H	●	●	-	-
PVC-U	●	●	●	-
PVDF	●	●	●	-
Conformities				
EAC	●	●	●	●
FDA	●	●	●	●
NSF	●	●	●	-
TA Luft (German Clean Air Act)	-	-	-	●

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 610

Pneumatically operated diaphragm valve

The GEMÜ 610 2/2-way diaphragm valve has a low maintenance plastic piston actuator and is pneumatically operated. An integral optical position indicator is standard. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available.

Features

- Same mounting height planes over multiple nominal sizes
- High flow rate
- Integral optical position indicator and closing stroke limiter as standard
- Option with electrical position indicator



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 12 to 20
Body configurations:	2/2-way body
Connection types:	Flare Solvent cement socket Spigot Threaded connection Union end
Connection standards:	BS DIN ISO
Body materials:	PP, reinforced PP-H, natural PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Conformities:	EAC FDA NSF

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GEMÜ 630

Pneumatically operated diaphragm valve

The GEMÜ 630 2/2-way diaphragm valve has a low-maintenance plastic piston actuator and is pneumatically operated. An optical position indicator is integrated as standard. The valve is also equipped with a stroke limiter. It is available with a "normally closed" (NC) control function.

Features

- Variable spring set for applications with low control pressure
- Mounting plates for height compensation of differing body dimensions and nominal sizes available
- Extensive range of accessories



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 12 to 20
Body configurations:	2/2-way body
Connection types:	Flare Solvent cement socket Spigot Threaded connection Union end
Connection standards:	BS EN ISO
Body materials:	PP, reinforced PP-H, natural PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Conformities:	EAC FDA NSF

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GEMÜ R690

Pneumatically operated diaphragm valve

The GEMÜ R690 2/2-way diaphragm valve has a low maintenance membrane actuator and is pneumatically operated. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available. The high-flow valve body provides compact dimensions at high flow rates.

Features

- Same mounting height planes over multiple nominal sizes
- Compact system design thanks to flow-optimized high-flow valve bodies
- Reduced control air consumption
- Modified spring sets available for applications with reduced control pressure



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange Spigot Union end
Connection standards:	ANSI ASTM BS DIN EN ISO JIS
Body materials:	ABS Inliner PP-H, grey / outliner PP, reinforced Inliner PVDF/outliner PP, reinforced PP, reinforced PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Conformities:	EAC FDA NSF

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GEMÜ C60 CleanStar

Pneumatically operated diaphragm valve

The GEMÜ C60 CleanStar® ultra pure 2/2-way diaphragm valve has a plastic piston actuator and is pneumatically operated. A stroke limiter (not with actuator size 4) and an optical position indicator are integrated as standard. All media wetted parts are made of PFA or PTFE. This High Purity version of the CleanStar® series complies with the strictest purity standards and boasts high chemical resistance. It can also be used with high media temperatures. As such, it is often used at the supply and distribution level in semiconductor factories.

Features

- High purity due to cleanroom manufacturing
- High Flow version selectable
- High flow rate with low-stress media channelling
- Minimal deadleg
- Optional flow direction
- Also available as T valve
- The valve is available with an ECTFE union nut as an option.
- Reduced costs thanks to long service life



Technical specifications

Media temperature :	-10 to 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 4 to 50
Body configurations:	2/2-way body T-body V valve body
Connection types:	Flare Flare SpaceSaver Nexus Connect® SpaceSaver PrimeLock® PrimeLock® SpaceSaver Spigot Super 300 Type Pillar® SpaceSaver Union end Welded-on Nexus Connect®
Connection standards:	DIN
Body materials:	PFA PP-H, grey PP-H, natural PVDF
Diaphragm materials:	PTFE/EPDM
Conformities:	EAC FDA TA Luft (German Clean Air Act)

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Motorized diaphragm valves made of metal

Overview

GEMÜ type	629 eSyLite	639 eSyStep	649 eSyDrive
			
Special feature	Basic actuator for Open/Close applications	Universal actuator, option with integrated positioner	Premium actuator with integrated positioner and process controller
Nominal sizes	DN 4 to 65	DN 4 to 40	DN 4 to 65
Media temperature	-10 to 80 °C	-10 to 100 °C	-10 to 100 °C
Ambient temperature	-10 to 50 °C	0 to 60 °C	-10 to 60 °C
Operating pressure	0 to 6 bar	0 to 10 bar	0 to 10 bar
Supply voltage	24 V DC	24 V DC	24 V DC
Actuating speed	max. 3 mm/s	max. 3 mm/s	max. 6 mm/s
Connection types			
Clamp	•	•	•
Flange	•	•	•
Spigot	•	•	•
Threaded connection	•	•	•
Body materials			
1.4408	•	•	•
1.4408, lined	•	•	•
1.4435	•	•	•
1.4539	•	•	•
Brass	•	•	•
EN-GJL-250	•	-	•
EN-GJS-400-18-LT	•	•	•
EN-GJS-400-18-LT, lined	•	•	•
Conformities			
Belgaqua	•	•	•
BSE/TSE	-	•	•
EAC	•	•	•
EHEDG	•	•	•
FDA	•	•	•
Oxygen	-	•	•
Reg. (EU) No. 10/2011	•	•	•
Regulation (EC) No. 1935/2004	•	•	•
Regulation (EC) No. 2023/2006	•	•	•
TA Luft (German Clean Air Act)	-	•	•
USP	-	•	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 629 eSyLite

Motorized diaphragm valve

The GEMÜ 629 eSyLite 2/2-way diaphragm valve is motorized. It is available as an Open/Close version. An integrated optical position indicator is standard. The self-locking actuator holds its position in a stable manner in the event of power supply failure.

Features

- Motorized linear actuator for Open/Close applications
- Self-locking spindle actuator
- Safety shut-down integrated
- Standard optical position indicator and manual override
- Integrated emergency power supply module (optional)
- Electrical position indicator GEMÜ 1215 (optional)



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 4 to 65
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4408, investment casting material, PFA lined 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material CW614N, brass CW617N, brass EN-GJS-400-18-LT, SG iron material EN-GJS-400-18-LT, SG iron material with hard rubber lining EN-GJS-400-18-LT, SG iron material, PFA lined EN-GJS-400-18-LT, SG iron material, PP lined
Body lining:	Hard rubber PFA PP
Diaphragm materials:	CR EPDM FKM NBR PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	Belgaqua EAC EHEDG FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006

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GW-629



GEMÜ 639 eSyStep

Motorized diaphragm valve

The GEMÜ 639 eSyStep 2/2-way diaphragm valve is electrically operated. The eSyStep actuator is available as an On/Off actuator or with an integrated positioner. An optical and electrical position indicator is integrated as standard. The self-locking actuator holds its position in a stable manner when idle and in the event of a power supply failure.

Features

- CIP/SIP capable (only with stainless steel distance piece)
- Open/close function or with integrated positioner
- Actuating speed max. 3 mm/s
- Parameterizable via IO-Link
- On-site or remote end position programming via programming input
- Various functions integrated (e.g. feedback, stroke limiter, etc.)



Technical specifications

Media temperature :	-10 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 40
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4408, investment casting material, PFA lined 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material CW614N, brass CW617N, brass EN-GJS-400-18-LT, SG iron material EN-GJS-400-18-LT, SG iron material with hard rubber lining EN-GJS-400-18-LT, SG iron material, PFA lined EN-GJS-400-18-LT, SG iron material, PP lined
Body lining:	Hard rubber PFA PP
Diaphragm materials:	CR EPDM FKM NBR PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	Belgaqua BSE/TSE EAC EHEDG FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 649 eSyDrive

Motorized diaphragm valve

The GEMÜ 649 eSyDrive diaphragm valve is actuated by a motorized hollow shaft actuator. It is based on technology that does not use brushes or sensors and therefore guarantees high performance and a long service life. In addition to Open/Close applications, the valve is ideal for variable and complex control applications. The actuator has an integrated web server for parameterization and diagnostics purposes.

Features

- Installation for optimized draining is possible
- Open/Close function, positioner and process controller
- Force and speed are variably adjustable
- Extensive diagnostic functions
- Operable via web interface eSy-Web or Modbus TCP
- Various functions of add-on components and accessories are already integrated (e.g. position indicators, stroke limiters, etc.)



Technical specifications

Media temperature :	-10 to 100 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 65
Body configurations:	2/2-way body i-body Multi-port body Tank valve body T-body Welding configuration
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4408, investment casting material 1.4408, investment casting material, PFA lined 1.4435 (316L), forged material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material CW614N, brass CW617N, brass EN-GJS-400-18-LT, SG iron material EN-GJS-400-18-LT, SG iron material with hard rubber lining EN-GJS-400-18-LT, SG iron material, PFA lined EN-GJS-400-18-LT, SG iron material, PP lined
Body lining:	Hard rubber PFA PP
Diaphragm materials:	CR EPDM FKM NBR PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 6 mm/s
Protection class:	IP 65
Conformities:	Belgaqua BSE/TSE EAC EHEDG FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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Motorized diaphragm valves made of plastic

Overview

GEMÜ type	R629 eSyLite	R639 eSyStep	R649 eSyDrive
			
Special feature	Basic actuator for Open/Close applications	Universal actuator, option with integrated positioner	Premium actuator with integrated positioner and process controller
Nominal sizes	DN 12 to 65	DN 12 to 50	DN 12 to 65
Media temperature	-10 to 80 °C	-10 to 80 °C	-10 to 80 °C
Ambient temperature	-10 to 50 °C	0 to 50 °C	-10 to 50 °C
Operating pressure	0 to 6 bar	0 to 8 bar	0 to 10 bar
Supply voltage	24 V DC	24 V DC	24 V DC
Actuating speed	max. 3 mm/s	max. 3 mm/s	max. 6 mm/s
Connection types			
Flange	•	•	•
Flare	•	•	•
Solvent cement socket	•	•	•
Spigot	•	•	•
Threaded connection	•	•	•
Union end	•	•	•
Body materials			
ABS	•	•	•
Inliner PP-H/outliner PP	•	•	•
Inliner PVDF/outliner PP	•	•	•
PP	-	•	-
PP-H	•	•	-
PVC-U	•	•	•
PVDF	-	•	•
Conformities			
EAC	•	•	•
FDA	•	•	•
NSF	-	-	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ R629 eSyLite

Motorized diaphragm valve

The GEMÜ R629 eSyLite 2/2-way diaphragm valve is motorized. It is available in an Open/Closed version. An integrated optical position indicator is standard. The self-locking actuator holds its position in a stable manner in the event of power supply failure.

Features

- Motorized linear actuator for Open/Close applications
- Self-locking spindle actuator
- Safety shut-down integrated
- Standard optical position indicator and manual override
- Integrated emergency power supply module (optional)
- Electrical position indicator GEMÜ 1215 (optional)



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 12 to 65
Body configurations:	2/2-way body
Connection types:	Flange Flare Solvent cement socket Spigot Threaded connection Union end
Connection standards:	ANSI ASTM BS DIN EN ISO JIS
Body materials:	ABS Inliner PP-H, grey / outliner PP, reinforced Inliner PVDF/outliner PP, reinforced PP, reinforced PP-H, natural PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	EAC FDA

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GW-R629



GEMÜ R639 eSyStep

Motorized diaphragm valve

The GEMÜ R639 eSyStep 2/2-way diaphragm valve is electrically operated. The eSyStep electric actuator is available as On/Off actuator or with integrated positioner. An integral optical and electrical position indicator is standard. The self-locking actuator holds its position in a stable manner when idle and in the event of power supply failure.

Features

- CIP/SIP capable (only with stainless steel distance piece)
- Open/close function or with integrated positioner
- Actuating speed max. 3 mm/s
- Parameterizable via IO-Link
- On-site or remote end position programming via programming input
- Various functions integrated (e.g. feedback, stroke limiter, etc.)



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	0 to 50 °C
Operating pressure :	0 to 8 bar
Nominal sizes:	DN 12 to 50
Body configurations:	2/2-way body
Connection types:	Flange Flare Solvent cement socket Spigot Threaded connection Union end
Connection standards:	BS DIN ISO JIS
Body materials:	ABS Inliner PP-H, grey / outliner PP, reinforced Inliner PVDF / outliner PP, reinforced Inliner PVDF/outliner PP, reinforced PP, reinforced PP-H, natural PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	EAC FDA

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GW-R639



GEMÜ R649 eSyDrive

Motorized diaphragm valve

The GEMÜ R649 diaphragm valve is actuated by a motorized hollow shaft actuator. It is based on technology that does not use brushes or sensors and therefore guarantees high performance and a long service life. In addition to Open/Close applications, the valve is ideal for variable and complex control applications. The actuator has an integrated web server for parameterization and diagnostics purposes.

Features

- Hermetic separation between medium and actuator
- Installation for optimized draining is possible
- Open/Close function, positioner and process controller
- Force and speed are variably adjustable
- Extensive diagnostic functions
- Operable via web interface eSy-Web or Modbus TCP
- Various functions of add-on components and accessories are already integrated (e.g. position indicators, stroke limiters, etc.)



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 12 to 65
Body configurations:	2/2-way body
Connection types:	Flange Flare Solvent cement socket Spigot Threaded connection Union end
Connection standards:	ANSI BS DIN EN ISO JIS
Body materials:	ABS Inliner PP-H, grey / outliner PP, reinforced Inliner PVDF/outliner PP, reinforced PP, reinforced PP-H, natural PVC-U PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 6 mm/s
Protection class:	IP 65
Conformities:	EAC FDA NSF

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GW-R649



M-block diaphragm valves

GEMÜ P600M

M-block plastic diaphragm valve

The GEMÜ P600M plastic M-block diaphragm valve comprises one or more diaphragm valve seats. These can be equipped with manual, pneumatic and motorized actuators. The downstream media is isolated using a diaphragm.

Features

- Combining several valves and pipe sections in one compact unit
- Reduced installation space
- Combining several functions in one block: Control, batch, distribute, flush, etc.
- Reduced number of welded and solvent cemented joints in the plant
- Customised block construction



Technical specifications

Media temperature :	-10 to 80 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 6 to 50
Body configurations:	Multi-port body
Connection types:	Clamp Spigot Threaded connection Union end
Connection standards:	ASME DIN ISO
Body materials:	PP-H, grey PP-H, natural PVC-U, grey PVDF
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM

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GW-P600M



GEMÜ P600M

M-block stainless steel diaphragm valve

The GEMÜ P600M stainless steel M-block diaphragm valve comprises one or more diaphragm valve seats. It is possible to choose between manual, pneumatic and motorized actuator versions. The downstream media is isolated using a diaphragm.

Features

- Space savings thanks to compact design
- Individual, customized and flexible design
- Reduced deadleg
- Fewer connection points and weld seams
- Huge variety of functions combined in the smallest of spaces
- Wide range of adaptation options from measurement and control systems, in addition to accessories
- Optimized draining design



Technical specifications

Media temperature :	-10 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 150
Body configurations:	Multi-port body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS SMS
Body materials:	1.4435 (316L), block material 1.4435 (BN2), block material 1.4539 (904L), block material
Diaphragm materials:	EPDM PTFE/EPDM
Conformities:	3A BSE/TSE CRN EAC FDA Regulation (EC) No. 1935/2004 USP

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GW-P600M



GEMÜ P600S

M-block diaphragm valve with flexible connection system

The GEMÜ P600S valve block made of plastic comprises two or three diaphragm valve seats. These can be equipped with manual, pneumatic and motorized actuators. The downstream media is isolated using a diaphragm at the valve seat.

Features

- Nominal pressure PN 10
- Various actuator versions available
- Connection system can subsequently be replaced
- Individually extendable block
- Combining several valves and pipe sections in one compact unit
- Reduction of the footprint
- Combining several functions in one block: Control, batch, distribute, etc.
- Reduced number of welded and solvent cemented joints in the plant
- Low maintenance



Technical specifications

Media temperature :	5 to 80 °C
Ambient temperature:	5 to 50 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 8 to 25
Connection types:	Spigot Threaded connection Union end
Body materials:	PP-H, grey PVC-U
Diaphragm materials:	EPDM FKM NBR PTFE/EPDM

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Diaphragms

As a central sealing element in the piping system, the selection of a suitable diaphragm plays an important role in safe system operation. At GEMÜ, we offer a wide selection of different diaphragms and will be happy to advise you on which diaphragm is ideally suited to your intended application.

Diaphragms made of soft elastomers

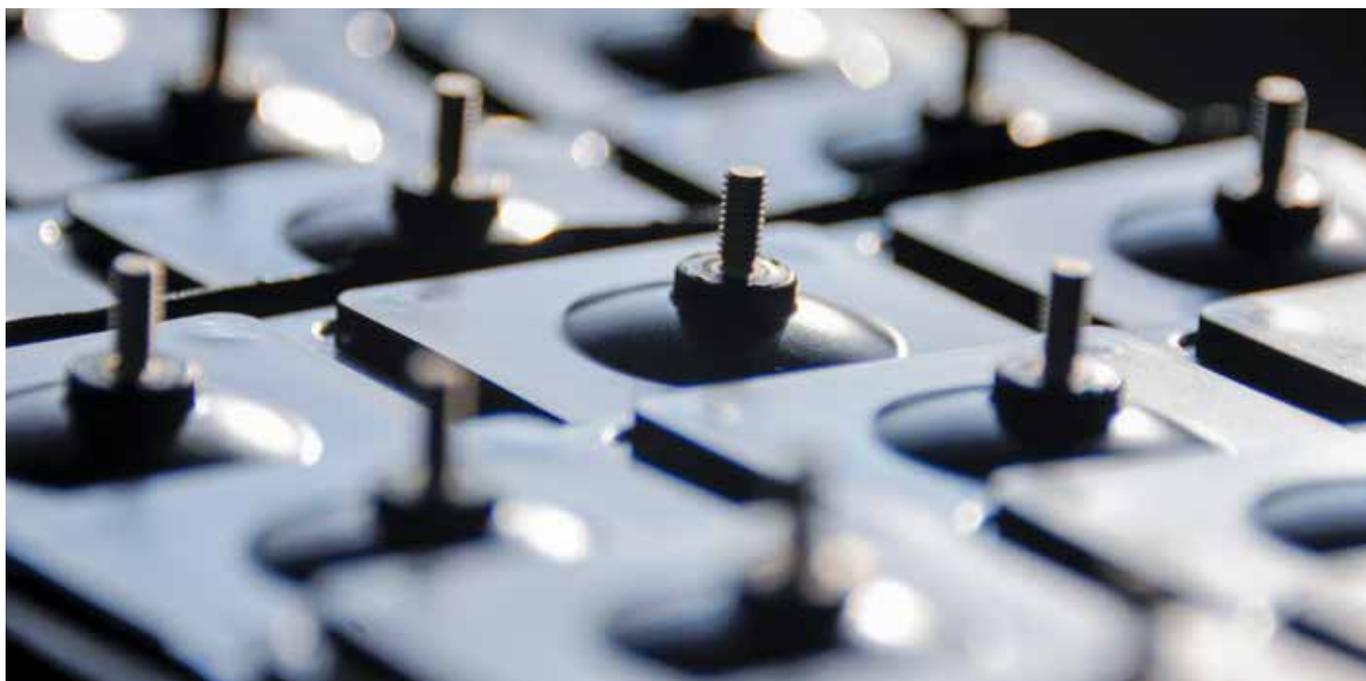
For our diaphragms made of soft elastomers, we use materials such as ethylene propylene diene monomer rubber (EPDM), fluorinated rubber (FKM) and acrylonitrile butadiene rubber (NBR). They are distinguished by the following qualities:

- Insensitive to contaminated working media (e.g. cellular lumps and solid matter)
- Suitable for abrasive media
- Resistant to many acids, alkalis and diluted saline solutions
- Used at consistently high or low media temperatures, steam or ozone
- Suitable for inert industrial gases and many other industrial gases

Diaphragms with thermoplastic materials

In addition to diaphragms made purely of soft elastomers, our range also includes combinations with polytetrafluoroethylene (PTFE). They comprise an EPDM backing and a PTFE face, and will impress you with the following features:

- High chemical resistance
- Suitable for wider temperature range
- Slow to wear under steam conditions



Overview

GEMÜ type	Code 19	Code 29	Code 3A/13	Code 17	Code 4A/4
					
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-10 to 90 °C
Sterilization temperature¹⁾	max. 150 °C	Not sterilizable	max. 150 °C	max. 150 °C	Not sterilizable
Diaphragm material					
EPDM	●	●	●	●	-
FKM	-	-	-	-	●
PTFE/EPDM	-	-	-	-	-
PTFE/FKM	-	-	-	-	-
PTFE/PVDF/EPDM	-	-	-	-	-
Diaphragm sizes					
8	●	-	●	●	●
10	●	●	●	●	●
20	-	●	-	●	●
25	●	●	●	●	●
40	●	●	●	●	●
50	●	●	●	●	●
65	-	●	-	-	●
80	●	●	●	●	●
100	●	●	●	●	●
125	-	●	-	-	●
150	-	●	-	-	●
200	-	●	-	-	-
Conformities					
BSE/TSE	●	●	●	●	-
EHEDG	-	-	-	-	-
FDA	●	-	●	●	-
Oxygen	●	-	●	-	-
Ozone resistance	●	-	●	●	-
Reg. (EU) No. 10/2011	-	-	-	-	-
Regulation (EC) No. 1935/2004	●	-	●	●	-
TA Luft (German Clean Air Act)	●	-	●	●	-
USP	●	-	●	●	-

1) The duration of sterilization is limited for some diaphragms; see datasheet.

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	Code 54	Code 5M	Code 5T	Code 71	Code 56
					
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-20 to 100 °C	-10 to 100 °C
Sterilization temperature¹⁾	max. 150 °C	max. 150 °C	Not sterilizable	Not sterilizable	Max. 150
Diaphragm material					
EPDM	-	-	-	-	-
FKM	-	-	-	-	-
PTFE/EPDM	●	●	-	-	-
PTFE/FKM	-	-	●	-	●
PTFE/PVDF/EPDM	-	-	-	●	-
Diaphragm sizes					
8	●	-	-	-	-
10	●	●	●	●	●
20	●	-	-	-	●
25	●	●	●	●	●
40	●	●	●	●	●
50	●	●	●	●	●
65	●	-	-	-	-
80	●	●	●	●	●
100	●	●	●	●	●
125	●	-	-	-	-
150	●	-	-	-	-
200	-	-	-	-	-
Conformities					
BSE/TSE	●	●	●	●	●
EHEDG	-	●	-	-	-
FDA	●	●	-	-	-
Oxygen	●	●	-	-	-
Ozone resistance	●	●	-	-	-
Reg. (EU) No. 10/2011	●	●	-	-	-
Regulation (EC) No. 1935/2004	●	●	-	-	-
TA Luft (German Clean Air Act)	●	●	-	-	-
USP	●	●	-	-	-

1) The duration of sterilization is limited for some diaphragms; see datasheet.

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ Code 19

EPDM diaphragm

The GEMÜ code 19 diaphragm is a one-piece peroxide-cured EPDM diaphragm that has been developed for use in pharmaceutical and biotechnological applications as well as for the food and beverage industries. The diaphragm displays improved setting behaviour and reduced signs of wear, which enables high switching cycles and therefore an increased service life. The GEMÜ code 19 EPDM diaphragm is suitable for use with abrasive media. The diaphragm is specifically compounded for GEMÜ and manufactured within the GEMÜ Group.

Features

- Fabric reinforced (diaphragm size 10 to diaphragm size 100)
- Low signs of wear and optimized setting behaviour
- High performance capability thanks to improved positioning of the fabric insert
- Greatly reduced adhesive behaviour (no adhesion on the valve seat) of the diaphragm as a result of new material compounding
- High sealing values and low deformation through steam use
- Extremely long service life thanks to good material properties
- Simple and defined mounting thanks to the threaded pin that is vulcanised in place (MG 8) and with integrated screw-in stop (MG 10 to 100)



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm material:	EPDM
Diaphragm sizes:	8 10 25 40 50 80 100
Conformities:	BSE/TSE FDA Oxygen Ozone resistance Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

Go online!



GW-Code 19



GEMÜ Code 29 EPDM diaphragm

The GEMÜ code 29 diaphragm is a one-piece peroxide-cured EPDM diaphragm that has been developed for use in industrial applications. The diaphragm displays reduced setting behaviour and signs of wear, which enables high switching cycles and therefore an increased service life. The GEMÜ code 29 EPDM diaphragm is suitable for use with abrasive media. The diaphragm is specifically compounded for GEMÜ and manufactured within the GEMÜ Group.

Features

- Fabric-reinforced
- Low signs of wear and optimized setting behaviour
- High performance capability thanks to improved positioning of the fabric insert
- Greatly reduced adhesive behaviour (no adhesion on the valve seat) of the diaphragm as a result of new material compounding
- Extremely long service life thanks to good material properties
- Simple and defined mounting thanks to the threaded pin that is vulcanised in place with integrated screw-in stop



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm material:	EPDM
Diaphragm sizes:	10 20 25 40 50 65 80 100 125 150 200
Conformities:	BSE/TSE

Go online!



GW-Code 29



GEMÜ Code 3A/13

EPDM diaphragm

The GEMÜ code 3A/13 diaphragm is a one-piece peroxide-cured EPDM diaphragm that has been developed for use in pharmaceutical and biotechnological applications as well as for the food and beverage industries. The GEMÜ code 3A/13 EPDM diaphragm is suitable for use with abrasive media. The diaphragm is specifically compounded for GEMÜ.

Features

- Not fabric reinforced
- With long-term reliability
- High level of customer satisfaction
- Simple mounting thanks to a rubber pin which is vulcanized in place (GEMÜ code 3A for diaphragm size 8)
- Simple and defined mounting thanks to a threaded pin which is vulcanized in place with integrated screw-in stop (GEMÜ code 13 for diaphragm size 10 to diaphragm size 100)



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm material:	EPDM
Diaphragm sizes:	8 10 25 40 50 80 100
Conformities:	BSE/TSE FDA Oxygen Ozone resistance Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

Go online!



GW-



GEMÜ Code 17 EPDM diaphragm

The GEMÜ code 17 diaphragm is a one-piece peroxide-cured EPDM diaphragm that has been developed for use in pharmaceutical and biotechnological applications as well as for the food and beverage industries. The diaphragms can be used for steam applications. In addition, the GEMÜ code 17 EPDM diaphragm is suitable for use with abrasive media. The diaphragm is specifically compounded for GEMÜ and manufactured within the GEMÜ Group.

Features

- Fabric-reinforced
- High tear resistance/low cracking
- High thermal load capability (hot/cold)
- Simple mounting thanks to the rubber pin that is vulcanized in place (diaphragm size 8)
- Simple and defined mounting thanks to the threaded pin that is vulcanized in place with integrated screw-in stop (diaphragm size 10 to diaphragm size 100)



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm material:	EPDM
Diaphragm sizes:	8 10 20 25 40 50 80 100
Conformities:	BSE/TSE FDA Ozone resistance Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

Go online!



GW-Code 17



GEMÜ Code 4A/4 FKM diaphragm

The GEMÜ code 4A/4 FKM diaphragm has been developed for use in industrial applications, for example in the chemical industry, environmental engineering and the processing industry. The diaphragm is made of fluorinated rubber.

Features

- Fabric reinforced (diaphragm size 25 to diaphragm size 150)
- Resistant to aggressive chemicals such as hydrocarbons (aromatic, non-aromatic and chlorinated), mineral acids and chlorine bleach
- Ozone and weather resistant
- Simple mounting thanks to the rubber pin that is vulcanized in place (diaphragm size 8)
- Simple and defined mounting thanks to a threaded pin which is vulcanized in place with an integrated screw-in stop (diaphragm size 10 to diaphragm size 150)



Technical specifications

Media temperature :	-10 to 90 °C
Diaphragm material:	FKM
Diaphragm sizes:	8 10 20 25 40 50 65 80 100 125 150

Go online!



GEMÜ Code 54

PTFE/EPDM diaphragm

The GEMÜ code 54 diaphragm consists of a PTFE face and a peroxide-cured EPDM backing, which are securely connected to one another (fully laminated). An FKM backing is also available for highly permeating media (GEMÜ code 56). The diaphragm combines all the advantages of PTFE with the flexibility of an elastomer diaphragm in one product. In order to optimize the entire system, both the PTFE face and the diaphragm backing are compounded for GEMÜ and manufactured within the GEMÜ Group.

Features

- Fabric reinforced EPDM backing (diaphragm size 25 to diaphragm size 100)
- Simple mounting thanks to the rubber pin that is vulcanized in place (diaphragm size 8)
- Simple and defined mounting thanks to the threaded pin that is vulcanized in place with integrated screw-in stop (diaphragm size 10 to diaphragm size 100)



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm materials:	PTFE/EPDM
Diaphragm sizes:	8 10 20 25 40 50 65 80 100 125 150
Conformities:	BSE/TSE FDA Oxygen Ozone resistance Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

Go online!



GW-Code 54



GEMÜ Code 5M

PTFE/EPDM diaphragm

The GEMÜ Code 5M diaphragm has a two-piece design and comprises a PTFE face and a peroxide cured EPDM backing. An FKM backing is also available for highly permeating media (GEMÜ Code 5F). This material offers maximum chemical resistance and also features a considerably lower level of wear under steam conditions. In order to optimize the entire system in turn, both the PTFE face and the diaphragm backing are compounded for GEMÜ and manufactured within the GEMÜ Group.

Features

- Fabric reinforced EPDM backing
- Excellent long-term tightness and vacuum compatibility thanks to improved geometry
- Extremely long service life
- Leak detection holes in the EPDM backing
- Easy-to-read identification
- Simple and defined mounting thanks to the threaded pin that is sintered in place with integrated screw-in stop (diaphragm size 10 to diaphragm size 100)



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm materials:	PTFE/EPDM
Diaphragm sizes:	10 25 40 50 80 100
Conformities:	BSE/TSE EHEDG FDA Oxygen Ozone resistance Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

Go online!



GW-Code 5M



GEMÜ Code 5T

PTFE/FKM diaphragm

The GEMÜ PTFE/FKM diaphragm code 5T has a two-piece design and consists of a PTFE face and FKM backing. The diaphragm is available in diaphragm sizes 10 to 100 and has a threaded pin sintered in place with an integrated screw-in stop. The diaphragm has been developed for use in industrial applications, for example in the chemical industry and environmental engineering or the processing industry.

Features

- Fabric reinforced FKM backing (diaphragm size 10 to diaphragm size 100)
- Resistant to aggressive chemicals such as hydrocarbons (aromatic, non-aromatic and chlorinated), mineral acids and chlorine bleach
- Ozone and weather resistant
- Very high chemical resistance due to PTFE face
- Simple and defined mounting thanks to the threaded pin that is vulcanised in place with integrated screw-in stop
- Improved service life
- Improved long-term tightness thanks to optimized geometry
- Improved vacuum compatibility



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm materials:	PTFE/FKM
Diaphragm sizes:	10 25 40 50 80 100
Conformities:	BSE/TSE

Go online!



GW-Code 5T



GEMÜ Code 71

PTFE/PVDF/EPDM diaphragm

The GEMÜ diaphragm code 71 is a three-piece diaphragm that has been developed for use in industrial applications. The diaphragm is made up of a PTFE face, a PVDF intermediate layer and an EPDM backing. The diaphragm is based on the tried and tested design and dimensions of the code 5M diaphragm with regard to the PTFE face. The diaphragm shows excellent permeation properties against gases.. The diaphragm is extremely resistant to wet chlorine in particular due to the PVDF intermediate layer and the titanium mounting pin.

Features

- High resistance (to wet chlorine)
- Resistant against chemicals such as volatile acids, oxidizing agents and salts
- High corrosion resistance thanks to mounting pin made of grade 7 titanium
- Defined mounting thanks to integrated mechanical stop
- Excellent permeation properties
- No leakage holes in EPDM backing



Technical specifications

Media temperature :	-20 to 100 °C
Diaphragm material:	PTFE/PVDF/EPDM
Diaphragm sizes:	10 25 40 50 80 100
Conformities:	BSE/TSE

Go online!



GW-Code 71



GEMÜ Code 56

PTFE/FKM diaphragm

The GEMÜ PTFE/FKM diaphragm code 56 consists of a PTFE face and FKM backing, which are securely connected to one another (fully laminated). The diaphragm has been developed for use in industrial applications, for example in the chemical industry and environmental engineering or the processing industry.

Features

- Fabric reinforced FKM backing (diaphragm size 10 to diaphragm size 100)
- Resistant to aggressive chemicals such as hydrocarbons (aromatic, non-aromatic and chlorinated), mineral acids and chlorine bleach
- Ozone and weather resistant
- Very high chemical resistance due to PTFE face
- Simple and defined mounting thanks to the threaded pin that is vulcanised in place with integrated screw-in stop



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm material:	PTFE/FKM
Diaphragm sizes:	10 20 25 40 50 80 100

Go online!



GW-Code 56



GEMÜ Code 2 NBR diaphragm

The GEMÜ NBR diaphragm code 2 has been developed for use in industrial applications, for example in the chemical industry, environmental engineering or the processing industry. The diaphragm is made of nitrile rubber.

Features

- Good resistance to mineral oils, greases and petrol
- Simple and defined mounting thanks to the threaded pin that is vulcanised in place with integrated screw-in stop



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm material:	NBR
Diaphragm sizes:	10 20 25 40 50 65 80 100 125 150

Go online!



GW-Code 2



GEMÜ Code 6

Butyl diaphragm

The GEMÜ IIR diaphragm code 6 has been developed for use in industrial applications, for example in mining, ore processing and hydrometallurgy, in the fertilizer industry/phosphate production/phosphoric acid manufacturing. The diaphragm is made of isobutene isoprene rubber.

Features

- Fabric reinforced (from diaphragm size 25 to diaphragm size 200)
- Good resistance to diluted inorganic acids, alkalis and saline solutions
- Good weather resistance and very suitable for water and ozone
- Low gas permeability
- Unsuitable for oils and hydrocarbon



Technical specifications

Media temperature :	-5 to 100 °C
Diaphragm material:	IIR
Diaphragm sizes:	25 40 50 65 80 100 125 150 200

Go online!



GEMÜ Code 8 CR diaphragm

The GEMÜ CR diaphragm code 8 has been developed for use in industrial applications, for example in the chemical industry, environmental engineering or the processing industry. The diaphragm is made of chloroprene rubber. This material is also known as neoprene in English-speaking countries.

Features

- Very suitable for abrasive media
- Ozone and weather resistant
- Simple and defined mounting thanks to the threaded pin that is vulcanised in place with integrated screw-in stop



Technical specifications

Media temperature :	-10 to 100 °C
Diaphragm material:	CR
Diaphragm sizes:	25 40 50 65 80 100
Conformities:	BSE/TSE

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Add-on components for diaphragm valves

GEMÜ type	605	610	615	620	630	656	687
Measurement and control technology							
Electrical position indicators							
GEMÜ 1205 ▶ page 362				•	•	•	•
GEMÜ 1215 ▶ page 363	•	•	•	•	•		•
GEMÜ 1230/1231/1232	•	•	•	•	•	•	•
GEMÜ 1234 ▶ page 367	•	•	•	•	•		•
GEMÜ 1235/1236 ▶ page 368	•	•	•	•	•	•	•
GEMÜ 1242 ▶ page 371	•	•	•	•	•	•	•
Combi switchboxes							
GEMÜ 4241 ▶ page 377		•	•	•		•	•
GEMÜ 4242 ▶ page 378	•	•	•	•	•	•	•
Pilot valve							
GEMÜ 0324 ▶ page 385	•	•	•	•	•	•	•
Control systems							
Positioner							
GEMÜ 1434 µPos ▶ page 338	•	•	•	•	•	•	•
GEMÜ 1435 ePos ▶ page 340	•	•	•	•	•	•	•
Positioners and process controllers							
GEMÜ 1436 cPos ▶ page 341	•	•	•	•	•	•	•
Accessories							
Connection accessories ▶ page 417	•	•	•	•	•	•	•
Clamping devices ▶ page 420							
Manual overrides ▶ page 423				•		•	•
Stroke limiters ▶ page 422	•	•	•	•	•		•
Sensor accessories ▶ page 424	•	•	•	•	•	•	•
Position indicators ▶ page 421	•	•	•	•	•	•	•
Valve mounting accessories ▶ page 416		•		•	•		

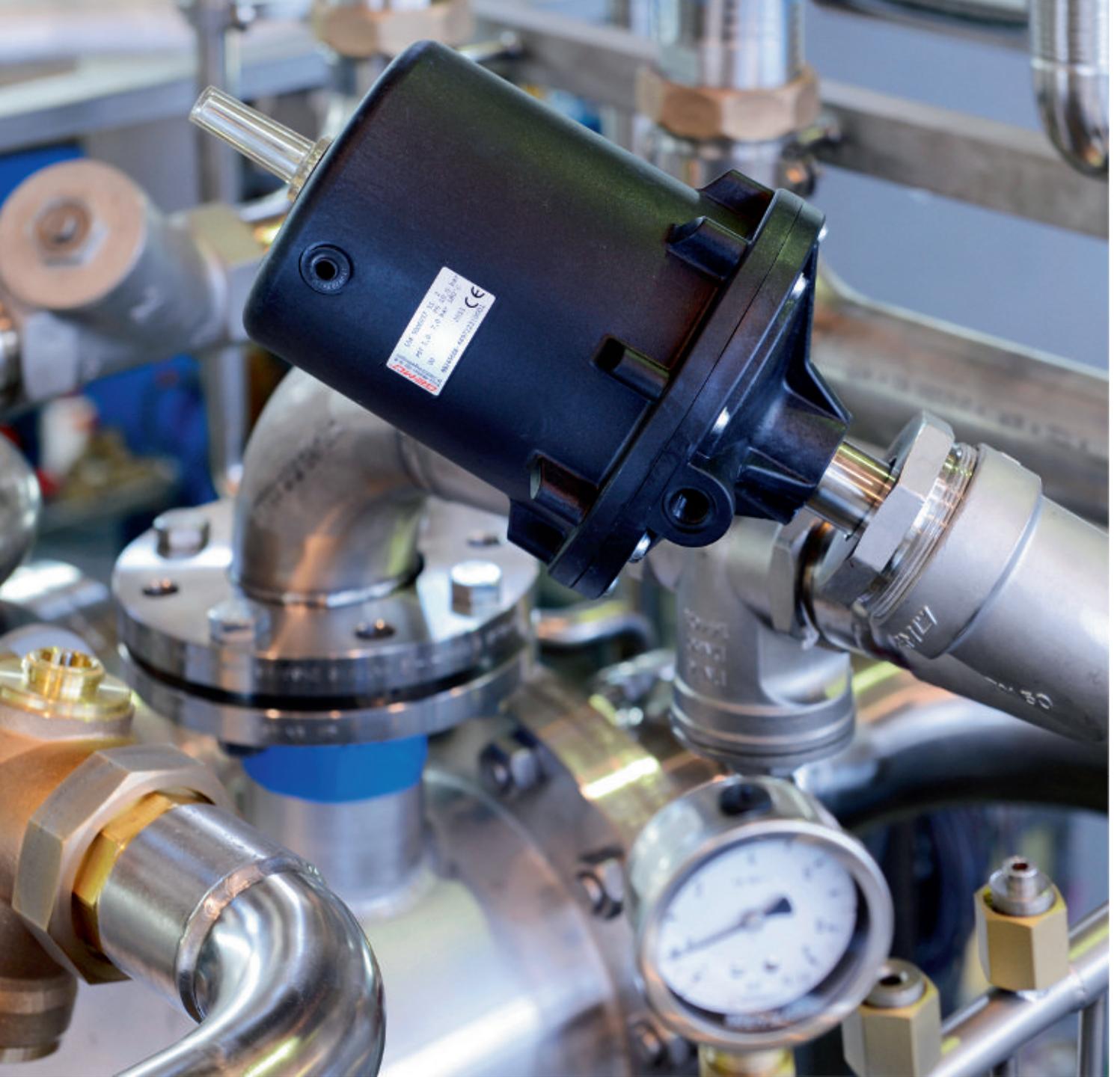
GEMÜ valves are fully assembled in our in-house Assembly department – with compatible accessories on request.



Our pre-assembled solutions are supplied to you preset and tested. Not only can you obtain all components from a single source, you simultaneously reduce the effort required for logistics and installation of the system on site, as well as for documentation.



GEMÜ type	617	625	650	653	660	671	C60	R690
Measurement and control technology								
Electrical position indicators								
GEMÜ 1205 ▶ page 362			•		•			•
GEMÜ 1215 ▶ page 363		•	•			•	•	•
GEMÜ 1230/1231/1232		•	•		•		•	•
GEMÜ 1234 ▶ page 367		•	•		•			•
GEMÜ 1235/1236 ▶ page 368		•	•		•		•	•
GEMÜ 1242 ▶ page 371		•	•				•	•
Combi switchboxes								
GEMÜ 4241 ▶ page 377		•	•					•
GEMÜ 4242 ▶ page 378		•	•		•		•	•
Pilot valve								
GEMÜ 0324 ▶ page 385		•	•		•		•	•
Control systems								
Positioner								
GEMÜ 1434 µPos ▶ page 338		•	•		•		•	•
GEMÜ 1435 ePos ▶ page 340		•	•		•		•	•
Positioners and process controllers								
GEMÜ 1436 cPos ▶ page 341		•	•		•		•	•
Accessories								
Connection accessories ▶ page 417		•	•		•		•	•
Clamping devices ▶ page 420			•					
Manual overrides ▶ page 423			•					•
Stroke limiters ▶ page 422		•	•					•
Sensor accessories ▶ page 424		•	•	•	•			•
Position indicators ▶ page 421		•	•					•
Valve mounting accessories ▶ page 416	•							•



Globe valves

Description

Globe valves are suitable for clean, liquid media, as well as gases and steam. Due to the linear movement and favourable mechanical conditions, they often take on automated tasks. Particularly in small nominal sizes, they are very suitable for fast cycle duties and high switching frequencies. In conjunction with the relevant positioners and regulating cones, they are the best possible control valves.

Further information can be found in the control systems section.

Features

- Fast cycle duties
- High switching frequencies
- Very good control characteristics

Typical working media

- Liquids: Water, glycol, cooling lubricant, sodium hydroxide
- Steam: Black steam, saturated steam
- Gases: Air, nitrogen, oxygen

Applications

- Generation and distribution of industrial and sterile steam, industrial gas, compressed air, biogas
- Batch and filling processes
- Heat exchangers and heating systems
- Heating and cooling processes in machines, systems and buildings
- Steam control for humidity regulation in production plants and buildings
- Dyeing and cleaning
- Filter systems and filter cleaning
- EPS machinery
- Parts cleaning
- Distribution of cooling lubricants in machining centres
- Water treatment: Evaporator, reverse osmosis
- PSA (pressure swing adsorption) systems: Nitrogen generators, oxygen generators



Functional principle of globe valves



Open



Closed

Seat seal

For soft-seated angled and straight globe valves, the seat seal is pressed against a valve seat using the force applied in the positioning element. The seat seal is stabilized here with a valve plug. The volumetric flow is shut off on the circular edge that emerges from the compression of the seat on the valve seat.

The tightness of the valve depends on factors including the chemical compatibility of the working medium. A PTFE gasket is used as a standard seal for the valve seats of GEMÜ globe valves. Furthermore, elastomer and metal seals are also available.

Gland packing

The gland packing seals the valve spindle in the direction of the actuator. It prevents both emission of the working medium into the actuator and penetration of foreign matter into the working medium from outside. At high temperatures, GEMÜ uses special seal materials or stainless steel bellows. Special applications which require NBR seals or other special versions, for example, are available on request.

Advantages of GEMÜ:

- As standard, they are suitable for use in a vacuum up to 20 mbar (absolute)
- Designed for fast cycle duties and high numbers of switching cycles
- Self-adjusting gland packing
- Special versions with bellows up to 300 °C

The stainless steel bellows take on the function of the gland packing. It is preferred for use in high-vacuum applications and/or high media temperatures. At high temperatures, it should, ideally, be combined with a metallic seat seal at the seat.



Globe valve seal system



Bellows valve open



Bellows valve closed

Modular system for globe valves

With the GEMÜ modular system, we offer you the opportunity to put together a suitable valve in line with your requirements. Discover all configuration options at www.gemu-group.com

Measurement and control technology

Electrical position indicators and combi switchboxes | Positioners and process controllers | Accessories



Actuators

Manual | Pneumatic | Motorized
Metal | Plastic



Valve plug

Rigid | Flexible



Body

Angle seat body | Straight seat body | Multi-port body | Angle valve body



Configure your valve online
at www.gemu-group.com

Globe valve bodies

The variety of areas of application for globe valves also demands a variety of requirements from the valve. To satisfy these requirements, GEMÜ offers different body configurations that can be combined with GEMÜ gland packing and actuators in accordance with the modular system.

With our wide selection of connections and materials, we can cater to industrial process requirements on a case-by-case basis.



Globe valve



- DN 15 to 150
- Ideally suited for control applications

Angle seat globe valve



- DN 6 to 80
- Reduced vertical installation space
- Reduced pressure loss and higher flow rates

3/2-way globe valve



- DN 15 to 100
- Ideal for mixing, separating, aerating and de-aerating

Angle globe valve



- Saves an additional pipe bend
- Compact design

Please note the flow direction

The preferred flow direction is *under the seat*. With the flow direction *over the seat*, there is a risk of water hammers. They can damage the valve and other system components. The flow direction for GEMÜ valves is permanently marked on the body.



Manually operated globe valves

Overview

GEMÜ type	505	507	537	566
				
Nominal sizes	DN 8 to 80	DN 6 to 80	DN 15 to 50	DN 8 to 20
Media temperature	-10 to 185 °C	-10 to 210 °C	-10 to 210 °C	0 to 90 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C	-15 to 60 °C
Operating pressure	0 to 10 bar	0 to 25 bar	0 to 40 bar	0 to 6 bar
Connection types				
Clamp	●	●	-	●
Flange	-	●	●	-
Spigot	●	●	-	-
Threaded connection	-	●	-	●
Body configurations				
2/2-way body	●	●	●	●
Angle valve body	-	●	-	-
Body materials				
1.4408	-	●	●	-
1.4435	●	●	-	●
1.4435 (316L)	●	●	-	-
EN-GJS-400-18-LT	-	-	●	-
Conformities				
ATEX	●	●	●	-
CRN	●	●	●	-
EAC	●	●	●	●
FDA	●	●	●	●
Oxygen	-	●	●	-
Reg. (EU) No. 10/2011	●	●	●	-
Regulation (EC) No. 1935/2004	●	●	●	●
Regulation (EC) No. 2023/2006	●	●	●	-
TA Luft (German Clean Air Act)	-	●	●	-
USP	●	●	●	-

GEMÜ 505

Manually operated angle seat globe valve

The GEMÜ 505 2/2-way angle seat globe valve has a plastic handwheel resistant to high temperatures and is manually operated. The valve is suitable for pure steam and gaseous media. The sealing at the valve seat is made of PTFE. The valve spindle is sealed with a stainless steel bellows. Valve plug and valve spindle are welded together to prevent dirt ingress.

Features

- Free from non-ferrous metals
- Welded valve plug/valve spindle design to remove possible contamination areas
- Low maintenance, fixed seat plug (without threads)
- Stainless steel bellows as spindle seal for high operating temperatures
- Batch traceability for all media-wetted components



Technical specifications

Media temperature :	-10 to 185 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 8 to 80
Body configurations:	2/2-way body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435 (316L), block material 1.4435, investment casting material
Seat seal materials:	PTFE
Conformities:	ATEX CRN EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

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GW-505



GEMÜ 507

Manually operated angle seat globe valve

The GEMÜ 507 2/2-way angle seat globe valve has an ergonomically designed plastic handwheel and is manually operated. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Available as shut-off or control valve
- High flow rates due to angle seat design
- Suitable for vacuum up to 20 mbar (a)
- Handwheel locknut for fixing the spindle, in order to set a continuous flow rate



Technical specifications

Media temperature :	-10 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 6 to 80
Body configurations:	2/2-way body Angle valve body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS NPT SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), block material 1.4435 (316L), forged material 1.4435, investment casting material
Seat seal materials:	PEEK PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GW-507



GEMÜ 537

Manually operated globe valve

The GEMÜ 537 2/2-way globe valve has an ergonomically designed plastic handwheel and is manually operated. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. A handwheel extension available as an option enables installation of the valve in insulated pipelines.

Features

- High flow rates and compact design
- Continuous series with SG iron and stainless steel bodies
- Can be retrofitted with a pneumatic actuator
- Seat seal made of PTFE or PTFE/glass fibre
- Suitable for vacuum up to 20 mbar (a)
- Handwheel locknut for fixing the spindle, in order to set a continuous flow rate



Technical specifications

Media temperature :	-10 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 50
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI ASME EN ISO JIS
Body materials:	1.4408, investment casting material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GW-537



GEMÜ 566

Manually operated control valve

The GEMÜ 566 eSyStep 2/2-way straight seat control valve has a body with an integrated control mechanism. Manual, pneumatic and motorized actuator types are available. The GEMÜ 566 eSyStep control valve was specially developed for controlling small volumes and allows flow rates from 63 l/h to 2500 l/h.

Features

- Control of liquid and gaseous media from 63 to 2500 l/h
- Linear or equal-percentage control characteristic options
- Hermetic separation between medium and actuator
- Actuator and actuator type can be changed without draining or removing the valve body from the piping
- Various types of actuators available

Technical specifications

Media temperature :	0 to 90 °C
Ambient temperature:	-15 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 8 to 20
Body configurations:	2/2-way body
Connection types:	Clamp Threaded connection
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435, investment casting material
Seat seal materials:	EPDM FKM
Conformities:	EAC FDA Regulation (EC) No. 1935/2004



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GW-566



Pneumatically operated angle seat globe valves

Overview

GEMÜ type	514	550	554	555
				
Special feature	Robust actuator made from aluminium	Precise actuator design depends on operating pressure	Light piston actuator made of plastic	Free from non-ferrous metals, version with bellows
Nominal sizes	DN 8 to 80	DN 6 to 80	DN 6 to 80	DN 8 to 80
Media temperature	-10 to 210 °C	-10 to 180 °C	-10 to 180 °C	-10 to 185 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	0 to 60 °C	-10 to 60 °C
Operating pressure	0 to 25 bar	0 to 25 bar	0 to 25 bar	0 to 10 bar
Connection types				
Clamp	-	•	•	•
Flange	•	•	•	-
Spigot	•	•	•	•
Threaded connection	•	•	•	-
Body configurations				
2/2-way body	•	•	•	•
Angle valve body	•	•	•	-
Body materials				
1.4408	•	•	•	-
1.4435	•	•	•	•
1.4435 (316L)	-	•	•	•
CC499K	•	-	•	-
Conformities				
ATEX	-	•	•	•
CRN	•	•	•	•
DVGW Gas	-	•	-	-
EAC	•	•	•	•
FDA	•	•	•	•
Functional safety	•	•	•	-
Oxygen	•	•	•	•
Reg. (EU) No. 10/2011	•	•	•	•
Regulation (EC) No. 1935/2004	•	•	•	•
Regulation (EC) No. 2023/2006	-	•	-	•
TA Luft (German Clean Air Act)	•	•	•	-
USP	-	•	•	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 514

Pneumatically operated angle seat globe valve

The GEMÜ 514 2/2-way angle seat globe valve has a low-maintenance aluminium piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Robust actuator housing made of aluminium
- High flow rates due to angle seat design
- Stainless steel bellows as spindle seal for high operating temperatures
- Special connections and materials on request
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature :	-10 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 8 to 80
Body configurations:	2/2-way body Angle valve body
Connection types:	Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO JIS NPT SMS
Body materials:	1.4408, investment casting material 1.4435, investment casting material CC499K, cast bronze material
Seat seal materials:	1.4404 PTFE PTFE, reinforced
Conformities:	CRN EAC FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-514



GEMÜ 550

Pneumatically operated angle seat globe valve

The GEMÜ 550 2/2-way angle seat globe valve has a low-maintenance stainless steel piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Suitable for shut-off and control functions for gaseous, liquid and viscous media
- Suitable for vacuum up to 20 mbar (a)
- Wide range of adaptation options for add-on components and accessories
- Free from non-ferrous metals
- Optional for food contact according to Regulation (EC) No. 1935/2004
- Particularly compact design, actuator size 0G1/0M1



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 6 to 80
Body configurations:	2/2-way body Angle valve body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO NPT SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), block material 1.4435 (316L), forged material 1.4435, investment casting material
Seat seal materials:	1.4404 PTFE PTFE, reinforced
Conformities:	ATEX CRN DVGW Gas EAC FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

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GEMÜ 554

Pneumatically operated angle seat globe valve

The GEMÜ 554 2/2-way angle seat globe valve has a plastic piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing or a compact seal cartridge, depending on the size and version. A wiper ring or the wiper contour of the seal cartridge additionally protects the valve spindle against contamination and damage. This provides low-maintenance and reliable spindle sealing even after a long service life.

Features

- Available as shut-off or control valve
- Low actuator weight due to plastic body
- Faster actuator replacement and free actuator positioning due to fixing via union nut
- Standard actuator can be replaced with 550 or 514 on request
- Suitable for vacuum up to 20 mbar (a)
- Particularly compact design, actuator size B



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 6 to 80
Body configurations:	2/2-way body Angle valve body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO NPT SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435, investment casting material CC499K, cast bronze material
Seat seal materials:	NBR PFA PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

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GEMÜ 555

Pneumatically operated angle seat globe valve

The GEMÜ 555 2/2-way angle seat globe valve has a stainless steel piston actuator and is pneumatically operated. The valve is particularly designed for isolating pure steam. The sealing at the valve seat is made of PTFE. The valve spindle is sealed with a stainless steel bellows. Valve plug and valve spindle are welded together to prevent dirt ingress.

Features

- Free from non-ferrous metals
- Welded valve plug/valve spindle design to remove possible contamination areas
- Low maintenance, fixed seat plug (without threads)
- Stainless steel bellows as spindle seal for high operating temperatures
- Batch traceability for all media-wetted components



Technical specifications

Media temperature :	-10 to 185 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 8 to 80
Body configurations:	2/2-way body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435 (316L), block material 1.4435, investment casting material
Seat seal materials:	PTFE
Conformities:	ATEX CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

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Pneumatically operated globe valves

Overview

GEMÜ type	530	532	534	536	566
					
Special feature		Robust actuator made from aluminium	Light piston actuator made of plastic	Large nominal sizes	
Nominal sizes	DN 15 to 100	DN 15 to 100	DN 15 to 100	DN 32 to 150	DN 8 to 20
Media temperature	-40 to 210 °C	-10 to 210 °C	-10 to 180 °C	-10 to 210 °C	0 to 90 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	0 to 60 °C	-10 to 60 °C	-15 to 60 °C
Operating pressure	0 to 40 bar	0 to 6 bar			
Connection types					
Clamp	-	-	-	-	•
Flange	•	•	•	•	-
Threaded connection	-	-	-	-	•
Body materials					
1.4408	•	•	•	•	-
1.4435	-	-	-	-	•
EN-GJS-400-18-LT	•	•	•	•	-
Conformities					
ATEX	•	-	•	•	-
CRN	•	•	•	•	-
EAC	•	•	•	•	•
FDA	•	•	•	-	•
Functional safety	•	•	•	-	-
Oxygen	•	•	•	-	-
Reg. (EU) No. 10/2011	•	•	•	-	-
Regulation (EC) No. 1935/2004	•	•	•	-	•
TA Luft (German Clean Air Act)	•	•	•	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 530

Pneumatically operated globe valve

The GEMÜ 530 2/2-way globe valve has a robust, low-maintenance stainless steel piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Available as shut-off or control valve
- Stainless steel actuator resistant to corrosive ambient conditions
- Optionally with rapid venting valve for preventing the penetration of ambient media
- Faster actuator replacement and easily rotatable due to fixing via union nut
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature :	-40 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI ASME EN ISO JIS
Body materials:	1.4408, investment casting material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-530



GEMÜ 532

Pneumatically operated globe valve

The GEMÜ 532 2/2-way globe valve has a robust aluminium piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Available as shut-off or control valve
- Robust actuator housing made of aluminium
- Low frictional forces due to sleeve in the actuator head enable good control characteristics
- Faster actuator replacement and easily rotatable due to fixing via union nut
- Available with stainless steel bellows as spindle seal
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature :	-10 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI ASME EN ISO JIS
Body materials:	1.4408, investment casting material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	1.4404 PTFE PTFE, reinforced
Conformities:	CRN EAC FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-532



GEMÜ 534

Pneumatically operated globe valve

The GEMÜ 534 2/2-way globe valve has a plastic piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Available as shut-off or control valve
- Low actuator weight due to plastic body
- Faster actuator replacement and easily rotatable due to fixing via union nut
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI ASME EN ISO JIS
Body materials:	1.4408, cast stainless steel material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-534



GEMÜ 536

Pneumatically operated globe valve

The GEMÜ 536 2/2-way globe valve has a robust low maintenance membrane actuator and is pneumatically operated. The valve is particularly suitable for use as a control valve. The valve plug is fixed to the spindle in such a way as to allow flexing during closure in order to ensure tight shut off. The valve spindle is sealed by a self-adjusting gland packing providing low maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Available as shut-off or control valve
- Precise controllability thanks to guided regulating cage and actuator membrane
- Flow rate values of up to 380 m³/h
- Suitable for vacuum up to 20 mbar (a)
- Versions for higher temperatures are available on request



Technical specifications

Media temperature :	-10 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 32 to 150
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN ISO
Body materials:	1.4408, investment casting material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC

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GW-536



GEMÜ 566

Pneumatically operated control valve

The GEMÜ 566 eSyStep 2/2-way straight seat control valve has a body with an integrated control mechanism. Manual, pneumatic and motorized actuator types are available. The GEMÜ 566 eSyStep control valve was specially developed for controlling small volumes and allows flow rates from 63 l/h to 2500 l/h.

Features

- Control of liquid and gaseous media from 63 to 2500 l/h
- Linear or equal-percentage control characteristic options
- Hermetic separation between medium and actuator
- Actuator and actuator type can be changed without draining or removing the valve body from the piping
- Various types of actuators available



Technical specifications

Media temperature :	0 to 90 °C
Ambient temperature:	-15 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 8 to 20
Body configurations:	2/2-way body
Connection types:	Clamp Threaded connection
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435, investment casting material
Seat seal materials:	EPDM FKM
Conformities:	EAC FDA Regulation (EC) No. 1935/2004

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GW-566



Motorized globe valves

Overview

GEMÜ type	519 eSyLite	529 eSyLite	533 eSyStep	543 eSyStep	566 eSyStep
					
Special feature	Basic actuator for Open/Close applications	Basic actuator for Open/Close applications	Universal actuator, option with integrated positioner	Universal actuator, option with integrated positioner	Universal actuator with integrated positioner
Nominal sizes	DN 15 to 50	DN 15 to 80	DN 15 to 50	DN 6 to 50	DN 8 to 20
Media temperature	-10 to 180 °C	0 to 90 °C			
Ambient temperature	-10 to 60 °C	-10 to 60 °C	0 to 60 °C	0 to 60 °C	0 to 60 °C
Operating pressure	0 to 40 bar	0 to 25 bar	0 to 40 bar	0 to 25 bar	0 to 6 bar
Supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Actuating speed	max. 3 mm/s	max. 3 mm/s	max. 3 mm/s	max. 3 mm/s	max. 3 mm/s
Connection types					
Clamp	-	●	-	●	●
Flange	●	●	●	●	-
Spigot	-	●	-	●	-
Threaded connection	-	●	-	●	●
Union end	-	-	-	-	-
Body materials					
1.4408	●	●	●	●	-
1.4435	-	●	-	●	●
1.4435 (316L)	-	-	-	●	-
CC499K	-	●	-	●	-
EN-GJS-400-18-LT	●	-	●	-	-
PVC-U	-	-	-	-	-
PVDF	-	-	-	-	-
Conformities					
EAC	-	-	●	●	●
FDA	●	●	●	●	●
Oxygen	-	-	-	-	-
Reg. (EU) No. 10/2011	-	-	-	-	-
Regulation (EC) No. 1935/2004	●	●	●	●	●
TA Luft (German Clean Air Act)	●	●	-	●	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	R563 eSyStep	549 eSyDrive	539 eSyDrive	343 eSyDrive
				
Special feature	Universal actuator with integrated positioner	Premium actuator with integrated positioner and process controller	Premium actuator with integrated positioner and process controller	Premium actuator with integrated positioner and process controller
Nominal sizes	DN 10 to 15	DN 10 to 80	DN 15 to 100	DN 15 to 100
Media temperature	0 to 80 °C	-10 to 180 °C	-10 to 250 °C	-10 to 250 °C
Ambient temperature	0 to 60 °C	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C
Operating pressure	0 to 6 bar	0 to 25 bar	0 to 40 bar	0 to 40 bar
Supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
Actuating speed	max. 3 mm/s	max. 6 mm/s	max. 6 mm/s	max. 6 mm/s
Connection types				
Clamp	-	•	-	-
Flange	-	•	•	•
Spigot	-	•	-	-
Threaded connection	•	•	-	•
Union end	•	-	-	-
Body materials				
1.4408	-	•	•	-
1.4435	•	•	-	-
1.4435 (316L)	-	•	-	-
CC499K	-	-	-	-
EN-GJS-400-18-LT	-	-	•	-
PVC-U	•	-	-	-
PVDF	•	-	-	-
Conformities				
EAC	•	•	•	•
FDA	-	•	•	-
Oxygen	-	•	-	-
Reg. (EU) No. 10/2011	-	•	•	-
Regulation (EC) No. 1935/2004	-	•	•	-
TA Luft (German Clean Air Act)	-	•	•	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 519 eSyLite

Motorized globe valve

The GEMÜ 519 eSyLite is a motorized 2/2-way globe valve. It is available as an Open/Close version. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integrated optical position indicator is standard. The self-locking actuator holds its position in a stable manner in the event of power supply failure.

Features

- Motorized linear actuator for Open/Close applications
- Self-locking spindle actuator
- Safety shut-down integrated
- Standard optical position indicator and manual override
- Integrated emergency power supply module (optional)
- Electrical position indicator GEMÜ 1215 (optional)



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 50
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN JIS
Body materials:	1.4408, investment casting material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	1.4404 PTFE PTFE, reinforced
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP65
Conformities:	FDA Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-519



GEMÜ 529 eSyLite

Motorized angle seat globe valve

The GEMÜ 529 eSyLite 2/2-way angle seat globe valve is motorized. It is available as an Open/Close version. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integrated optical position indicator is standard. The self-locking actuator holds its position in a stable manner in the event of power supply failure.

Features

- Motorized linear actuator for Open/Close applications
- Self-locking spindle actuator
- Safety shut-down integrated
- Standard optical position indicator and manual override
- Integrated emergency power supply module (optional)
- Electrical position indicator GEMÜ 1215 (optional)



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 15 to 80
Body configurations:	2/2-way body Angle valve body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO NPT SMS
Body materials:	1.4408, investment casting material 1.4435, investment casting material CC499K, cast bronze material
Seat seal materials:	PTFE PTFE, reinforced
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP65
Conformities:	FDA Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-529



GEMÜ 533 eSyStep

Motorized globe valve

The GEMÜ 533 eSyStep is a motorized 2/2-way globe valve. The eSyStep electric actuator is available as On/Off actuator or with integrated positioner. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integral optical and electrical position indicator is standard. The self-locking actuator holds its position in a stable manner when idle and in the event of power supply failure.

Features

- Suitable for vacuum up to 20 mbar (a)
- Open/close function or with integrated positioner
- Parameterizable via IO-Link
- Linear or modified equal-percentage control characteristics
- On-site or remote end position programming via programming input
- Various functions integrated (e.g. feedback, stroke limiter, etc.)



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 50
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN JIS
Body materials:	1.4408, investment casting material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	1.4404 PTFE PTFE, reinforced
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	EAC FDA Regulation (EC) No. 1935/2004

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GW-533



GEMÜ 543 eSyStep

Motorized angle seat globe valve

The GEMÜ 543 eSyStep is an electrically operated 2/2-way angle seat globe valve. The eSyStep electric actuator is available as On/Off actuator or with integrated positioner. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integral optical and electrical position indicator is standard. The self-locking actuator holds its position in a stable manner when idle and in the event of power supply failure.

Features

- CIP/SIP capable (only with stainless steel distance piece)
- Suitable for vacuum up to 20 mbar (a)
- Open/close function or with integrated positioner
- Parameterizable via IO-Link
- Linear or modified equal-percentage control characteristics
- On-site or remote end position programming via programming input
- Various functions integrated (e.g. feedback, stroke limiter, etc.)



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 6 to 50
Body configurations:	2/2-way body Angle valve body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO NPT SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435, investment casting material CC499K, cast bronze material
Seat seal materials:	PTFE PTFE, reinforced
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	EAC FDA Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-543



GEMÜ 566 eSyStep

Motorized control valve

The GEMÜ 566 eSyStep 2/2-way straight seat control valve has a body with an integrated control mechanism. Manual, pneumatic and motorized actuator types are available. The GEMÜ 566 eSyStep control valve was specially developed for controlling small volumes and allows flow rates from 63 l/h to 2500 l/h.

Features

- Control of liquid and gaseous media from 63 to 2500 l/h
- Linear or equal-percentage control characteristic options
- Hermetic separation between medium and actuator
- Actuator and actuator type can be changed without draining or removing the valve body from the piping
- Various types of actuators available



Technical specifications

Media temperature :	0 to 90 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 8 to 20
Body configurations:	2/2-way body
Connection types:	Clamp Threaded connection
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435, investment casting material
Seat seal materials:	EPDM FKM
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	EAC FDA Regulation (EC) No. 1935/2004

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GW-566



GEMÜ R563 eSyStep

Motorized control valve

The GEMÜ R563 eSyStep 2/2-way straight seat control valve as a body with integrated control mechanism. The GEMÜ R563 eSyStep was specially developed for the control of small quantities and allows a flow rate of 63 l/h up to 3300 l/h. The valve is available with a positioner for a 0/4-20 mA or 0-10 V input signal and can also be configured to a safety position with the use of an emergency power module. Further functions can be customised via the IO-Link interface. The self-locking actuator maintains a stable position in the controlled state and in the event of a supply voltage failure.

Features

- Control of liquid and gaseous media from 63 l/h to 3300 l/h
- Linear or equal-percentage control characteristic options
- Hermetic separation between medium and actuator
- Parameterizable via IO-Link
- On-site or remote end position programming via programming input
- Various functions integrated (e.g. feedback, stroke limiter, etc.)



EAC

Technical specifications

Media temperature :	0 to 80 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 10 to 15
Body configurations:	2/2-way body
Connection types:	Threaded connection Union end
Connection standards:	DIN EN ISO
Body materials:	PVC-U PVDF
Seat seal materials:	PEEK
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65

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GW-R563



GEMÜ 549 eSyDrive

Motorized angle seat globe valve

The GEMÜ 549 eSyDrive is an electrically operated 2/2-way angle seat globe valve with a hollow shaft electric actuator. The eSyDrive hollow shaft actuator can be operated as On/Off or with integrated positioner or process controller. The valve spindle is sealed by a self-adjusting gland packing. This provides a low-maintenance and reliable valve spindle seal even after an extended period of operation. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integral optical and electrical position indicator is standard.

Features

- CIP/SIP capable
- Linear or modified equal-percentage control characteristics
- Open/Close function, positioner and process controller
- Force and speed are variably adjustable
- Actuating speed max. 6 mm/s
- Extensive diagnostic functions
- Operable via web interface eSy-Web or Modbus TCP
- On-site or remote end position programming via programming input
- Various functions integrated (e.g. feedback, stroke limiter, etc.)



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 10 to 80
Body configurations:	2/2-way body Angle valve body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO NPT SMS
Body materials:	1.4408, investment casting material 1.4435 (316L), forged material 1.4435, investment casting material
Seat seal materials:	1.4404 PTFE PTFE, reinforced
Supply voltage:	24 V DC
Actuating speed:	max. 6 mm/s
Protection class:	IP 65, IP 61
Conformities:	EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-549



GEMÜ 539 eSyDrive

Motorized globe valve

The GEMÜ 539 eSyDrive is a motorized 2/2-way globe valve with a hollow shaft electric actuator. The eSyDrive hollow shaft actuator can be operated as On/Off or with integrated positioner or process controller. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integral optical and electrical position indicator is standard.

Features

- Linear or modified equal-percentage control characteristics
- High flow rate
- Force and speed are variably adjustable
- Extensive diagnostic facilities
- Operable via web interface eSy-Web
- Integral optical position indicator and LED high visibility display
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature :	-10 to 250 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI ASME EN ISO JIS
Body materials:	1.4408, investment casting material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	1.4404 PTFE PTFE, reinforced
Supply voltage:	24 V DC
Actuating speed:	max. 6 mm/s
Protection class:	IP 65
Conformities:	EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

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GW-539



GEMÜ 343 eSyDrive

Motorized multi-port globe valve

The GEMÜ 343 eSyDrive is a motorized 3/2-way globe valve with a hollow shaft electric actuator. The eSyDrive hollow shaft actuator can be operated as On/Off or with integrated positioner or process controller. The valve spindle is sealed by a self-adjusting gland packing. This provides a low-maintenance and reliable valve spindle seal even after an extended period of operation. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integral optical and electrical position indicator is standard.

Features

- Linear control characteristics can be implemented
- Force and speed are variably adjustable
- Extensive diagnostic facilities
- Operable via web interface eSy-Web
- Integral optical position indicator and LED high visibility display
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature :	-10 to 250 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	Multi-port body
Connection types:	Flange Threaded connection
Connection standards:	ANSI DIN EN ISO
Body materials:	1.4408, investment casting material CC499K, cast bronze material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	EAC

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GW-343



Multi-port and M-block globe valves

Overview

GEMÜ type	312	314	343 eSyDrive	352
				
Special feature	Robust actuator made from aluminium	Robust actuator made from aluminium	Premium actuator with integrated positioner and process controller	Light piston actuator made of plastic
Nominal sizes	DN 15 to 100	DN 15 to 50	DN 15 to 100	DN 15 to 100
Media temperature	-10 to 210 °C	-10 to 210 °C	-10 to 250 °C	-10 to 180 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 40 bar	0 to 16 bar
Connection types				
Clamp	-	-	-	-
Flange	●	-	●	●
Spigot	-	-	-	-
Threaded connection	-	●	●	-
Body materials				
1.4408	●	-	-	●
1.4435 (316L)	-	-	-	-
CC499K	-	●	-	-
Conformities				
ATEX	-	-	-	●
EAC	●	●	●	●
FDA	-	-	-	-
Oxygen	●	-	-	●
Reg. (EU) No. 10/2011	-	-	-	-
Regulation (EC) No. 1935/2004	-	-	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	354	553	P500M
			
Special feature	Light piston actuator made of plastic	Flexible modular system	Individually configurable
Nominal sizes	DN 15 to 50	DN 15 to 20	DN 15 to 50
Media temperature	-10 to 180 °C	-10 to 180 °C	-10 to 180 °C
Ambient temperature	-10 to 60 °C	0 to 60 °C	0 to 60 °C
Operating pressure	0 to 16 bar	0 to 25 bar	0 to 25 bar
Connection types			
Clamp	-	-	•
Flange	-	-	-
Spigot	-	-	•
Threaded connection	•	•	•
Body materials			
1.4408	-	•	-
1.4435 (316L)	-	-	•
CC499K	•	-	-
Conformities			
ATEX	•	-	•
EAC	•	-	-
FDA	-	•	•
Oxygen	•	-	-
Reg. (EU) No. 10/2011	-	•	-
Regulation (EC) No. 1935/2004	-	•	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 312

Pneumatically operated multi-port globe valve

The GEMÜ 312 3/2-way globe valve has a robust low-maintenance aluminium piston actuator and is pneumatically operated. The double sided valve plug is connected to the actuator via a valve spindle. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Suitable for mixing and distributing media
- Robust actuator housing made of aluminium
- Available as shut-off or control valve
- Materials of wetted parts can be selected to suit the requirements of the relevant applications



Technical specifications

Media temperature :	-10 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 15 to 100
Body configurations:	Multi-port body
Connection types:	Flange
Connection standards:	ANSI DIN EN ISO
Body materials:	1.4408, investment casting material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	EAC Oxygen

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GW-312



GEMÜ 314

Pneumatically operated multi-port globe valve

The GEMÜ 314 3/2-way globe valve has a robust low-maintenance aluminium piston actuator and is pneumatically operated. The double sided valve plug is connected to the actuator via a valve spindle. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Suitable for mixing and distributing media
- Robust actuator housing made of aluminium
- Available as shut-off or control valve
- Materials of wetted parts can be selected to suit the requirements of the relevant applications



EAC

Technical specifications

Media temperature :	-10 to 210 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 15 to 50
Body configurations:	Multi-port body
Connection types:	Threaded connection
Connection standards:	ANSI DIN EN ISO
Body materials:	CC499K, cast bronze material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	EAC

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GW-314



GEMÜ 343 eSyDrive

Motorized multi-port globe valve

The GEMÜ 343 eSyDrive is a motorized 3/2-way globe valve with a hollow shaft electric actuator. The eSyDrive hollow shaft actuator can be operated as On/Off or with integrated positioner or process controller. The valve spindle is sealed by a self-adjusting gland packing. This provides a low-maintenance and reliable valve spindle seal even after an extended period of operation. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integral optical and electrical position indicator is standard.

Features

- Linear control characteristics can be implemented
- Force and speed are variably adjustable
- Extensive diagnostic facilities
- Operable via web interface eSy-Web
- Integral optical position indicator and LED high visibility display
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature :	-10 to 250 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	Multi-port body
Connection types:	Flange Threaded connection
Connection standards:	ANSI DIN EN ISO
Body materials:	1.4408, investment casting material CC499K, cast bronze material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	EAC

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GEMÜ 352

Pneumatically operated multi-port globe valve

The GEMÜ 352 3/2-way globe valve has a robust low maintenance plastic piston actuator and is pneumatically operated. The connection for the control medium can be rotated through 360°. The double sided valve plug is connected to the actuator via a valve spindle. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Suitable for mixing and distributing media
- Lightweight plastic piston actuator, free from non-ferrous metals
- Available as shut-off or control valve
- Materials of wetted parts can be selected to suit the requirements of the relevant applications



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 15 to 100
Body configurations:	Multi-port body
Connection types:	Flange
Connection standards:	ANSI EN ISO
Body materials:	1.4408, investment casting material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	ATEX EAC Oxygen

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GW-352



GEMÜ 354

Pneumatically operated multi-port globe valve

The GEMÜ 354 3/2-way globe valve has a robust low maintenance plastic piston actuator and is pneumatically operated. The connection for the control medium can be rotated through 360°. The double sided valve plug is connected to the actuator via a valve spindle. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

Features

- Simple adaptation for use as a control valve
- Seat seal made of PTFE or PTFE/glass fibre
- Materials of wetted parts can be selected to suit relevant applications



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 15 to 50
Body configurations:	Multi-port body
Connection types:	Threaded connection
Connection standards:	DIN ISO
Body materials:	CC499K, cast bronze material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	ATEX EAC Oxygen

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GEMÜ 553

Modular distribution valve

The modular GEMÜ 553 distribution valve comprises various globe valve modules. These can be equipped with manual pneumatic or motorized actuators. The downstream media is isolated using a PTFE seal. The valve spindle is sealed by a self-adjusting gland packing. This provides a low maintenance and reliable valve spindle seal even after an extended period of operation. The wiper ring that is installed upstream of the gland packing also protects this against contamination and damage. The individual modules can be easily connected using screws.

Features

- Space-saving modular design
- Reduced servicing times of the plant compared with single valves as the complete module can be replaced
- Up to 10 single modules can be flexibly combined together
- Can be ordered ready configured
- Faster actuator replacement and easily rotatable due to fixing via union nut



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 15 to 20
Body configurations:	Multi-port body
Connection types:	Threaded connection
Connection standards:	DIN ISO NPT
Body materials:	1.4408, investment casting material
Seat seal materials:	PTFE
Conformities:	FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004

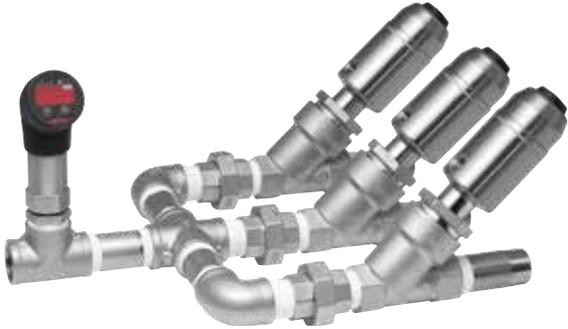
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GW-553



Conventional design



- Several 2/2-way valves with additional piping and gaskets
- Considerable effort to expand later
- Valves are ordered individually and connected on-site

GEMÜ 553 modular system



- Individual modules can be fitted directly
- Modules and sensor system can be fitted easily
- Complete system available for ordering under a single item number

Advantages at a glance

Compact design

Saves space and material by being directly linked to the modules

Simple installation

Saves time and costs during installation and maintenance

Flexible modular system

Highly flexible design and customized configuration

GEMÜ P500M

M-block stainless steel globe valve

The GEMÜ P500M stainless steel valve block comprises two or more globe valves. These can be equipped with manual, pneumatic and motorized actuators. The downstream media is isolated using a valve plug.

Features

- Space savings thanks to compact design
- Individual, customized and flexible design
- Fewer connection points and weld seams
- Huge variety of functions combined in the smallest of spaces
- Highly suitable for control applications
- Actuators, gland packing and automation components can be used from the tried and tested GEMÜ modular system



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 25 bar
Nominal sizes:	DN 15 to 50
Body configurations:	Multi-port body
Connection types:	Clamp Spigot Threaded connection
Connection standards:	ANSI ASME BS DIN EN ISO NPT SMS
Body materials:	1.4435 (316L), block material
Seat seal materials:	NBR PFA PTFE PTFE, reinforced
Conformities:	ATEX FDA Regulation (EC) No. 1935/2004

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GW-P500M



Add-on components for globe valves

GEMÜ type	312	314	352	354	514	530	532
Measurement and control technology							
Electrical position indicators							
GEMÜ 1205 ▶ page 362	•	•			•	•	
GEMÜ 1215 ▶ page 363	•	•	•		•	•	•
GEMÜ 1230/1231/1232	•	•	•	•	•	•	•
GEMÜ 1234 ▶ page 367						•	•
GEMÜ 1235/1236 ▶ page 368	•	•	•	•	•	•	•
GEMÜ 1242 ▶ page 371			•		•	•	•
Combi switchboxes							
GEMÜ 4240 ▶ page 376					•	•	•
GEMÜ 4241 ▶ page 377							
GEMÜ 4242 ▶ page 378	•	•	•	•	•	•	•
Pilot valve							
GEMÜ 0324 ▶ page 385	•	•	•	•	•	•	•
Control systems							
Positioner							
GEMÜ 1434 µPos ▶ page 338	•	•	•	•	•	•	•
GEMÜ 1435 ePos ▶ page 340	•	•	•	•	•	•	•
Positioner and process controller							
GEMÜ 1436 cPos ▶ page 341	•	•	•	•	•	•	•
GEMÜ 1441 cPos-X ▶ page 342	•	•	•	•	•	•	•
Accessories							
Connection accessories ▶ page 417	•	•	•	•	•	•	•
Clamping devices ▶ page 420							
Manual overrides ▶ page 423	•	•			•	•	•
Stroke limiters ▶ page 422	•	•	•	•	•	•	•
Sensor accessories ▶ page 424	•	•	•	•	•	•	•
Position indicators ▶ page 421	•	•	•	•	•	•	•

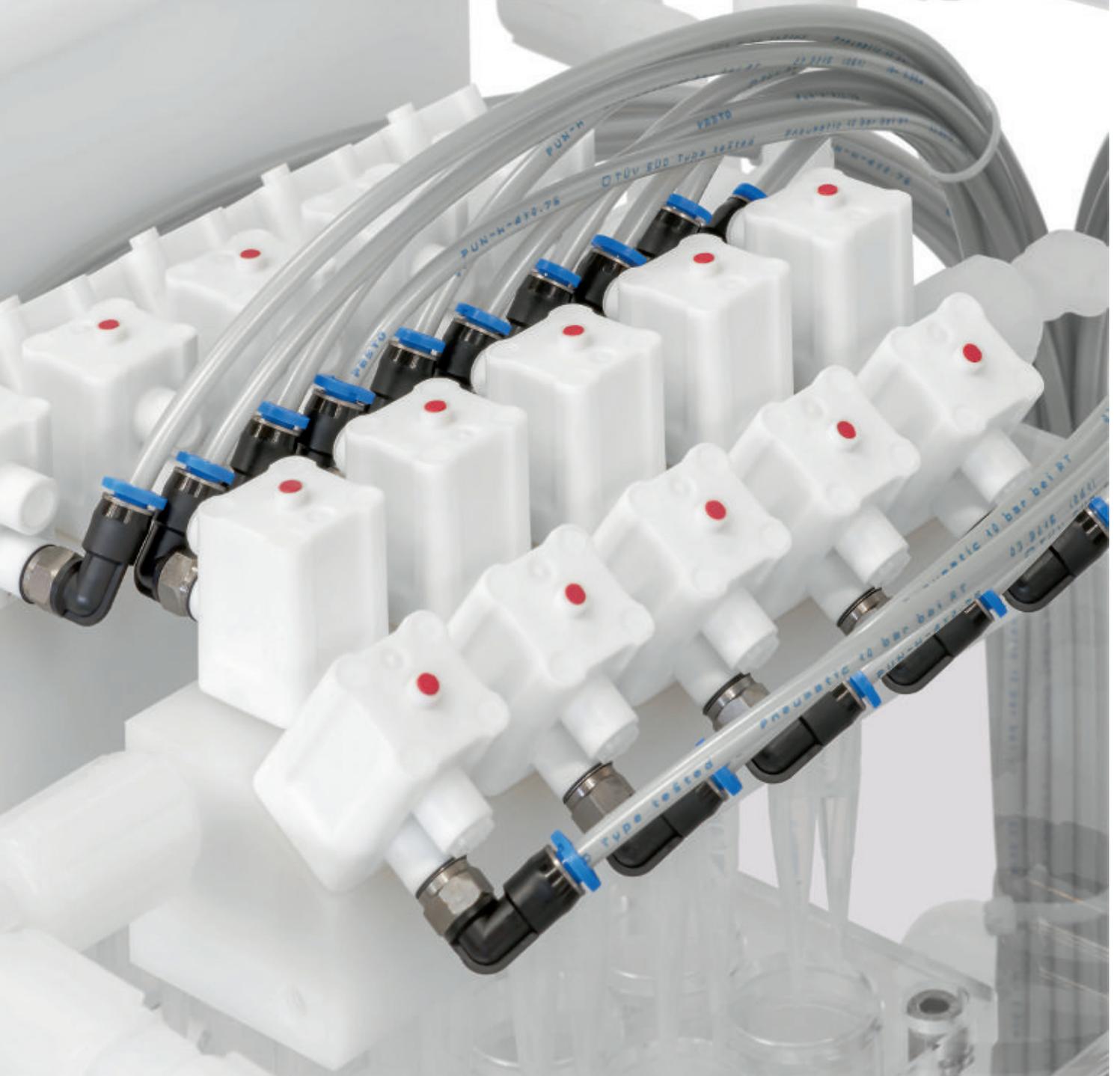
GEMÜ valves are fully assembled in our in-house Assembly department – with compatible accessories on request.



Our pre-assembled solutions are supplied to you preset and tested. Not only can you obtain all components from a single source, you simultaneously reduce the effort required for logistics and installation of the system on site, as well as for documentation.



GEMÜ type	534	536	550	553	554	555	566
Measurement and control technology							
Electrical position indicators							
GEMÜ 1205 ▶ page 362	•	•	•		•		
GEMÜ 1215 ▶ page 363	•	•	•	•	•	•	
GEMÜ 1230/1231/1232	•	•	•	•	•	•	
GEMÜ 1234 ▶ page 367	•	•	•	•	•		
GEMÜ 1235/1236 ▶ page 368	•	•	•	•	•	•	
GEMÜ 1242 ▶ page 371	•	•	•		•		
Combi switchboxes							
GEMÜ 4240 ▶ page 376	•	•	•		•		
GEMÜ 4241 ▶ page 377		•	•		•		
GEMÜ 4242 ▶ page 378	•	•	•	•	•	•	
Pilot valve							
GEMÜ 0324 ▶ page 385	•	•	•		•	•	
Control systems							
Positioner							
GEMÜ 1434 µPos ▶ page 338	•	•	•	•	•	•	•
GEMÜ 1435 ePos ▶ page 340	•	•	•	•	•	•	•
Positioner and process controller							
GEMÜ 1436 cPos ▶ page 341	•	•	•	•	•	•	•
GEMÜ 1441 cPos-X ▶ page 342	•	•	•	•	•	•	•
Accessories							
Connection accessories ▶ page 417	•	•	•		•	•	
Clamping devices ▶ page 420			•				
Manual overrides ▶ page 423	•	•	•		•		
Stroke limiters ▶ page 422	•	•	•		•	•	
Sensor accessories ▶ page 424	•	•	•		•	•	
Position indicators ▶ page 421	•	•	•	•	•		



Diaphragm globe valves

Description

Valves that combine the advantages of the hermetic sealing of an actuator and the medium of a diaphragm valve with the advantages of a globe valve are designated as diaphragm globe valves.

GEMÜ diaphragm globe valves are suitable both for open/close applications and for control and dosing applications. The PTFE diaphragms that are used reliably isolate the medium from the actuator. The valves are easy to clean and, in comparison with valves with bellows, have significantly reduced deadlegs. A pretensioning element included in the actuator guarantees external leak tightness, even with temperature fluctuations and settling of the plastic parts. The valves are available with a straight through body, angle valve body or as M-block systems.

Features

- CIP/SIP capable and autoclavable
- Available with linear or equal-percentage control characteristic
- Hermetic separation of the actuator from the medium using a sealing diaphragm
- High number of switching cycles
- Various valve body connections available
- Customized block designs possible
- Compact design
- No "lift effect" thanks to the use of the GEMÜ PD design

Typical working media

- Inert and corrosive media
- Liquids and gases

Applications

- Dosing at minimum quantities
- Suitable for media containing oil or grease
- Isolation of sensitive process media
- All types of media for filling machines (vacuum, liquid, gaseous)
- Filling processes in hygienic and aseptic plants in the pharmaceutical, biotechnology, food and beverage industries



Manually and pneumatically operated diaphragm globe valves

Overview

GEMÜ type	C51 iComLine	C57 iComLine	C50 iComLine
			
Connection sizes	1/4" to 1 1/4"	1/4" to 1 1/4"	1/4" to 1 1/4"
Media temperature	-10 to 150 °C	-10 to 150 °C	-10 to 150 °C
Ambient temperature	0 to 60 °C	0 to 60 °C	0 to 60 °C
Operating pressure	0 to 6 bar	0 to 6 bar	0 to 6 bar
Connection types			
Flare	•	•	•
PrimeLock®	•	•	•
Super 300 Type Pillar®	•	•	•
Body materials			
PFA	•	•	•
PTFE	•	•	•
Conformities			
EAC	•	•	•
FDA	•	•	•

GEMÜ C51 iComLine

Manually operated diaphragm globe valve

The GEMÜ C51 iComLine ultra-pure 2/2-way plastic diaphragm globe valve is manually operated using a hand lever (quarter turn). All media wetted parts are made of PFA or PTFE. The external actuator parts are made of PVDF. In addition to 2/2-way valve bodies, customized multi-port valve block solutions can be produced.

Features

- Low space requirement due to compact design
- Ideally suited for corrosive media
- High purity due to cleanroom manufacturing
- Manifolds are a space-saving design solution
- Choice of design with PTFE-coated screws and compression springs



EAC

FDA

Technical specifications

Media temperature :	-10 to 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 6 bar
Connection sizes:	1/4" to 1 1/4"
Body configurations:	2/2-way body Multi-port body
Connection types:	Flare PrimeLock® Super 300 Type Pillar®
Body materials:	PFA PTFE
Diaphragm materials:	PTFE
Conformities:	EAC FDA

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GW-C51



GEMÜ C57 iComLine

Manually operated diaphragm globe valve

The GEMÜ C57 iComLine ultra-pure 2/2-way plastic diaphragm globe valve is manually operated using a handwheel. All media wetted parts are made of PFA or PTFE. The external actuator parts are made of PVDF. The external actuator parts are made of PVDF. An integral optical position indicator is standard. In addition to 2/2-way valve bodies, customized multi-port valve block solutions can be produced.

Features

- Low space requirement due to compact design
- Ideally suited for corrosive media
- High purity due to cleanroom manufacturing
- Manifolds are a space-saving design solution
- Choice of design with PTFE-coated screws and compression springs



Technical specifications

Media temperature :	-10 to 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 6 bar
Connection sizes:	1/4" to 1 1/4"
Body configurations:	2/2-way body Multi-port body
Connection types:	Flare PrimeLock® Super 300 Type Pillar®
Body materials:	PFA PTFE
Diaphragm materials:	PTFE
Conformities:	EAC FDA

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GEMÜ C50 iComLine

Pneumatically operated diaphragm globe valve

The GEMÜ C50 iComLine ultra-pure 2/2-way plastic diaphragm globe valve has a pneumatic actuator. All media wetted parts are made of PFA or PTFE. The external actuator parts are made of PVDF. An integral optical position indicator is standard. In addition to 2/2-way valve bodies, customized multi-port valve block solutions can be produced.

Features

- Low space requirement due to compact design
- Ideally suited for corrosive media
- High purity due to cleanroom manufacturing
- Manifolds are a space-saving design solution
- Choice of design with PTFE-coated screws and compression springs



Technical specifications

Media temperature :	-10 to 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 6 bar
Connection sizes:	1/4" to 1 1/4"
Body configurations:	2/2-way body Multi-port body
Connection types:	Flare PrimeLock® Super 300 Type Pillar®
Body materials:	PFA PTFE
Diaphragm materials:	PTFE
Conformities:	EAC FDA

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GW-C50



Motorized diaphragm globe valves

Overview

GEMÜ type	C53 iComLine	567 eSyDrive
		
Nominal sizes	-	DN 8 to 65
Media temperature	10 to 150 °C	-10 to 160 °C
Ambient temperature	0 to 40 °C	-10 to 60 °C
Operating pressure	0 to 6 bar	0 to 10 bar
Supply voltage	24 V DC	24 V DC
Actuating speed	Max. 2 mm/s	max. 6 mm/s
Connection types		
Clamp	-	●
Flare	●	-
PrimeLock®	●	-
Spigot	-	●
Super 300 Type Pillar®	●	-
Body materials		
1.4435 (316L)	-	●
1.4435 (BN2)	-	●
Conformities		
3A	-	●
EAC	●	-
FDA	-	●
Reg. (EU) No. 10/2011	-	●
Regulation (EC) No. 1935/2004	-	●
Regulation (EC) No. 2023/2006	-	●
USP	-	●

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ C53 iComLine

Motorized control valve

The GEMÜ C53 iComLine 2/2-way diaphragm globe valve was developed for precise and demanding control applications in semiconductor production. The sealing concept of the valve is based on the tried and tested GEMÜ PD technology, whereby actuator and medium are separated by a PTFE regulating cone. As the regulating cone contour, actuator stroke and connection size can be customized to meet customers' requirements, the GEMÜ C53 iComLine satisfies virtually all control and flow requirements of the semiconductor industry. The precise stepper motor, in conjunction with the ultra pure body materials, is particularly suitable for lithography, CMP, and etching processes, as well as analytical applications in semiconductor production.

Features

- Control valve for ultra pure applications in the semiconductor industry
- High-resolution linear actuator with stepper motor
- Diaphragm globe valve based on the iComLine series
- Tried and tested plug diaphragm design
- All media wetted parts are made of PFA or PTFE
- 1 million qualified control switching cycles
- Cleanroom manufacturing (HP version), complies with SEMI F57



Technical specifications

Media temperature :	10 to 150 °C
Ambient temperature:	0 to 40 °C
Operating pressure :	0 to 6 bar
Connection sizes:	1/4" to 3/4"
Body configurations:	2/2-way body
Connection types:	Flare PrimeLock® Super 300 Type Pillar®
Body materials:	PFA PTFE
Diaphragm materials:	PTFE
Conformities:	EAC

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GEMÜ 567 eSyDrive

Motorized control valve

The GEMÜ 567 eSyDrive 2/2-way diaphragm globe valve is a precise motorized control valve for sterile applications. The GEMÜ eSyDrive hollow shaft actuator can be operated as an actuator with integrated positioner or process controller. Flow rates range from 80 l/h to 63 m³/h, depending on the version.

Features

- Easy, fast, and error-optimized maintenance
- Actuator can be replaced under operating pressure without contaminating the medium
- Positioners and process controller with diagnostic functions
- Force and speed are variably adjustable
- Operable via web interface eSy-Web or Modbus TCP
- Hermetic separation between medium and actuator due to PD sealing technology
- Various functions of add-on components and accessories are already integrated (e.g. position indicators, stroke limiters, etc.)



Technical specifications

Media temperature :	-10 to 160 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 8 to 65
Body configurations:	Angle valve body Multi-port body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN ISO
Body materials:	1.4410, block material 1.4435 (316L), block material 1.4435 (BN2), block material 1.4529, block material 1.4539 (904L), block material 2.4602, block material
Seal materials:	PTFE Stainless steel/FKM/PTFE
Supply voltage:	24 V DC
Actuating speed:	max. 6 mm/s
Protection class:	IP 65
Conformities:	3A FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

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GW-567



M-block diaphragm globe valves

GEMÜ PC50 iComLine

M-block diaphragm globe valve for ultra pure applications

The GEMÜ PC50 iComLine multi-port valve blocks made of plastic and stainless steel are used in order to provide manufacturers with a space-saving, flexible and cost effective solution. Due to their tried and tested PD design and customized technology, a wide variety of functions are combined in the smallest of spaces; in addition, by selecting the right material, they are suitable for a range of areas of application. The actuators in these multi-port valve blocks are based on the GEMÜ C50, C51, C53 and C57 valve types.

Features

- Fully-integrated system solutions (valve functions, fittings, sensor system, check valves, tank/housing walls, etc.)
- Customized valve bodies possible in all standard plastic and stainless steel materials
- Materials are media-specific, matched to requirements and cost-effective
- Compact design, low space requirement, quicker installation time, few connection points and low maintenance
- Suitable for the most varied areas of application (semiconductor production, pharmaceutical industry, chemical industry, environmental engineering, mechanical engineering, battery production, etc.)



Technical specifications

Cleanroom manufacturing (HP version), complies with SEMI F57

Media temperature :	-10 to 200 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 4 to 40
Body configurations:	Multi-port body
Connection types:	Clamp Flare Nexus Connect® PrimeLock® Super 300 Type Pillar® Threaded connection Threaded socket Union end Yodogawa Nano Link
Body materials:	PP PTFE PTFE, conductive PVC PVDF Stainless steel
Seal materials:	PTFE

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Add-on components for diaphragm globe valves

GEMÜ type	C50
GEMÜ 1215 ▶ page 363	●
GEMÜ 1230/1231/1232	●
GEMÜ 1234 ▶ page 367	●
GEMÜ 1235/1236 ▶ page 368	●
GEMÜ 1242 ▶ page 371	●
GEMÜ 4242 ▶ page 378	●
GEMÜ 0324 ▶ page 385	●
GEMÜ 1434 µPos ▶ page 338	●
GEMÜ 1435 ePos ▶ page 340	●
GEMÜ 1436 cPos ▶ page 341	●
Connection accessories ▶ page 417	●
Stroke limiters ▶ page 422	●

GEMÜ valves are fully assembled in our in-house Assembly department – with compatible accessories on request.



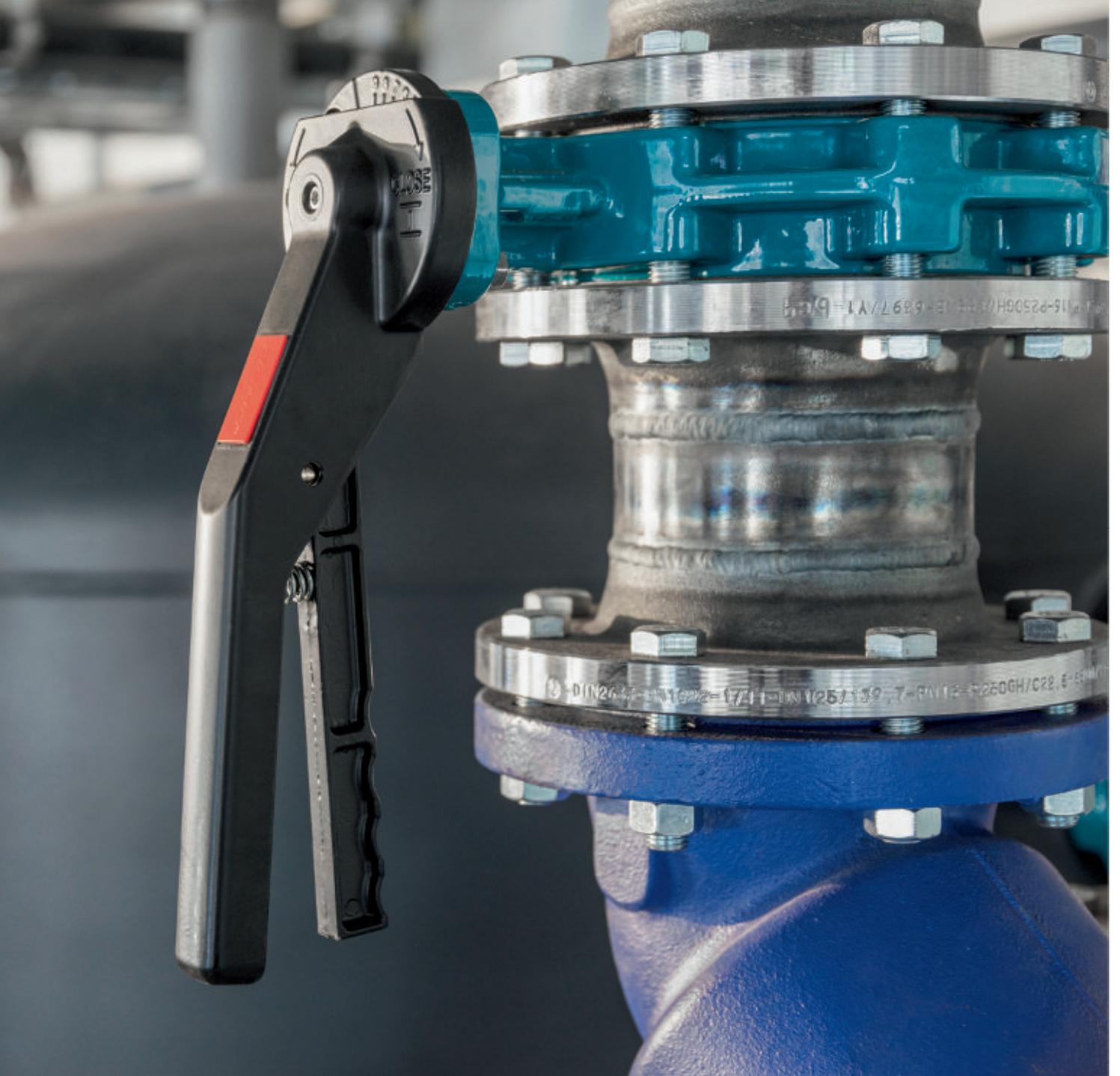
Our pre-assembled solutions are supplied to you preset and tested. Not only can you obtain all components from a single source, you simultaneously reduce the effort required for logistics and installation of the system on site, as well as for documentation.



See also

 [\[▶ 000\]](#)

 [Description \[▶ 000\]](#)



Butterfly valves

Description

If pipes are large, then butterfly valves are required. Most frequently, they are used for controlling mechanically pure liquids. In the right material combination, however, slightly abrasive liquids or gases pose no problem either. Due to the variety of materials, the GEMÜ butterfly valves are universally compatible, for example in various industrial applications, in drinking water and waste-water treatment and in the coastal and offshore applications.

For all nominal sizes, butterfly valves are effective as short shut-off valves with high flow rates. They are a cost-effective alternative to other valve types, where there are no stringent requirements regarding switching cycles, hygiene or control accuracy.

Features

- Large range of nominal sizes
- Short length
- Low weight
- Fast operating time
- Simple installation and low maintenance requirements

Typical working media

- Liquids: Water, oils, acids, alkalis, surfactants, solvents, heating media and coolants
- Gases: Steam, air, nitrogen, natural gas, noble gases, vapour
- Solids: Bulk materials

Applications

- Treatment of process water, drinking water, waste water
- Biogas plants
- Chemical industry
- Fertilizer chemicals and agrochemicals
- Irrigation systems
- Refineries and the petrochemical industry
- Surface finishing/paint shop and coating
- Heating and cooling systems
- Distribution of gas and water
- Swimming pool processes
- Ship and offshore area
- Textile industry
- Paper and woodpulp industry
- Steel works
- Mining



Functional principle of butterfly valves



Open



Closed

Butterfly valves comprise a ring-shaped housing into which a liner is inserted. When fully opened, the butterfly disc carried in a shaft is parallel to the flow direction. The disc is rotated by 90° into the gasket, which closes the butterfly valve. The liner isolates the inner housing from the medium and ensures that the butterfly valve is leak-tight inside and outside. When partially open, butterfly valves can also be used as control valves.

GEMÜ's butterfly discs are spherical and polished, and achieve particularly low torques thanks to the optimized sealing concept between disc, shaft and liner.

For control applications, GEMÜ offers adjusted position indicators as well as positioners and process controllers for quarter turn valves.

Flange connections are the standard connections for butterfly valves. A distinction is made between different body configurations:

Wafer body configuration

- Wafer-type flange design
- Low weight
- Optional installation position

Lug body configuration

- Flange-mounted design (can be used as end of line valve)
- Optimized pipe centering for mounting
- Simple installation
- Optional installation position

U section body configuration

- Flange-mounted design (can be used as end of line valve)
- Optimized pipe centering for mounting
- Simple installation
- Short installation length



Wafer



Lug



U section

Modular system for butterfly valves

With the GEMÜ modular system, we offer you the opportunity to put together a suitable valve in line with your requirements. Discover all configuration options at www.gemu-group.com.

Measurement and control technology

Electrical position indicators and combi switchboxes | Positioners and process controllers | Accessories



Actuators

Manual | Pneumatic | Motorized
Metal | Plastic



Liners and discs

Elastomer | Elastomer/thermoplastic
Metall | Plastic



Body

Metal | Plastic



Configure your valve online
at www.gemu-group.com

Overview of series

Different series are advantageous depending on the area of application, as each application has quite specific requirements for isolation technology. Due to the GEMÜ modular system, the materials for butterfly discs and liners can also be adjusted to the process parameters for each series.

All series are available both with manual, pneumatic or motorized actuators and with a bare shaft.



GEMÜ Victoria series

GEMÜ R480, R481, R487 and R488 Victoria; GEMÜ D480, D481, D487 and D488 Victoria



- Soft-seated butterfly valve
- All-rounder with a large variety of materials

GEMÜ Edessa series

GEMÜ 490, 491, 497 and 498 Edessa



- PTFE lined butterfly valve
- Suitable for corrosive chemical applications due to selection of highly resistant materials

GEMÜ D450 series

GEMÜ D450, D451, D457 and D458



- Soft-seated butterfly valve made of corrosion-resistant plastic
- Disc outlet dimension designed on plastic piping

GEMÜ K415 series

GEMÜ K415, 411, 415 and 428



- Butterfly valve in stainless steel or brass
- Available in small nominal sizes

GEMÜ K410 series

GEMÜ K410, 410, 417 and 423



- Butterfly valve made of corrosion-resistant plastic
- Simple installation thanks to union nut

Butterfly valves with bare shaft
made of metal

Overview

GEMÜ type	R480 Victoria	D480 Victoria	490 Edessa	K415	R470 Tugela
					
Media temperature	-10 to 160 °C	-60 to 210 °C	-20 to 200 °C	-20 to 160 °C	-60 to 230 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 10 bar	0 to 10 bar	0 to 40 bar
Nominal sizes	DN 25 to 600	DN 25 to 1600	DN 25 to 1200	DN 15 to 50	DN 50 to 600
Connection types (body configuration)					
Clamp	-	-	-	●	-
Flange (lug)	●	●	●	-	-
Flange (U section)	●	●	-	-	-
Flange (wafer)	●	●	●	-	●
Spigot	-	-	-	●	-
Threaded connection	-	-	-	●	-
Body materials					
1.0619	-	-	-	-	●
1.4408 (CF8M)	-	●	-	●	●
1.4435 (316L)	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-AC-46100	-	●	-	-	-
EN-AC-47100	-	●	-	-	-
EN-GJS-400-15, coated	●	●	-	-	-
EN-GJS-400-18-LT, coated	●	●	●	-	-
S275JR, coated	-	●	-	-	-
S355J2 + N	-	-	●	-	-
VE Duroplast, reinforced	-	-	●	-	-
Liner materials					
CR	-	●	-	-	-
CSM (Hypalon®)	-	●	-	-	-
ECO	-	●	-	-	-
EPDM	●	●	-	●	-
FKM	●	-	-	●	-
NBR	●	●	-	-	-
PTFE TFM™	-	-	-	-	●
PTFE TFM™/EPDM	-	-	●	-	-
PTFE TFM™/FKM	-	-	●	-	-
PTFE TFM™/silicone	-	-	●	-	-
PTFE/EPDM	-	-	●	-	-
PTFE/FKM	-	-	●	-	-
PTFE/silicone	-	-	●	-	-
SBR, abrasion resistant	●	●	-	-	-
Silicone	●	●	-	●	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	R480 Victoria	D480 Victoria	490 Edessa	K415	R470 Tugela
					
Disc materials					
1.4404 (316L)	-	-	●	-	-
1.4404 (316L), coated	-	-	●	-	-
1.4408	●	●	-	●	-
1.4408, coated	●	●	-	-	-
1.4408, polished	●	-	-	-	-
1.4469	-	●	●	-	-
1.4539	-	●	-	-	-
2.0975	-	●	-	-	-
2.4602 (alloy 22)	-	●	●	-	-
3.7035	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-GJS-400-15, coated	●	●	-	-	-
Conformities					
ACS	●	●	-	-	-
ASME GEMÜ B31.3	●	-	-	-	-
ATEX	●	●	●	●	●
Belgaqua	●	-	-	-	-
DNV GL	●	●	-	-	-
DVGW Drinking water	●	●	-	-	-
DVGW Gas	●	●	-	-	-
EAC	●	●	●	●	●
FDA	●	●	●	●	●
Functional safety	●	-	●	-	-
NSF	●	-	-	-	-
Oxygen	●	-	-	-	-
Regulation (EC) No. 1935/2004	●	-	-	-	-
TA Luft (German Clean Air Act)	●	-	●	-	●
USP	-	-	●	-	-
WRAS	●	●	-	-	-

GEMÜ R480 Victoria

Butterfly valve with bare shaft

The GEMÜ R480 Victoria soft seated metal butterfly valve is equipped with a bare shaft with top flange in accordance with EN ISO 5211. The butterfly valve is available in nominal sizes DN 25 to 600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer, lug and U section body versions.

Features

- Low torques thanks to PTFE coated bushes
- Bubble tight sealing, in accordance with EN 12266-1/P12, leakage rate A
- Liner material is easy to read when installed
- Sleek disc design for higher Kv values
- Robust body coating comparable to ISO 12944-6 C5



Technical specifications

Media temperature :	-10 to 160 °C
Ambient temperature:	-10 to 70 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 25 to 600
Body configurations:	Lug U section Wafer
Connection standards:	ANSI AS BS DIN EN ISO JIS
Body materials:	EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material
Body coating:	Epoxy
Liner materials:	EPDM FKM NBR SBR, abrasion resistant Silicone
Disc materials:	1.4408, investment casting material 1.4408, polished investment casting material 1.4469, Duplex cast steel material EN-GJS-400-15, SG iron material
Disc coating:	Epoxy Halar® Rilsan®
Conformities:	ACS ASME GEMÜ B31.3 ATEX Belgaqua DNV GL DVGW Drinking water DVGW Gas EAC FDA Functional safety NSF Oxygen Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) WRAS



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GEMÜ D480 Victoria

Butterfly valve with bare shaft

The GEMÜ D480 Victoria soft seated butterfly valve has a bare shaft. The butterfly valve is available in nominal sizes DN 25 to 1600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer and lug body versions.

Features

- Available in large nominal sizes
- Special materials for disc, seal and valve body
- Vulcanizable liner
- Abrasion-resistant version possible



Technical specifications

Media temperature :	-60 to 210 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 25 to 1600
Body configurations:	Lug U section Wafer
Connection standards:	ANSI AS ASME AWWA BS DIN EN ISO JIS
Body materials:	ASTM EN-AC-46100, aluminium casting material EN-AC-47100, aluminium casting material EN-GJL-250 EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material S275JR, cast steel material with epoxy coating
Body coating:	Epoxy
Liner materials:	CR CSM (Hypalon®) ECO EPDM NBR SBR, abrasion resistant Silicone
Disc materials:	1.4408, investment casting material 1.4469, Duplex cast steel material 1.4539, forged material 2.0975, bronze casting material 2.4602 (alloy 22), block material EN-GJS-400-15, SG iron material
Disc coating:	EPDM Epoxy Halar® NBR Rilsan® SBR
Conformities:	ACS ATEX DNV GL DVGW Drinking water DVGW Gas EAC FDA WRAS

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GEMÜ 490 Edessa

Butterfly valve with bare shaft

The GEMÜ 490 Edessa PTFE-lined butterfly valve has a bare shaft. The disc and shaft are one piece; body and liner are available in different designs. The butterfly valve is available in nominal sizes DN 25 to 1200 (1"–48"), in the standardized installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) available in wafer and lug body versions.

Features

- Suitable for chemically corrosive media
- High-quality selection of materials can be combined in different ways
- High level of plant reliability thanks to one-piece shaft and spring-washer-supported seal system
- Long service life thanks to shaft bearings and special disc and liner geometry



Technical specifications

Media temperature :	-20 to 200 °C
Ambient temperature:	-20 to 95 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 25 to 1200
Body configurations:	Lug Wafer
Connection standards:	AS ASME DIN EN ISO JIS
Body materials:	1.4404, block material EN-GJS-400-18-LT, SG iron material S355J2 + N, cast steel material VE Duroplast, reinforced
Body coating:	Epoxy
Liner materials:	PTFE TFM™/EPDM PTFE TFM™/FKM PTFE TFM™/silicone PTFE/EPDM PTFE/FKM PTFE/silicone
Disc materials:	1.4404 (316L), forged material 1.4469, Duplex cast steel material 2.4602 (alloy 22), block material 3.7035, titan
Disc coating:	PFA
Conformities:	ATEX EAC FDA Functional safety TA Luft (German Clean Air Act) USP

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GW-490



GEMÜ K415

Butterfly valve with bare shaft

The GEMÜ K415 soft seated butterfly valve made from stainless steel or brass has a bare shaft with standardized actuator flange in accordance with ISO 5211. With its rounded and polished disc edges, the butterfly valve is optimized for frequent cycle duties. The surface of the butterfly valve can still be further finished. The butterfly valve is optionally available with FDA or in an ATEX version. Thanks to its modular construction, it is also available with a manual, pneumatic or motorized actuator.

Features

- High-quality butterfly valve made from stainless steel or brass
- Available in small nominal sizes
- Compact and robust body
- Suitable for vacuum applications and low temperatures



Technical specifications

Media temperature :	-20 to 160 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 50
Connection types:	Clamp Spigot Threaded connection
Connection standards:	ASME DIN EN ISO SMS
Housing materials:	1.4408 (CF8M), investment casting material CW614N, brass CW617N, brass
Liner materials:	EPDM FKM Silicone
Disc materials:	1.4408, investment casting material CW614N, brass CW617N, brass
Conformities:	ATEX EAC FDA

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GEMÜ R470 Tugela

Double-eccentric butterfly valve with bare shaft

The GEMÜ R470 Tugela double-eccentric metal butterfly valve has a bare shaft with a top flange in accordance with EN ISO 5211. The butterfly valve is available in nominal sizes DN 50 to 600 and in standardized installation lengths API 609 category A (DIN 3202 K1).

Features

- High-performance butterfly valve with double-eccentric construction in order to separate the disc directly from the seat (gasket), thereby reducing friction and extending the service life
- Continuous shaft with temperature resistant graphite bearing and PTFE gland packing for readjustment in operation for minimized leakage, even at low pressures
- Antistatic fixture for ATEX area
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



Technical specifications

Media temperature :	-60 to 230 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 50 to 600
Body configurations:	Wafer
Connection standards:	ASME ISO
Body materials:	1.0619 (WCB), cast steel material with CDP coating 1.4408 (CF8M), investment casting material
Liner materials:	PTFE TFM™
Disc materials:	1.4408
Conformities:	ATEX EAC FDA TA Luft (German Clean Air Act)

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Butterfly valves with bare shaft
made of plastic

Overview

GEMÜ type	D450	K410
		
Media temperature	5 to 90 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 6 bar
Nominal sizes	DN 50 to 300	DN 15 to 50
Connection types		
Flange	•	-
Union end	-	•
Body materials		
PP	•	-
PVC-U	-	•
Liner materials		
EPDM	•	•
FKM	•	•
Silicone	-	•
Disc materials		
PP-H	•	•
PVC-C	•	-
PVC-U	•	-
Conformities		
EAC	•	•
Pressure Equipment Directive	•	-
RoHS	•	-

GEMÜ D450

Butterfly valve with bare shaft

The GEMÜ D450 soft seated butterfly valve has a bare shaft. The butterfly valve is available in nominal sizes DN 50–300 and has a wafer body version.

Features

- Simple installation
- Low pressure loss
- Low weight
- Excellent corrosion protection
- UV resistant
- Optimized for installation in plastic piping
- Low torque



EAC

Technical specifications

Media temperature :	5 to 90 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 50 to 300
Body configurations:	Wafer
Connection standards:	ANSI EN JIS
Body materials:	PP, reinforced
Liner materials:	EPDM FKM
Disc materials:	PP-H PVC-C PVC-U
Conformities:	EAC

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GEMÜ K410

Butterfly valve with bare shaft

The GEMÜ K410 butterfly valve has a bare shaft. The GEMÜ RSK check valve is available in plastic.

Features

- Low weight
- Corrosion resistant plastic body
- Simple installation with union nut



EAC

Technical specifications

Media temperature :	0 to 60 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 15 to 50
Connection types:	Union end
Connection standards:	BS DIN
Housing materials:	PVC-U, grey
Liner materials:	EPDM FKM Silicone
Disc materials:	PP-H
Conformities:	EAC

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GW-K410



Manually operated butterfly valves made of metal

Overview

GEMÜ type	R487 Victoria	D487 Victoria	497 Edessa	411	R477 Tugela
					
Media temperature	-10 to 160 °C	-60 to 210 °C	-20 to 200 °C	-20 to 120 °C	-60 to 230 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 10 bar	0 to 10 bar	0 to 40 bar
Nominal sizes	DN 25 to 600	DN 25 to 1600	DN 25 to 600	DN 15 to 50	DN 50 to 400
Connection types (body configuration)					
Clamp	-	-	-	●	-
Flange (lug)	●	●	●	-	-
Flange (U section)	●	●	-	-	-
Flange (wafer)	●	●	●	-	●
Spigot	-	-	-	●	-
Threaded connection	-	-	-	●	-
Body materials					
1.0619	-	-	-	-	●
1.4408	-	-	-	●	-
1.4408 (CF8M)	-	●	-	-	●
1.4435 (316L)	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-AC-46100	-	●	-	-	-
EN-AC-47100	-	●	-	-	-
EN-GJS-400-15, coated	●	●	-	-	-
EN-GJS-400-18-LT, coated	●	●	●	-	-
S275JR, coated	-	●	-	-	-
S355J2 + N	-	-	●	-	-
VE Duroplast, reinforced	-	-	●	-	-
Liner materials					
CR	-	●	-	-	-
CSM (Hypalon®)	-	●	-	-	-
ECO	-	●	-	-	-
EPDM	●	●	-	●	-
FKM	●	-	-	●	-
NBR	●	●	-	-	-
PTFE TFM™	-	-	-	-	●
PTFE TFM™/EPDM	-	-	●	-	-
PTFE TFM™/FKM	-	-	●	-	-
PTFE TFM™/silicone	-	-	●	-	-
PTFE/EPDM	-	-	●	-	-
PTFE/FKM	-	-	●	-	-
PTFE/silicone	-	-	●	-	-
SBR, abrasion resistant	●	●	-	-	-
Silicone	●	●	-	●	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	R487 Victoria	D487 Victoria	497 Edessa	411	R477 Tugela
					
Disc materials					
1.4404 (316L)	-	-	●	-	-
1.4404 (316L), coated	-	-	●	-	-
1.4408	●	●	-	●	-
1.4408, coated	●	●	-	-	-
1.4408, polished	●	-	-	-	-
1.4469	-	●	●	-	-
1.4539	-	●	-	-	-
2.0975	-	●	-	-	-
2.4602 (alloy 22)	-	●	●	-	-
3.7035	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-GJS-400-15, coated	●	●	-	-	-
Conformities					
ACS	●	●	-	-	-
ASME GEMÜ B31.3	●	-	-	-	-
ATEX	●	-	●	-	●
Belgaqua	●	-	-	-	-
DNV GL	●	●	-	-	-
DVGW Drinking water	●	●	-	-	-
DVGW Gas	●	●	-	-	-
EAC	●	●	●	●	●
FDA	●	●	●	●	●
Functional safety	●	-	●	-	-
NSF	●	-	-	-	-
Oxygen	●	-	-	-	-
Regulation (EC) No. 1935/2004	●	-	-	-	-
TA Luft (German Clean Air Act)	●	-	●	-	●
USP	-	-	●	-	-
WRAS	●	●	-	-	-

GEMÜ R487 Victoria

Manually operated butterfly valve

The GEMÜ R487 Victoria soft seated metal butterfly valve is manually operated. It has a hand lever or gearbox depending on customer requirements. The butterfly valve is available in nominal sizes DN 25 to 600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer, lug and U section body versions.

Features

- Low torques thanks to PTFE coated bushes
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A
- Liner material is easy to read when installed
- Sleek disc design for higher Kv values
- Robust body coating comparable to ISO 12944-6 C5
- Various actuator types can be selected
- Optional accessories are installed, set and tested so they are ready for operation



Technical specifications

Media temperature :	-10 to 160 °C
Ambient temperature:	-10 to 70 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 25 to 600
Body configurations:	Lug U section Wafer
Connection standards:	ANSI AS BS DIN EN ISO JIS
Body materials:	EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material
Body coating:	Epoxy
Liner materials:	EPDM FKM NBR SBR, abrasion resistant Silicone
Disc materials:	1.4408, investment casting material 1.4408, polished investment casting material 1.4469, Duplex cast steel material EN-GJS-400-15, SG iron material
Disc coating:	Epoxy Halar® Rilsan®
Conformities:	ACS ASME GEMÜ B31.3 ATEX Belgaqua DNV GL DVGW Drinking water DVGW Gas EAC FDA Functional safety NSF Oxygen Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) WRAS



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GEMÜ D487 Victoria

Manually operated butterfly valve

The GEMÜ D487 Victoria soft-seated butterfly valve is manually operated. It has a metal hand lever or gearbox depending on customer requirements. The butterfly valve is available in nominal sizes DN 25 to 1600 and in standardized installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer, lug and U section body versions.

Features

- Available in large nominal sizes
- Special materials for disc, seal and valve body
- Vulcanizable liner
- Abrasion-resistant version possible



Technical specifications

Media temperature :	-60 to 210 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 25 to 1600
Body configurations:	Lug U section Wafer
Connection standards:	ANSI AS ASME AWWA BS DIN EN ISO JIS
Body materials:	ASTM EN-AC-46100, aluminium casting material EN-AC-47100, aluminium casting material EN-GJL-250 EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material S275JR, cast steel material with epoxy coating
Body coating:	Epoxy
Liner materials:	CR CSM (Hypalon®) ECO EPDM NBR SBR, abrasion resistant Silicone
Disc materials:	1.4408, investment casting material 1.4469, Duplex cast steel material 1.4539, forged material 2.0975, bronze casting material 2.4602 (alloy 22), block material EN-GJS-400-15, SG iron material
Disc coating:	EPDM Epoxy Halar® NBR Rilsan® SBR
Conformities:	ACS DNV GL DVGW Drinking water DVGW Gas EAC FDA WRAS

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GEMÜ 497 Edessa

Manually operated butterfly valve

The GEMÜ 497 Edessa PTFE seal butterfly valve is manually operated. It has a metal hand lever or gearbox depending on customer requirements. Disc and shaft are one piece, body and liner are available in different designs. The butterfly valve is available in nominal sizes DN 25 to 600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer and lug body versions.

Features

- Suitable for chemically corrosive media
- High-quality selection of materials can be combined in different ways
- High level of plant reliability thanks to one-piece shaft and spring-washer-supported seal system
- Long service life thanks to shaft bearings and special disc and liner geometry
- Lockable hand lever
- Optional stainless steel hand lever



Technical specifications

Media temperature :	-20 to 200 °C
Ambient temperature:	-20 to 95 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 25 to 600
Body configurations:	Lug Wafer
Connection standards:	AS ASME DIN EN ISO JIS
Body materials:	1.4404, block material EN-GJS-400-18-LT, SG iron material S355J2 + N, cast steel material VE Duroplast, reinforced
Body coating:	Epoxy
Liner materials:	PTFE TFM™/EPDM PTFE TFM™/FKM PTFE TFM™/silicone PTFE/EPDM PTFE/FKM PTFE/silicone
Disc materials:	1.4404 (316L), forged material 1.4469, Duplex cast steel material 2.4602 (alloy 22), block material 3.7035, titan
Disc coating:	PFA
Conformities:	ATEX EAC FDA Functional safety TA Luft (German Clean Air Act) USP

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GW-497



GEMÜ 411

Manually operated butterfly valve

The GEMÜ 411 soft seated butterfly valve made from stainless steel or brass has an ergonomically designed, corrosion-resistant plastic hand lever. It is protected against accidental operation by the integrated locking device. With its rounded and polished disc edges, the butterfly valve is optimized for frequent cycle duties. The surface of the butterfly valve can be further finished.

Features

- Suitable for vacuum applications and low temperatures
- High-quality butterfly valve made from stainless steel or brass
- Available in small nominal sizes
- Compact and robust body
- Ergonomically designed hand lever with integrated locking device



Technical specifications

Media temperature :	-20 to 120 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 50
Connection types:	Clamp Spigot Threaded connection
Connection standards:	ASME DIN EN ISO SMS
Housing materials:	1.4408, investment casting material CW614N, brass CW617N, brass
Liner materials:	EPDM FKM Silicone
Disc materials:	1.4408, investment casting material CW614N, brass CW617N, brass
Conformities:	EAC FDA

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GW-411



GEMÜ R477 Tugela

Manually operated butterfly valve

The GEMÜ R477 Tugela double eccentric metal butterfly valve is operated by a manual actuator. The butterfly valve is available in nominal sizes DN 50 to 400 and in standardized installation lengths API 609 category A (DIN 3202 K1).

Features

- High-performance butterfly valve with double-eccentric construction in order to separate the disc directly from the seat (gasket), thereby reducing friction and extending the service life
- Continuous shaft with temperature resistant graphite bearing and PTFE gland packing for readjustment in operation for minimized leakage, even at low pressures
- Antistatic fixture for ATEX area
- Various actuator types can be selected
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



Technical specifications

Media temperature :	-60 to 230 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 50 to 400
Body configurations:	Wafer
Connection standards:	ASME ISO
Body materials:	1.0619 (WCB), cast steel material with CDP coating 1.4408 (CF8M), investment casting material
Liner materials:	PTFE TFM™
Disc materials:	1.4408
Conformities:	ATEX EAC FDA TA Luft (German Clean Air Act)

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GW-R477



Manually operated butterfly valves made of plastic

Overview

GEMÜ type	D457	417
		
Media temperature	5 to 90 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 6 bar
Nominal sizes	DN 50 to 300	DN 15 to 50
Connection types		
Flange	•	-
Union end	-	•
Body materials		
PP	•	-
PVC-U	-	•
Liner materials		
EPDM	•	•
FKM	•	•
Disc materials		
PP-H	•	•
PVC-C	•	-
PVC-U	•	-
Conformities		
EAC	•	•

GEMÜ D457

Manually operated butterfly valve

The GEMÜ D457 soft seated butterfly valve is manually operated. It has a metal hand lever or gearbox depending on customer requirements. The butterfly valve is available in nominal sizes DN 50–300 and has a wafer body version.

Features

- Low weight
- Corrosion resistant plastic body
- Disc outlet dimension designed on plastic piping
- Lockable hand lever made of plastic with latch positions



EAC

Technical specifications

Media temperature :	5 to 90 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 50 to 300
Connection types:	Flange
Connection standards:	ANSI EN JIS
Housing materials:	PP, reinforced
Liner materials:	EPDM FKM
Disc materials:	PP-H PVC-C PVC-U
Conformities:	EAC

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GW-D457



GEMÜ 417

Manually operated butterfly valve

The GEMÜ 417 butterfly valve has an ergonomically designed corrosion resistant plastic hand lever. It can be protected against accidental operation by the integrated locking device.

Features

- Low weight
- Corrosion resistant plastic body
- Simple installation with union nut
- Ergonomic handle with anti-twist system and locking device



EAC

Technical specifications

Media temperature :	0 to 60 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 15 to 50
Connection types:	Union end
Connection standards:	BS DIN
Housing materials:	PVC-U, grey
Liner materials:	EPDM FKM
Disc materials:	PP-H
Conformities:	EAC

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GW-417



Pneumatically operated butterfly valves made of metal

Overview

GEMÜ type	R481 Victoria	D481 Victoria	491 Edessa	415	R471 Tugela
					
Media temperature	-10 to 160 °C	-60 to 210 °C	-20 to 200 °C	-20 to 120 °C	-60 to 230 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 10 bar	0 to 10 bar	0 to 40 bar
Nominal sizes	DN 25 to 600	DN 25 to 600	DN 25 to 600	DN 15 to 50	DN 50 to 400
Connection types (body configuration)					
Clamp	-	-	-	●	-
Flange (lug)	●	●	●	-	-
Flange (U section)	●	●	-	-	-
Flange (wafer)	●	●	●	-	●
Spigot	-	-	-	●	-
Threaded connection	-	-	-	●	-
Body materials					
1.0619	-	-	-	-	●
1.4408	-	-	-	●	-
1.4408 (CF8M)	-	●	-	-	●
1.4435 (316L)	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-AC-46100	-	●	-	-	-
EN-AC-47100	-	●	-	-	-
EN-GJS-400-15, coated	●	●	-	-	-
EN-GJS-400-18-LT, coated	●	●	●	-	-
S275JR, coated	-	●	-	-	-
S355J2 + N	-	-	●	-	-
VE Duroplast, reinforced	-	-	●	-	-
Liner materials					
CR	-	●	-	-	-
CSM (Hypalon®)	-	●	-	-	-
ECO	-	●	-	-	-
EPDM	●	●	-	●	-
FKM	●	-	-	●	-
NBR	●	●	-	-	-
PTFE TFM™	-	-	-	-	●
PTFE TFM™/EPDM	-	-	●	-	-
PTFE TFM™/FKM	-	-	●	-	-
PTFE TFM™/silicone	-	-	●	-	-
PTFE/EPDM	-	-	●	-	-
PTFE/FKM	-	-	●	-	-
PTFE/silicone	-	-	●	-	-
SBR, abrasion resistant	●	●	-	-	-
Silicone	●	●	-	●	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	R481 Victoria	D481 Victoria	491 Edessa	415	R471 Tugela
					
Disc materials					
1.4404 (316L)	-	-	●	-	-
1.4404 (316L), coated	-	-	●	-	-
1.4408	●	●	-	●	-
1.4408, coated	●	●	-	-	-
1.4408, polished	●	-	-	-	-
1.4469	-	●	●	-	-
1.4539	-	●	-	-	-
2.0975	-	●	-	-	-
2.4602 (alloy 22)	-	●	●	-	-
3.7035	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-GJS-400-15, coated	●	●	-	-	-
Conformities					
ACS	●	●	-	-	-
ASME GEMÜ B31.3	●	-	-	-	-
ATEX	●	-	●	●	●
Belgaqua	●	-	-	-	-
DNV GL	●	●	-	-	-
DVGW Drinking water	●	●	-	-	-
DVGW Gas	●	●	-	-	-
EAC	●	●	●	●	●
FDA	●	●	●	●	●
Functional safety	●	-	●	-	-
NSF	●	-	-	-	-
Oxygen	●	-	-	-	-
Regulation (EC) No. 1935/2004	●	-	-	-	-
TA Luft (German Clean Air Act)	●	-	●	-	●
USP	-	-	●	-	-
WRAS	●	●	-	-	-

GEMÜ R481 Victoria

Pneumatically operated butterfly valve

The GEMÜ R481 Victoria soft seated metal butterfly valve has a metal actuator and is pneumatically operated. Normally Closed, Normally Open and Double Acting control functions are available. Various pneumatic actuators are available. The butterfly valve is available in nominal sizes DN 25 to 600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer, lug and U section body versions.

Features

- Low torques thanks to PTFE coated bushes
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A
- Liner material is easy to read when installed
- Sleek disc design for higher Kv values
- Robust body coating comparable to ISO 12944-6 C5
- Various actuator types can be selected
- Optional accessories are installed, set and tested so they are ready for operation



Technical specifications

Media temperature :	-10 to 160 °C
Ambient temperature:	-10 to 70 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 25 to 600
Body configurations:	Lug U section Wafer
Connection standards:	ANSI AS BS DIN EN ISO JIS
Body materials:	EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material
Body coating:	Epoxy
Liner materials:	EPDM FKM NBR SBR, abrasion resistant Silicone
Disc materials:	1.4408, investment casting material 1.4408, polished investment casting material 1.4469, Duplex cast steel material EN-GJS-400-15, SG iron material
Disc coating:	Epoxy Halar® Rilsan®
Conformities:	ACS ASME GEMÜ B31.3 ATEX Belgaqua DNV GL DVGW Drinking water DVGW Gas EAC FDA Functional safety NSF Oxygen Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) WRAS



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GEMÜ D481 Victoria

Pneumatically operated butterfly valve

The GEMÜ D481 Victoria soft seated butterfly valve has a metal actuator and is pneumatically operated. The "Normally Closed", "Normally Open" and "Double Acting" control functions are available. The butterfly valve is available in nominal sizes DN 25 to 600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer and lug body versions.

Features

- Available in large nominal sizes
- Special materials for disc, seal and valve body
- Vulcanizable liner
- Abrasion-resistant version possible



Technical specifications

Media temperature :	-60 to 210 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 25 to 600
Body configurations:	Lug U section Wafer
Connection standards:	ANSI AS ASME AWWA BS DIN EN ISO JIS
Body materials:	ASTM EN-AC-46100, aluminium casting material EN-AC-47100, aluminium casting material EN-GJL-250 EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material S275JR, cast steel material with epoxy coating
Body coating:	Epoxy
Liner materials:	CR CSM (Hypalon®) ECO EPDM NBR SBR, abrasion resistant Silicone
Disc materials:	1.4408, investment casting material 1.4469, Duplex cast steel material 1.4539, forged material 2.0975, bronze casting material 2.4602 (alloy 22), block material EN-GJS-400-15, SG iron material
Disc coating:	EPDM Epoxy Halar® NBR Rilsan® SBR
Conformities:	ACS DNV GL DVGW Drinking water DVGW Gas EAC FDA WRAS

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GW-D481



GEMÜ 491 Edessa

Pneumatically operated butterfly valve

The GEMÜ 491 Edessa PTFE lined butterfly valve has a metal actuator and is pneumatically operated. The "Normally Closed", "Normally Open" and "Double Acting" control functions are available. Disc and shaft are one piece, body and liner are available in different designs. The butterfly valve is available in nominal sizes DN 25 to 600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer and lug body versions.

Features

- Suitable for chemically corrosive media
- High-quality selection of materials can be combined in different ways
- High level of plant reliability thanks to one-piece shaft and spring-washer-supported seal system
- Long service life thanks to shaft bearings and special disc and liner geometry
- Optional accessories are installed, set and tested so they are ready for operation



Technical specifications

Media temperature :	-20 to 200 °C
Ambient temperature:	-20 to 95 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 25 to 600
Body configurations:	Lug Wafer
Connection standards:	AS ASME DIN EN ISO JIS
Body materials:	1.4404, block material EN-GJS-400-18-LT, SG iron material S355J2 + N, cast steel material VE Duroplast, reinforced
Body coating:	Epoxy
Liner materials:	PTFE TFM™/EPDM PTFE TFM™/FKM PTFE TFM™/silicone PTFE/EPDM PTFE/FKM PTFE/silicone
Disc materials:	1.4404 (316L), forged material 1.4469, Duplex cast steel material 2.4602 (alloy 22), block material 3.7035, titan
Disc coating:	PFA
Conformities:	ATEX EAC FDA Functional safety TA Luft (German Clean Air Act) USP

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GEMÜ 415

Pneumatically operated butterfly valve

The GEMÜ 415 soft seated butterfly valve made from stainless steel or brass is pneumatically operated by a space-saving piston actuator. The "Normally Closed", "Normally Open" and "Double Acting" control functions are available. A low-cost rack and pinion actuator can also be fitted. With its rounded and polished disc edges, the butterfly valve is optimized for frequent cycle duties. The surface of the butterfly valve can be further finished.

Features

- Suitable for vacuum applications and low temperatures
- High-quality butterfly valve made from stainless steel or brass
- Available in small nominal sizes
- Compact and robust body
- Corrosion-resistant and space-saving piston actuator made from plastic or metal



Technical specifications

Media temperature :	-20 to 120 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 50
Connection types:	Clamp Spigot Threaded connection
Connection standards:	ASME DIN EN ISO SMS
Housing materials:	1.4408, investment casting material CW614N, brass CW617N, brass
Liner materials:	EPDM FKM Silicone
Disc materials:	1.4408, investment casting material CW614N, brass CW617N, brass
Conformities:	ATEX EAC FDA

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GW-415



GEMÜ R471 Tugela

Pneumatically operated butterfly valve

The GEMÜ R471 Tugela double eccentric metal butterfly valve is operated by a pneumatic actuator. The butterfly valve is available in nominal sizes DN 50 to 400 and in standardized installation lengths API 609 category A (DIN 3202 K1).

Features

- High-performance butterfly valve with double-eccentric construction in order to separate the disc directly from the seat (gasket), thereby reducing friction and extending the service life
- Continuous shaft with temperature resistant graphite bearing and PTFE gland packing for readjustment in operation for minimized leakage, even at low pressures
- Antistatic fixture for ATEX area
- Various actuator types can be selected
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



Technical specifications

Media temperature :	-60 to 230 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 50 to 400
Body configurations:	Wafer
Connection standards:	ASME ISO
Body materials:	1.0619 (WCB), cast steel material with CDP coating 1.4408 (CF8M), investment casting material
Liner materials:	PTFE TFM™
Disc materials:	1.4408
Conformities:	ATEX EAC FDA TA Luft (German Clean Air Act)

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GW-R471



Pneumatically operated butterfly valves made of plastic

Overview

GEMÜ type	D451	410
		
Media temperature	5 to 90 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 6 bar
Nominal sizes	DN 50 to 300	DN 15 to 50
Connection types		
Flange	•	-
Union end	-	•
Body materials		
PP	•	-
PVC-U	-	•
Liner materials		
EPDM	•	•
FKM	•	•
Disc materials		
PP-H	•	•
PVC-C	•	-
PVC-U	•	-
Conformities		
EAC	•	•

GEMÜ D451

Pneumatically operated butterfly valve

The GEMÜ D451 soft seated butterfly valve has a metal actuator and is pneumatically operated. The "Normally Closed", "Normally Open" and "Double Acting" control functions are available. The butterfly valve is available in nominal sizes DN 50–300 and has a wafer body version.

Features

- Low weight
- Corrosion resistant plastic body
- Short operating times
- UV resistant
- Low torque



Technical specifications

Media temperature :	5 to 90 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 50 to 300
Connection types:	Flange
Connection standards:	ANSI EN JIS
Housing materials:	PP, reinforced
Liner materials:	EPDM FKM
Disc materials:	PP-H PVC-C PVC-U
Conformities:	EAC

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GW-D451



GEMÜ 410

Pneumatically operated butterfly valve

The GEMÜ 410 butterfly valve is pneumatically operated. Normally Closed and Normally Open control functions are available. The valve body is available in a plastic design.

Features

- Low weight
- Corrosion resistant plastic body
- Simple installation with union nut
- Space-saving piston actuator made of plastic



EAC

Technical specifications

Media temperature :	0 to 60 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 15 to 50
Connection types:	Union end
Connection standards:	BS DIN
Housing materials:	PVC-U, grey
Liner materials:	EPDM FKM
Disc materials:	PP-H
Conformities:	EAC

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GW-410



Motorized butterfly valves
made of metal

Overview

GEMÜ type	R488 Victoria	D488 Victoria	498 Edessa	428	R478 Tugela
					
Media temperature	-10 to 160 °C	-60 to 210 °C	-20 to 200 °C	-20 to 120 °C	-60 to 230 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 10 bar	0 to 10 bar	0 to 40 bar
Nominal sizes	DN 25 to 600	DN 25 to 350	DN 25 to 250	DN 15 to 50	DN 50 to 300
Connection types (body configuration)					
Clamp	-	-	-	●	-
Flange (lug)	●	●	●	-	-
Flange (U section)	●	●	-	-	-
Flange (wafer)	●	●	●	-	●
Spigot	-	-	-	●	-
Threaded connection	-	-	-	●	-
Body materials					
1.0619	-	-	-	-	●
1.4408	-	-	-	●	-
1.4408 (CF8M)	-	●	-	-	●
1.4435 (316L)	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-AC-46100	-	●	-	-	-
EN-AC-47100	-	●	-	-	-
EN-GJS-400-15, coated	●	●	-	-	-
EN-GJS-400-18-LT, coated	●	●	●	-	-
S275JR, coated	-	●	-	-	-
S355J2 + N	-	-	●	-	-
VE Duroplast, reinforced	-	-	●	-	-
Liner materials					
CR	-	●	-	-	-
CSM (Hypalon®)	-	●	-	-	-
ECO	-	●	-	-	-
EPDM	●	●	-	●	-
FKM	●	-	-	●	-
NBR	●	●	-	-	-
PTFE TFM™	-	-	-	-	●
PTFE TFM™/EPDM	-	-	●	-	-
PTFE TFM™/FKM	-	-	●	-	-
PTFE TFM™/silicone	-	-	●	-	-
PTFE/EPDM	-	-	●	-	-
PTFE/FKM	-	-	●	-	-
PTFE/silicone	-	-	●	-	-
SBR, abrasion resistant	●	●	-	-	-
Silicone	●	●	-	●	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	R488 Victoria	D488 Victoria	498 Edessa	428	R478 Tugela
					
Disc materials					
1.4404 (316L)	-	-	●	-	-
1.4404 (316L), coated	-	-	●	-	-
1.4408	●	●	-	●	-
1.4408, coated	●	●	-	-	-
1.4408, polished	●	-	-	-	-
1.4469	-	●	●	-	-
1.4539	-	●	-	-	-
2.0975	-	●	-	-	-
2.4602 (alloy 22)	-	●	●	-	-
3.7035	-	-	●	-	-
CW614N	-	-	-	●	-
CW617N	-	-	-	●	-
EN-GJS-400-15, coated	●	●	-	-	-
Conformities					
ACS	●	●	-	-	-
ASME GEMÜ B31.3	●	-	-	-	-
ATEX	●	-	●	●	●
Belgaqua	●	-	-	-	-
CSA	-	●	-	-	-
DNV GL	●	●	-	-	-
DVGW Drinking water	●	●	-	-	-
DVGW Gas	●	●	-	-	-
EAC	●	●	●	●	●
FDA	●	●	●	●	●
Functional safety	●	-	●	-	-
NSF	●	-	-	-	-
Oxygen	●	-	-	-	-
Regulation (EC) No. 1935/2004	●	-	-	-	-
TA Luft (German Clean Air Act)	●	-	●	-	●
USP	-	-	●	-	-
WRAS	●	●	-	-	-

GEMÜ R488 Victoria

Motorized butterfly valve

The GEMÜ R488 Victoria soft seated metal butterfly valve is motorized. Various metal or plastic open/closed or control versions are available. The butterfly valve is available in nominal sizes DN 25 to 600 and in standard installation lengths ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) in wafer, lug and U section body versions.

Features

- Low torques thanks to coated bushings
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A
- Liner material is easy to read when installed
- Sleek disc design for higher Kv values
- Robust body coating comparable to ISO 12944-6 C5
- Various actuator types can be selected
- Optional accessories are installed, set and tested so they are ready for operation



Technical specifications

- Media temperature :** -10 to 160 °C
Ambient temperature: -10 to 70 °C
Operating pressure : 0 to 16 bar
Nominal sizes: DN 25 to 600
Body configurations: Lug | U section | Wafer
Connection standards: ANSI | AS | BS | DIN | EN | ISO | JIS
Body materials: EN-GJS-400-15, SG iron material | EN-GJS-400-18-LT, SG iron material
Body coating: Epoxy
Liner materials: EPDM | FKM | NBR | SBR, abrasion resistant | Silicone
Disc materials: 1.4408, investment casting material | 1.4408, polished investment casting material | 1.4469, Duplex cast steel material | EN-GJS-400-15, SG iron material
Disc coating: Epoxy | Halar® | Rilsan®
Conformities: ACS | ASME GEMÜ B31.3 | ATEX | Belgaqua | DNV GL | DVGW Drinking water | DVGW Gas | EAC | FDA | Functional safety | NSF | Oxygen | Regulation (EC) No. 1935/2004 | TA Luft (German Clean Air Act) | WRAS

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GEMÜ D488 Victoria

Motorized butterfly valve

The GEMÜ D488 Victoria soft-seated butterfly valve is motorized. Various metal or plastic on/off or control actuators are available. The butterfly valve is available in nominal sizes DN 25 to 350, in the standardized installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) available in wafer, lug and U section body versions.

Features

- Available in large nominal sizes
- Special materials for disc, seal and valve body
- Vulcanizable liner
- Abrasion-resistant version possible



Technical specifications

Media temperature :	-60 to 210 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 25 to 350
Body configurations:	Lug U section Wafer
Connection standards:	ANSI AS ASME AWWA BS DIN EN ISO JIS
Body materials:	ASTM EN-AC-46100, aluminium casting material EN-AC-47100, aluminium casting material EN-GJL-250 EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material S275JR, cast steel material with epoxy coating
Body coating:	Epoxy
Liner materials:	CR CSM (Hypalon®) ECO EPDM NBR SBR, abrasion resistant Silicone
Disc materials:	1.4408, investment casting material 1.4469, Duplex cast steel material 1.4539, forged material 2.0975, bronze casting material 2.4602 (alloy 22), block material EN-GJS-400-15, SG iron material
Disc coating:	EPDM Epoxy Halar® NBR Rilsan® SBR
Supply voltage:	100 - 120 V AC, 50/60 Hz 12 - 24 V AC/DC 220 - 240 V AC, 50/60 Hz 380 - 480 V AC, 50/60 Hz
Operating time 90°:	4 to 100 s
Protection class:	IP 65, 66, 67, 68
Conformities:	ACS CSA DNV GL DVGW Drinking water DVGW Gas EAC FDA WRAS

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GEMÜ 498 Edessa

Motorized butterfly valve

The GEMÜ 498 Edessa PTFE-lined butterfly valve is motorized. Various metal or plastic on/off or control actuators are available. The disc and shaft are one piece; body and liner are available in different designs. The butterfly valve is available in nominal sizes DN 25 to 250 (1½"–36"), in the standardized installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) available in wafer and lug body versions.

Features

- Suitable for chemically corrosive media
- High-quality selection of materials can be combined in different ways
- High level of plant reliability thanks to one-piece shaft and spring-washer-supported seal system
- Long service life thanks to shaft bearings and special disc and liner geometry
- Wide choice of motorized actuator types



Technical specifications

Media temperature :	-20 to 200 °C
Ambient temperature:	-20 to 95 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 25 to 250
Body configurations:	Lug Wafer
Connection standards:	AS ASME DIN EN ISO JIS
Body materials:	1.4404, block material EN-GJS-400-18-LT, SG iron material S355J2 + N, cast steel material VE Duroplast, reinforced
Body coating:	Epoxy
Liner materials:	PTFE TFM™/EPDM PTFE TFM™/FKM PTFE TFM™/silicone PTFE/EPDM PTFE/FKM PTFE/silicone
Disc materials:	1.4404 (316L), forged material 1.4469, Duplex cast steel material 2.4602 (alloy 22), block material 3.7035, titan
Disc coating:	PFA
Supply voltage:	24 - 240 V AC/DC 24 V AC, 50/60 Hz 24 V DC
Operating time 90°:	4 to 100 s
Protection class:	IP 65, 66, 67, 68
Conformities:	ATEX EAC FDA Functional safety TA Luft (German Clean Air Act) USP

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GW-498



GEMÜ 428

Motorized butterfly valve

The GEMÜ 428 soft seated butterfly valve made from stainless steel or brass is motorized. A manual override and an optical position indicator are integrated as standard. With its rounded and polished disc edges, the butterfly valve is optimized for frequent cycle duties. The surface of the butterfly valve can be further finished.

Features

- Suitable for vacuum applications and low temperatures
- High-quality butterfly valve made from stainless steel or brass
- Available in small nominal sizes
- Compact and robust body



Technical specifications

Media temperature :	-20 to 120 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 15 to 50
Connection types:	Clamp Spigot Threaded connection
Connection standards:	ASME DIN EN ISO SMS
Housing materials:	1.4408, investment casting material CW614N, brass CW617N, brass
Liner materials:	EPDM FKM Silicone
Disc materials:	1.4408, investment casting material CW614N, brass CW617N, brass
Supply voltage:	12 V AC, 50/60 Hz 12 V DC 24 V AC, 50/60 Hz 24 V DC
Operating time 90°:	4 to 100 s
Protection class:	IP 65, 66, 67, 68
Conformities:	ATEX EAC FDA

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GW-428



GEMÜ R478 Tugela

Motorized butterfly valve

The GEMÜ R478 Tugela double-eccentric metal butterfly valve is operated by a motorized actuator. The butterfly valve is available in nominal sizes DN 50 to 300 and in standardized installation lengths API 609 category A (DIN 3202 K1).

Features

- High-performance butterfly valve with double-eccentric construction in order to separate the disc directly from the seat (gasket), thereby reducing friction and extending the service life
- Continuous shaft with temperature resistant graphite bearing and PTFE gland packing for readjustment in operation for minimized leakage, even at low pressures
- Antistatic fixture for ATEX area
- Various actuator types can be selected
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



Technical specifications

Media temperature :	-60 to 230 °C
Ambient temperature:	-20 to 70 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 50 to 300
Body configurations:	Wafer
Connection standards:	ASME ISO
Body materials:	1.0619 (WCB), cast steel material with CDP coating 1.4408 (CF8M), investment casting material
Liner materials:	PTFE TFM™
Disc materials:	1.4408
Supply voltage:	120 V AC, 50 Hz 120 V AC, 60 Hz 230 V AC, 50 Hz 230 V AC, 60 Hz 24 V DC 380 V AC, 50 Hz 400 V AC, 50 Hz 440 V AC, 60 Hz 460 V AC, 60 Hz 480 V AC, 60 Hz
Operating time 90°:	13 to 35 s
Protection class:	IP68
Conformities:	ATEX EAC FDA TA Luft (German Clean Air Act)

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GW-R478



Motorized butterfly valves
made of plastic

Overview

GEMÜ type	D458	423
		
Media temperature	5 to 90 °C	0 to 60 °C
Operating pressure	0 to 10 bar	0 to 6 bar
Nominal sizes	DN 50 to 300	DN 15 to 50
Connection types		
Flange	•	-
Union end	-	•
Body materials		
PP	•	-
PVC-U	-	•
Liner materials		
EPDM	•	•
FKM	•	•
Disc materials		
PP-H	•	•
PVC-C	•	-
PVC-U	•	-
Conformities		
CSA	•	•
EAC	•	•

GEMÜ D458

Motorized butterfly valve

The GEMÜ D458 butterfly valve is motorized. Various metal or plastic on/off or control actuators are available. A manual override and an optical position indicator are integrated as standard. The butterfly valve is available in nominal sizes DN 50–300 and has a wafer body version.

Features

- Low weight
- Corrosion-resistant materials
- Disc outlet dimension designed on plastic piping



Technical specifications

Media temperature :	5 to 90 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 50 to 300
Connection types:	Flange
Connection standards:	ANSI EN JIS
Housing materials:	PP, reinforced
Liner materials:	EPDM FKM
Disc materials:	PP-H PVC-C PVC-U
Supply voltage:	12 - 24 V AC/DC 24 V AC/DC 24 V DC 85 - 240 V AC/DC
Operating time 90°:	13 to 58 s
Protection class:	IP 65, 67
Conformities:	CSA EAC

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GEMÜ 423

Motorized butterfly valve

The GEMÜ 423 butterfly valve has a low maintenance motorized quarter turn actuator. A manual override and an optical position indicator are integrated as standard.

Features

- Low weight
- Adjustable end positions by means of microswitches
- Corrosion resistant plastic body
- Simple installation with union nut
- Compact design



EAC

Technical specifications

Media temperature :	0 to 60 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 15 to 50
Connection types:	Union end
Connection standards:	BS DIN
Housing materials:	PVC-U, grey
Liner materials:	EPDM FKM
Disc materials:	PP-H
Supply voltage:	12 - 24 V AC/DC 12 V DC 24 - 240 V AC/DC 24 V AC, 50/60 Hz 24 V DC
Operating time 90°:	4 to 100 s
Protection class:	IP 65, 66, 67, 68
Conformities:	CSA EAC

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GW-423



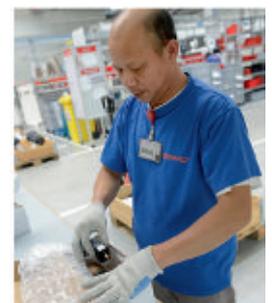
Add-on components for butterfly valves

GEMÜ type	410	411	415	417	423	428	481	R471	R477	R481	R487
Measurement and control technology											
Electrical position indicator											
GEMÜ 1205 ▶ page 362	•		•								
GEMÜ 1215 ▶ page 363	•		•								
GEMÜ 1225	•	•	•	•	•	•					
GEMÜ 1230/1231/1232	•		•								
GEMÜ 1235/1236 ▶ page 368	•		•				•	•	•	•	•
GEMÜ 1242 ▶ page 371	•		•				•	•	•	•	•
GEMÜ LSC ▶ page 372	•		•				•	•	•	•	•
GEMÜ LSF ▶ page 373	•		•				•	•	•	•	•
Combi switchbox											
GEMÜ 4242 ▶ page 378	•		•				•	•	•	•	•
Pilot valve											
GEMÜ 0324 ▶ page 385	•		•								
Control systems											
Positioner											
GEMÜ 1434 µPos ▶ page 338	•		•								
GEMÜ 1435 ePos ▶ page 340	•		•				•	•	•	•	•
Positioner and process controller											
GEMÜ 1436 cPos ▶ page 341	•		•				•	•	•	•	•
Accessories											
Connection accessories ▶ page 417	•		•								
Stroke limiters ▶ page 422	•		•								
Sensor accessories ▶ page 424	•		•								
Position indicators ▶ page 421	•		•				•	•	•	•	•

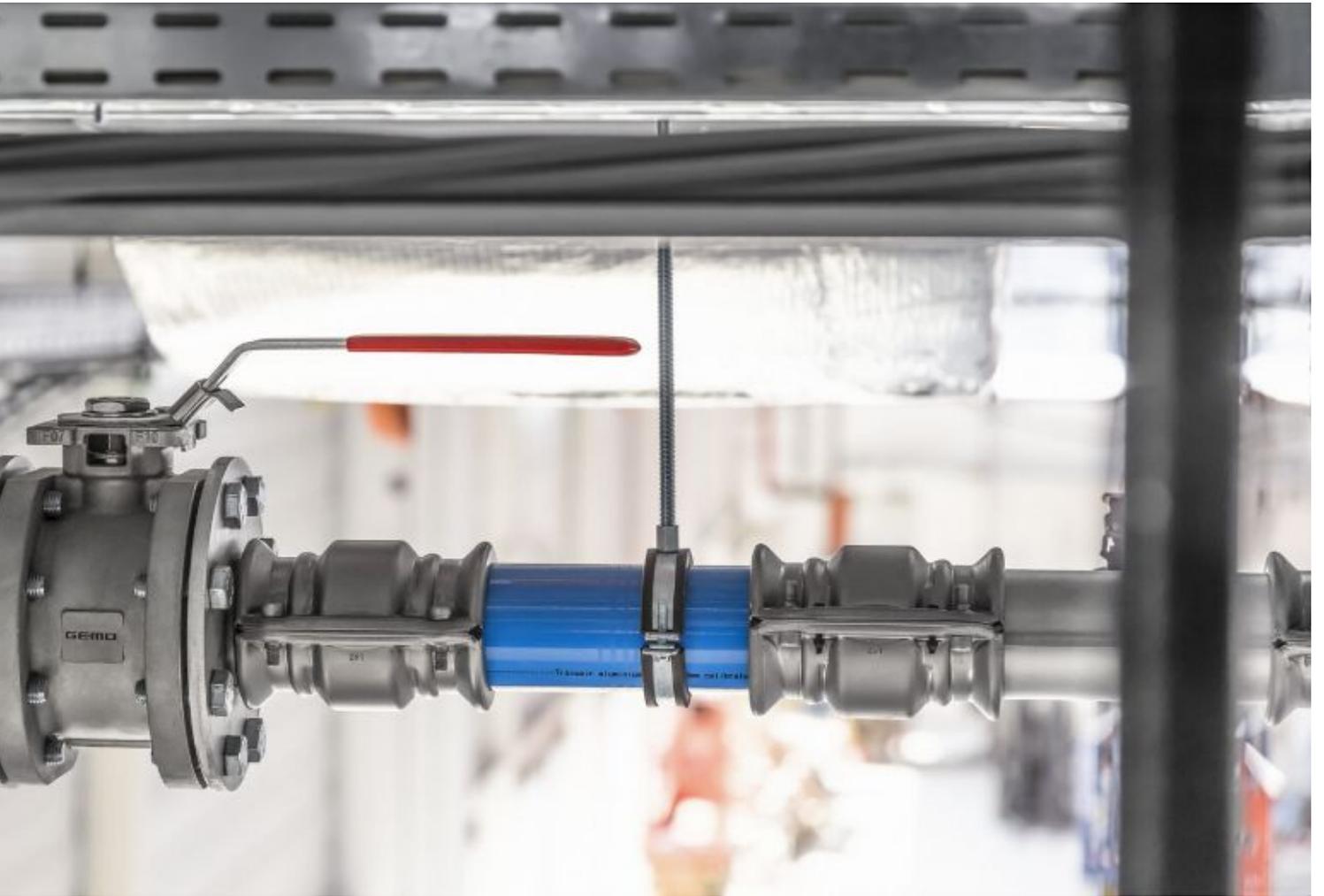
GEMÜ valves are fully assembled in our in-house Assembly department – with compatible accessories on request.



Our pre-assembled solutions are supplied to you preset and tested. Not only can you obtain all components from a single source, you simultaneously reduce the effort required for logistics and installation of the system on site, as well as for documentation.



GEMÜ type	487	491	497	D451	D481	D487
Measurement and control technology						
Electrical position indicator						
GEMÜ 1205 ▶ page 362						
GEMÜ 1215 ▶ page 363						
GEMÜ 1225						
GEMÜ 1230/1231/1232						
GEMÜ 1235/1236 ▶ page 368	•	•	•	•	•	•
GEMÜ 1242 ▶ page 371	•	•	•	•	•	•
GEMÜ LSC ▶ page 372	•	•	•	•	•	•
GEMÜ LSF ▶ page 373	•	•	•	•	•	•
Combi switchbox						
GEMÜ 4242 ▶ page 378	•	•	•	•	•	•
Pilot valve						
GEMÜ 0324 ▶ page 385						
Control systems						
Positioner						
GEMÜ 1434 µPos ▶ page 338						
GEMÜ 1435 ePos ▶ page 340	•	•	•	•	•	•
Positioner and process controller						
GEMÜ 1436 cPos ▶ page 341	•	•	•	•	•	•
Accessories						
Connection accessories ▶ page 417						
Stroke limiters ▶ page 422						
Sensor accessories ▶ page 424						
Position indicators ▶ page 421						



Ball valves

Description

Ball valves are versatile and can also be used in extreme circumstances. With the ball that has been drilled through as a shut-off body, this valve type is particularly well-suited to safely shutting off liquid and gaseous media at a very high operating pressure. As media travels between the ball and the body when opening and closing, ball valves are suitable for mechanically pure, inert or corrosive liquids, gases or steam. Caution must be exercised with crystallizing media, as these can have a negative effect on functionality.

Features

- High flow rates
- Fast cycle duties
- High operating pressures
- High temperatures

Typical working media

- Liquids: Water, glycol, cooling lubricant
- Gases: Air, compressed air

Applications

- Generation and distribution of compressed air, water, industrial gas
- Batch and filling processes
- Heat exchangers and heating systems
- Heating and cooling processes in machines, systems and buildings
- Dyeing and cleaning
- Filter systems and filter cleaning



Functional principle of ball valves



Open



Closed

The ball valve comprises a ball valve with a hollow bore, which generally sits in a housing between PTFE sealing rings. The ball is connected via an externally positioned shaft. The valve can be opened and closed by rotating it through 90°.

The dead space needs to be taken into account for ball valves. Caution must be exercised with crystallizing media. If a medium is enclosed in the ball, this can have a negative impact on functionality and service life.

Ball ports

GEMÜ ball valves are available as both a 2/2-way straight through body and a 3/2-way valve with T or L ball. With these special designs, the ball valves can also be used to bypass the media flow at various outlets.

Full and reduced bore

There is a difference between ball valves with full bore and reduced bore. With a full bore, the hole in the ball has the same inside diameter as the connected piping. A major advantage of the version with full bore is that the full cross section of the pipe is free when open. This results in minimal pressure loss and a high Kvs value. This makes the ball valves ideal for high viscosity media, and they are the only valves that are also piggable.

In the design with reduced bore, the inside diameter in the area of the ball is reduced. An altered pressure structure is, therefore, generated in the valve and outlet distance. The turbulence that this creates results in a jet effect that is, among other things, suitable for applications with dual-substance or multi-substance mixtures.

Modular system for ball valves

With the GEMÜ modular system, we offer you the opportunity to put together a suitable valve in line with your requirements. Discover all configuration options at www.gemu-group.com

Measurement and control technology

Electrical position indicators and combi switchboxes | Positioners and process controllers | Accessories



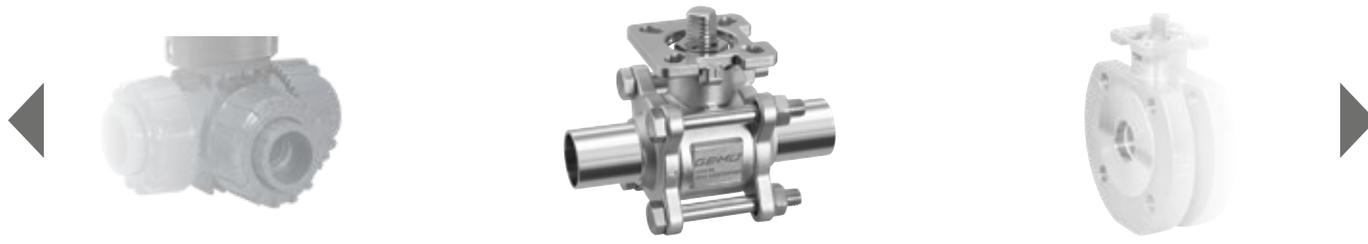
Actuators

Manual | Pneumatic | Motorized
Metal | Plastic



Body

2/2-way body | Multi-port body
Metal | Plastic



Configure your valve online
at www.gemu-group.com

Ball valves with bare shaft

Overview

GEMÜ type	BB02	BB04	BB06	BB07
				
Special feature		Option with minimal deadleg and delta ferrite < 3 %	Compact length	3/2-way ball valve
Media temperature	-40 to 180 °C	-10 to 220 °C	-40 to 180 °C	-40 to 180 °C
Ambient temperature	-40 to 60 °C	-20 to 60 °C	-40 to 60 °C	-40 to 60 °C
Operating pressure	0 to 63 bar	0 to 63 bar	0 to 40 bar	0 to 40 bar
Nominal sizes	DN 8 to 100	DN 8 to 100	DN 15 to 100	DN 8 to 50
Connection types				
Clamp	-	•	-	-
Flange	•	-	•	-
Spigot	•	•	-	-
Threaded connection	•	-	-	•
Connection standards				
ANSI	-	-	•	-
ASME	•	•	-	-
DIN	•	•	-	•
EN	•	-	•	-
ISO	•	•	-	-
NPT	•	-	-	•
SMS	-	•	-	-
Body configurations				
2/2-way body	•	•	•	-
Multi-port body	-	-	-	•
Body materials				
1.4408	•	-	•	•
1.4435 (316L)	-	•	-	-
Conformities				
ASME GEMÜ B31.3	•	-	-	-
ATEX	•	•	•	•
EAC	•	•	•	-
FDA	•	•	•	-
Functional safety	•	-	•	•
Oxygen	•	-	-	-
Reg. (EU) No. 10/2011	•	•	•	-
Regulation (EC) No. 1935/2004	•	•	•	-
Regulation (EC) No. 2023/2006	•	-	•	-
TA Luft (German Clean Air Act)	•	•	•	-
USP	-	•	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ BB02

Ball valve with bare shaft

The GEMÜ BB02 stainless steel 3-piece 2/2-way ball valve has a bare shaft. Thanks to the top flange according to ISO 5211, easy actuator mounting is possible.

Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device unit



Technical specifications

Media temperature :	-40 to 180 °C
Ambient temperature:	-40 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Flange Spigot Threaded connection
Connection standards:	ASME DIN EN ISO NPT
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ASME GEMÜ B31.3 ATEX EAC FDA Functional safety Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act)
Media temperature :	-40 to 180 °C
Ambient temperature:	-40 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Flange Spigot Threaded connection
Body materials:	1.4408, investment casting material
Seal materials:	PTFE

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GEMÜ BB04

Ball valve with bare shaft

The three-piece 2/2-way GEMÜ BB04 metal ball valve with a bare shaft and an actuator flange in accordance with DIN ISO 5211 for simple mounting of various actuator types is particularly suited to applications in the supply sector for the pharmaceutical, foodstuffs processing and biotechnology (such as water treatment and steam generation) industries thanks to the 1.4435 stainless steel alloy material composition used (compliant with 316L) with a low delta ferrite proportion of < 3%. Only those plastics which are compliant with FDA, USP Class VI and Regulation (EU) No.10/2011 are used for the seals.

Features

- Checked delta ferrite material < 3% (1.4435)
- Material certificates for media wetted components
- Media wetted surfaces according to ASME SF5 (Ra 0.51 µm)
- Butt weld spigots in extended orbital welding design
- Optionally available with cavity-filled seat
- Suitable for vacuum applications
- Option: ATEX version
- Ball valve body, assembled free of oil/grease



Technical specifications

Media temperature :	-10 to 220 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN ISO SMS
Body materials:	1.4435 (316L), investment casting material
Seal materials:	PTFE TFM™
Conformities:	ATEX EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

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GW-BB04



GEMÜ BB06

Compact flanged ball valve with bare shaft

The GEMÜ BB06 metal one-piece 2/2-way ball valve has a bare shaft. The seat seal is made of PTFE.

Features

- High flow rate
- Full-flow bore
- Compact design
- ATEX version available as an option



Technical specifications

Media temperature :	-40 to 180 °C
Ambient temperature:	-40 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX EAC FDA Functional safety Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act)

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GW-BB06



GEMÜ BB07

3/2-way ball valve with bare shaft

The GEMÜ BB07 stainless steel 3/2-way ball valve has a bare shaft. Thanks to the top flange according to ISO 5211, easy actuator mounting is possible.

Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device unit



Technical specifications

Media temperature :	-40 to 180 °C
Ambient temperature:	-40 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 8 to 50
Body configurations:	Multi-port body
Connection types:	Threaded connection
Connection standards:	DIN NPT
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX Functional safety

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Manually operated ball valves made of metal

Overview

GEMÜ type	B20	B22	B24	B26	B27
					
Special feature	Two-piece 2/2-way ball valve	Three-piece body 2/2-way ball valve	Option with minimal deadleg and delta ferrite < 3 %	Compact length	3/2-way ball valve
Media temperature	-40 to 180 °C	-20 to 180 °C	-10 to 220 °C	-20 to 180 °C	-40 to 180 °C
Ambient temperature	-40 to 60 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C
Operating pressure	0 to 63 bar	0 to 63 bar	0 to 63 bar	0 to 40 bar	0 to 40 bar
Nominal sizes	DN 8 to 65	DN 8 to 100	DN 8 to 100	DN 15 to 100	DN 8 to 50
Connection types					
Clamp	-	-	●	-	-
Flange	-	●	-	●	-
Spigot	-	●	●	-	-
Threaded connection	●	●	-	-	●
Connection standards					
ANSI	-	-	-	●	-
ASME	-	●	●	-	-
DIN	●	●	●	-	●
EN	-	●	-	●	-
ISO	-	●	●	-	-
NPT	●	●	-	-	●
SMS	-	-	●	-	-
Body configurations					
2/2-way body	●	●	●	●	-
Multi-port body	-	-	-	-	●
Body materials					
1.4408	●	-	-	●	●
1.4435 (316L)	-	-	●	-	-
Conformities					
ASME GEMÜ B31.3	-	●	-	-	-
ATEX	-	●	●	●	●
DVGW Gas	●	-	-	-	-
EAC	●	●	●	●	-
FDA	●	●	●	●	-
Functional safety	●	-	-	-	-
Oxygen	-	●	-	-	-
Reg. (EU) No. 10/2011	●	●	●	●	-
Regulation (EC) No. 1935/2004	●	●	●	●	-
Regulation (EC) No. 2023/2006	-	●	-	●	-
TA Luft (German Clean Air Act)	-	●	●	●	-
USP	-	-	●	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ B20

Manually operated ball valve

The GEMÜ B20 2-piece 2/2-way metal ball valve is manually operated. It has a plastic sleeved lockable hand lever. The seat seal is made of PTFE.

Features

- High flow rate
- Low weight
- Compact design
- Lockable hand lever



Technical specifications

Media temperature :	-40 to 180 °C
Ambient temperature:	-40 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 65
Body configurations:	2/2-way body
Connection types:	Threaded connection
Body materials:	1.4408, investment casting material
Seal materials:	PTFE

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GW-B20



GEMÜ B22

Manually operated 2/2-way ball valve

The GEMÜ B22 3-piece 2/2-way metal ball valve is manually operated. It has a plastic sleeved hand lever with a locking device. The seat seal is made of PTFE.

Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device unit



Technical specifications

Media temperature :	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Flange Spigot Threaded connection
Body materials:	1.4408, investment casting material
Seal materials:	PTFE

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GW-B22



GEMÜ B24

Manually operated ball valve

The GEMÜ B24 3-piece body 2/2-way metal ball valve is manually operated. The 1.4435 stainless steel alloy material composition used for the ball valve body (compliant with 316L) with a low delta ferrite proportion of < 3% is particularly suited to applications in the supply sector for the pharmaceutical, foodstuffs processing and biotechnology (such as water treatment and sterile steam generation) industries. Only those plastics which are compliant with FDA, USP Class VI and Regulation (EU) No.10/2011 are used for the seals.

Features

- Checked delta ferrite material < 3% (1.4435)
- Material certificates for media wetted components
- Media wetted surfaces according to ASME SF5 (Ra 0.51 µm)
- Butt weld spigots in extended orbital welding design
- Optionally available with cavity-filled seat
- Suitable for vacuum applications
- Option: ATEX version
- Ball valve body, assembled free of oil/grease



Technical specifications

Media temperature :	-10 to 220 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN ISO SMS
Body materials:	1.4435 (316L), investment casting material
Seal materials:	PTFE TFM™
Conformities:	ATEX EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

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GW-B24



GEMÜ B26

Manually operated compact flanged ball valve

The GEMÜ B26 metal one-piece 2/2-way ball valve has a plastic sleeved hand lever. The seat seal is made of PTFE.

Features

- High flow rate
- Full-flow bore
- Compact design
- ATEX version available as an option



Technical specifications

Media temperature :	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act)

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GW-B26



GEMÜ B27

Manually operated 3/2-way ball valve

The GEMÜ B27 3/2-way metal ball valve is manually operated. It has a plastic sleeved hand lever with a locking device. The seat seal is made of PTFE.

Features

- High flow rate
- Full-flow bore
- Compact design
- ATEX version available as an option



Technical specifications

Media temperature :	-40 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 8 to 50
Body configurations:	Multi-port body
Connection types:	Threaded connection
Connection standards:	DIN NPT
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX

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GW-B27



Manually operated ball valves made of plastic

Overview

GEMÜ type	717	S717
		
Special feature		For Group 2 fluids in accordance with PED 2014/68/EU
Media temperature	-20 to 100 °C	0 to 60 °C
Ambient temperature	-10 to 50 °C	0 to 60 °C
Operating pressure	0 to 16 bar	0 to 16 bar
Nominal sizes	DN 10 to 100	DN 10 to 100
Connection types		
Flange	•	•
Solvent cement socket	•	•
Spigot	•	•
Threaded connection	•	•
Union end	•	•
Connection standards		
ANSI	•	-
ASTM	-	•
BS	•	•
DIN	•	•
EN	•	-
ISO	•	-
JIS	•	-
NPT	•	•
Body configurations		
2/2-way body	•	•
Multi-port body	•	-
Body materials		
ABS	•	-
PP-H	•	•
PVC-C	•	-
PVC-U	•	•
PVDF	•	-
Conformities		
EAC	•	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 717

Manually operated ball valve

The GEMÜ 717 2/2 or 3/2-way plastic ball valve has an ergonomically designed hand lever and is manually operated. The seat seal is made from PTFE and the O-ring seals can be made from either EPDM or FKM.

Features

- High flow rate
- Low weight
- Choice of various body materials and connection types
- Union nut with integrated spin-lock
- 2/2 and 3/2-way versions available
- Optionally available with control ball



Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 10 to 100
Body configurations:	2/2-way body Multi-port body
Connection types:	Flange Solvent cement socket Spigot Threaded connection Union end
Connection standards:	ANSI BS DIN EN ISO JIS NPT
Body materials:	ABS PP-H, grey PVC-C, chlorinated PVC-U, grey PVDF
Seal materials:	EPDM FKM
Conformities:	EAC

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GW-717



GEMÜ S717

Manually operated ball valve

GEMÜ S717 is a 2/2-way plastic ball valve available in sizes DN 10 to 100. It is equipped with a plastic manual actuator. The seat seal is made from PTFE and the O-ring seals can be made from either EPDM or FKM.

The product is designed for use in piping. It controls a flowing medium by manual operation.

Features

- Simple installation
- Durable
- Grip can be used as a regulating key



Technical specifications

Media temperature :	0 to 60 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 10 to 100
Body configurations:	2/2-way body
Connection types:	Flange Solvent cement socket Spigot Threaded connection Union end
Connection standards:	ASTM BS DIN NPT
Body materials:	PP-H, grey PVC-U, grey
Seal materials:	EPDM FKM

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GW-S717



Pneumatically operated ball valves

Overview

GEMÜ type	710	B42	B44	B46	B47
					
Special feature	Plastic ball valve		Option with minimal deadleg and delta ferrite < 3 %	Compact length	3/2-way ball valve
Media temperature	-20 to 100 °C	-20 to 180 °C	-10 to 220 °C	-20 to 180 °C	-40 to 180 °C
Ambient temperature	-10 to 50 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C
Operating pressure	0 to 16 bar	0 to 63 bar	0 to 63 bar	0 to 40 bar	0 to 40 bar
Nominal sizes	DN 10 to 100	DN 8 to 100	DN 8 to 100	DN 15 to 100	DN 8 to 50
Connection types					
Clamp	-	-	●	-	-
Flange	●	●	-	●	-
Solvent cement socket	●	-	-	-	-
Spigot	●	●	●	-	-
Threaded connection	●	●	-	-	●
Union end	●	-	-	-	-
Connection standards					
ANSI	-	-	-	●	-
ASME	-	●	●	-	-
ASTM	●	-	-	-	-
BS	●	-	-	-	-
DIN	●	●	●	-	●
EN	●	●	-	●	-
ISO	●	●	●	-	-
JIS	●	-	-	-	-
NPT	-	●	-	-	●
SMS	-	-	●	-	-
Body configurations					
2/2-way body	●	●	●	●	-
Multi-port body	●	-	-	-	●
Body materials					
1.4408	-	●	-	●	●
1.4435 (316L)	-	-	●	-	-
ABS	●	-	-	-	-
PVC-C	●	-	-	-	-
PVC-U	●	-	-	-	-
PVDF	●	-	-	-	-
Conformities					
ASME GEMÜ B31.3	-	●	-	-	-
ATEX	-	●	●	●	●
EAC	●	●	●	●	-
FDA	-	●	●	●	-
Oxygen	-	●	-	-	-
Reg. (EU) No. 10/2011	-	●	●	●	-
Regulation (EC) No. 1935/2004	-	●	●	●	-
Regulation (EC) No. 2023/2006	-	●	-	●	-

GEMÜ type	710	B42	B44	B46	B47
					
TA Luft (German Clean Air Act)	-	•	•	•	-
USP	-	-	•	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 710

Pneumatically operated ball valve

The 2/2 and/or 3/2-way GEMÜ 710 plastic ball valve has a pneumatic actuator, which can either be made from aluminium or plastic. The seat seal is made from PTFE and the O-ring seals can be made from either EPDM or FKM.

Features

- High flow rate
- Choice of various body materials and connection types
- 2/2 and 3/2-way versions available
- Optionally available with control ball



EAC

Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 10 to 100
Body configurations:	2/2-way body Multi-port body
Connection types:	Flange Solvent cement socket Spigot Threaded connection Union end
Connection standards:	ASTM BS DIN EN ISO JIS
Body materials:	ABS PP-H, grey PVC-C, chlorinated PVC-U, grey PVDF
Seal materials:	EPDM FKM
Conformities:	EAC

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GW-710



GEMÜ B42

Pneumatically operated 2/2-way ball valve

The GEMÜ B42 3-piece 2/2-way metal ball valve is pneumatically operated. The seat seal is made of PTFE.

Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device unit



Technical specifications

Media temperature :	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Flange Spigot Threaded connection
Connection standards:	ASME DIN EN ISO NPT
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ASME GEMÜ B31.3 ATEX EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act)

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GW-B42



GEMÜ B44

Pneumatically operated ball valve

The GEMÜ B44 3-piece 2/2-way metal ball valve is pneumatically operated. The 1.4435 stainless steel alloy material composition used for the ball valve body (compliant with 316L) with a low delta ferrite proportion of < 3% is particularly suited to applications in the supply sector for the pharmaceutical, foodstuffs processing and biotechnology (such as water treatment and sterile steam generation) industries. Only those plastics which are compliant with FDA, USP Class VI and Regulation (EU) No.10/2011 are used for the seals.

Features

- Checked delta ferrite material < 3% (1.4435)
- Material certificates for media wetted components
- Media wetted surfaces according to ASME SF5 (Ra 0.51 µm)
- Butt weld spigots in extended orbital welding design
- Optionally available with cavity-filled seat
- Suitable for vacuum applications
- Option: ATEX version
- Ball valve body, assembled free of oil/grease



Technical specifications

Media temperature :	-10 to 220 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN ISO SMS
Body materials:	1.4435 (316L), investment casting material
Seal materials:	PTFE TFM™
Conformities:	ATEX EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

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GW-B44



GEMÜ B46

Pneumatically operated compact flanged ball valve

The GEMÜ B46 2/2-way metal ball valve is pneumatically operated. The seat seal is made of PTFE.

Features

- High flow rate
- Full-flow bore
- Adjustable travel stops
- Antistatic device unit



Technical specifications

Media temperature :	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act)

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GW-B46



GEMÜ B47

Pneumatically operated 3/2-way ball valve

The GEMÜ B47 3/2-way metal ball valve is pneumatically operated. The seat seal is made of PTFE.

Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device unit



Technical specifications

Media temperature :	-40 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 8 to 50
Body configurations:	Multi-port body
Connection types:	Threaded connection
Connection standards:	DIN NPT
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX

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Motorized ball valves

Overview

GEMÜ type	723	B52	B54	B56	B57
					
Special feature	Plastic ball valve		Option with minimal deadleg and delta ferrite < 3 %	Compact length	3/2-way ball valve
Media temperature	-20 to 100 °C	-20 to 180 °C	-10 to 220 °C	-20 to 180 °C	-40 to 180 °C
Ambient temperature	-10 to 50 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C
Operating pressure	0 to 16 bar	0 to 63 bar	0 to 63 bar	0 to 40 bar	0 to 40 bar
Nominal sizes	DN 10 to 100	DN 8 to 100	DN 8 to 100	DN 15 to 100	DN 8 to 50
Supply voltage	12 V AC, 50/60 Hz 12 V DC 24 - 240 V AC/DC 24 V AC, 50/60 Hz 24 V DC	12 V AC, 50/60 Hz 12 V DC 24 - 240 V AC/DC 24 V AC/DC 24 V DC	12 V AC, 50/60 Hz 12 V DC 24 - 240 V AC/DC 24 V AC, 50/60 Hz 24 V DC	12 V DC 230 V AC, 50 Hz 24 - 240 V AC/DC 24 V DC	100 - 240 V AC, 50/60 Hz & 100 - 350 V DC 230 V AC, 50/60 Hz 24 - 240 V AC/DC 24 V DC
Operating time 90°	4 to 30 s	4 to 34 s	4 to 58 s	10 to 58 s	10 to 58 s
Connection types					
Clamp	-	-	●	-	-
Flange	●	●	-	●	-
Solvent cement socket	●	-	-	-	-
Spigot	●	●	●	-	-
Threaded connection	●	●	-	-	●
Union end	●	-	-	-	-
Connection standards					
ANSI	●	-	-	●	-
ASME	-	●	●	-	-
BS	●	-	-	-	-
DIN	●	●	●	-	●
EN	●	●	-	●	-
ISO	●	●	●	-	-
JIS	●	-	-	-	-
NPT	-	●	-	-	●
SMS	-	-	●	-	-
Body configurations					
2/2-way body	●	●	●	●	-
Multi-port body	●	-	-	-	●
Body materials					
1.4408	-	-	-	●	●
1.4435 (316L)	-	-	●	-	-
ABS	●	-	-	-	-
PP-H	●	-	-	-	-
PVC-C	●	-	-	-	-
PVC-U	●	-	-	-	-
PVDF	●	-	-	-	-
Conformities					
ASME GEMÜ B31.3	-	●	-	-	-
ATEX	-	●	●	●	●

GEMÜ type	723	B52	B54	B56	B57
					
EAC	●	●	●	●	-
FDA	-	●	●	●	-
Oxygen	-	●	-	-	-
Reg. (EU) No. 10/2011	-	●	●	●	-
Regulation (EC) No. 1935/2004	-	●	●	●	-
Regulation (EC) No. 2023/2006	-	●	-	●	-
RoHS	●	-	-	-	-
TA Luft (German Clean Air Act)	-	●	●	●	-
USP	-	-	●	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 723

Motorized ball valve

The 2/2 and/or 3/2-way GEMÜ 723 ball valve is motorized. It has a plastic actuator housing. A manual override and an optical position indicator are integrated as standard. The seat seal is made from PTFE and the O-ring seals can be made from either EPDM or FKM.

Features

- High flow rate
- Low weight
- Choice of various body materials and connection types
- Available as shut-off or control valve
- 2/2 and 3/2-way versions available



Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 10 to 100
Body configurations:	2/2-way body Multi-port body
Connection types:	Flange Solvent cement socket Spigot Threaded connection Union end
Connection standards:	ANSI BS DIN EN ISO JIS
Body materials:	ABS PP-H, grey PVC-C, chlorinated PVC-U, grey PVDF
Seal materials:	EPDM FKM
Supply voltage:	12 V AC, 50/60 Hz 12 V DC 24 - 240 V AC/DC 24 V AC, 50/60 Hz 24 V DC
Operating time 90°:	4 to 30 s
Protection class:	IP 65, IP 67
Conformities:	EAC RoHS

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GW-723



GEMÜ B52

Motorized ball valve

The GEMÜ B52 3-piece 2/2-way metal ball valve is motorized. It has a plastic actuator housing. A manual override and an optical position indicator are integrated as standard. The seat seal is made of PTFE.

Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device unit



Technical specifications

Media temperature :	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Flange Spigot Threaded connection
Connection standards:	ASME DIN EN ISO NPT
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Supply voltage:	12 V AC, 50/60 Hz 12 V DC 24 - 240 V AC/DC 24 V AC/DC 24 V DC
Operating time 90°:	4 to 34 s
Protection class:	IP 65, IP 67, IP 68
Conformities:	ASME GEMÜ B31.3 ATEX EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act)

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GW-B52



GEMÜ B54

Motorized ball valve

The GEMÜ B54 3-piece 2/2-way metal ball valve is motorized. Various on/off or control actuators are available. The 1.4435 stainless steel alloy material composition used for the ball valve body (compliant with 316L) with a low delta ferrite proportion of < 3% is particularly suited to applications in the supply sector for the pharmaceutical, foodstuffs processing and biotechnology (such as water treatment and sterile steam generation) industries. Only those plastics which are compliant with FDA, USP Class VI and Regulation (EU) No.10/2011 are used for the seals.

Features

- Checked delta ferrite material < 3% (1.4435)
- Material certificates for media wetted components
- Media wetted surfaces according to ASME SF5 (Ra 0.51 µm)
- Suitable for vacuum applications
- Optionally available with cavity-filled seat
- Butt weld spigots in extended orbital welding design
- Ball valve body, assembled free of oil/grease



Technical specifications

Media temperature :	-10 to 220 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 63 bar
Nominal sizes:	DN 8 to 100
Body configurations:	2/2-way body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN ISO SMS
Body materials:	1.4435 (316L), investment casting material
Seal materials:	PTFE TFM™
Supply voltage:	12 V AC, 50/60 Hz 12 V DC 24 - 240 V AC/DC 24 V AC, 50/60 Hz 24 V DC
Operating time 90°:	4 to 58 s
Protection class:	IP 65, IP 67, IP 68
Conformities:	ATEX EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

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GEMÜ B56

Motorized compact flanged ball valve

The GEMÜ B56 3-piece 2/2-way metal ball valve is motorized. It has a plastic actuator housing. A manual override and an optical position indicator are integrated as standard. The seat seal is made of PTFE.

Features

- High flow rate
- Full-flow bore
- Compact design
- ATEX version available as an option



Technical specifications

Media temperature :	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 15 to 100
Body configurations:	2/2-way body
Connection types:	Flange
Connection standards:	ANSI EN
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Supply voltage:	12 V DC 230 V AC, 50 Hz 24 - 240 V AC/DC 24 V DC
Operating time 90°:	10 to 58 s
Protection class:	IP 65, IP 67, IP 68
Conformities:	ATEX EAC FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act)

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GEMÜ B57

Motorized 3/2-way ball valve

The GEMÜ B57 3/2-way metal ball valve is motorized. It has a plastic actuator housing. A manual override and an optical position indicator are integrated as standard. The seat seal is made of PTFE.

Features

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device unit



Technical specifications

Media temperature :	-40 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 8 to 50
Body configurations:	Multi-port body
Connection types:	Threaded connection
Connection standards:	DIN NPT
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Supply voltage:	100 - 240 V AC, 50/60 Hz & 100 - 350 V DC 230 V AC, 50/60 Hz 24 - 240 V AC/DC 24 V DC
Operating time 90°:	10 to 58 s
Protection class:	IP 65, IP 67, IP 68
Conformities:	ATEX

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GW-B57



Add-on components for ball valves

GEMÜ type	B22	B24	B44	B42	B47	B46	B26
Measurement and control technology							
Electrical position indicator							
GEMÜ 1205 ▶ page 362	•						
GEMÜ 1215 ▶ page 363	•						
GEMÜ 1230/1231/1232	•						
GEMÜ 1235/1236 ▶ page 368	•	•	•	•	•	•	•
GEMÜ 1242 ▶ page 371	•	•	•	•	•	•	•
GEMÜ LSC ▶ page 372	•	•	•	•	•	•	•
GEMÜ LSF ▶ page 373	•	•	•	•	•	•	•
Combi switchbox							
GEMÜ 4242 ▶ page 378	•	•	•	•	•	•	•
Pilot valve							
GEMÜ 0324 ▶ page 385	•						
Control systems							
Positioner							
GEMÜ 1434 µPos ▶ page 338	•						
GEMÜ 1435 ePos ▶ page 340	•	•	•	•	•	•	•
Positioner and process controller							
GEMÜ 1436 cPos ▶ page 341	•	•	•	•	•	•	•
Accessories							
Connection accessories ▶ page 417	•						
Stroke limiters ▶ page 422	•		•	•		•	
Sensor accessories ▶ page 424	•						
Position indicators ▶ page 421	•		•	•	•	•	

GEMÜ valves are fully assembled in our in-house Assembly department – with compatible accessories on request.



Our pre-assembled solutions are supplied to you preset and tested. Not only can you obtain all components from a single source, you simultaneously reduce the effort required for logistics and installation of the system on site, as well as for documentation.





Process solenoid valves

Description

All valves that are actuated with an electromagnetic actuator are designated as process solenoid valves. Generally, these are short-stroke globe valves.

GEMÜ offers process solenoid valves for inert and corrosive as well as gaseous and liquid media.

The actuator is joined directly to the seal with the **directly controlled** process solenoid valve. A single compression spring holds the valve closed. To open, the seal is lifted by the force of the magnet and the medium is allowed to flow freely. No minimum operating pressure or pressure differential is required – the valves work from 0 bar.

Using **servo assisted** process solenoid valves, the magnet opens a pilot hole through which the valve is actuated either directly or supported by the operating pressure differential. They are, therefore, a cross between pilot valves and directly controlled solenoid valves, and can also be used for higher pressure ranges.

With process solenoid valves **with positive lift diaphragm**, the solenoid opens a pilot bore and lifts the sealing element off the valve seat or opens the valve, either directly or with the support of the pressure differential. No minimum operating pressure or pressure differential is required – the valves work from 0 bar.

Features

- High cycle duties possible
- Corrosion-resistant
- Ideal dosing valve for small to very small quantities
- Preferred flow direction over the seat

Typical working media

- Inert and corrosive media
- Liquids and gases

Applications

- Water treatment plants, washing and cleaning installations
- Plants for the food and foodstuff industries, the chemical industry and electroplating
- Equipment for the photographic industry, laboratory, analytical and medical apparatus

Directly controlled process solenoid valves

Overview

GEMÜ type	52	102	202
			
Media temperature	-20 to 100 °C	-20 to 100 °C	-20 to 100 °C
Ambient temperature	10 to 40 °C	10 to 40 °C	10 to 40 °C
Operating pressure	0 to 6 bar	0 to 4 bar	0 to 2 bar
Nominal sizes	DN 2 to 6	DN 6 to 10	DN 10 to 15
Supply voltages			
110 V AC, 50 Hz	-	-	-
110–230 V AC/DC	-	-	-
120 V AC, 50/60 Hz	•	•	•
20 - 48 V AC/DC	-	-	-
230 V AC, 50 Hz	-	-	-
230 V AC, 50/60 Hz	•	•	•
24 V AC, 50/60 Hz	•	•	•
24 V DC	•	•	•
Connection types			
Solvent cement socket	-	•	•
Spigot	-	-	-
Threaded connection	•	•	•
Union end	-	-	-
Body materials			
1.4408	-	-	-
CW617N	-	-	-
PP-H	-	-	-
PVC-U	•	•	•
PVDF	•	•	•
Conformities			
ATEX	-	-	-
EAC	•	•	•
UL Recognized US	•	•	•

GEMÜ type	205	8259	M75
			
Media temperature	-20 to 60 °C	-10 to 110 °C	-10 to 90 °C
Ambient temperature	10 to 40 °C	-10 to 50 °C	-10 to 60 °C
Operating pressure	0 to 6 bar	0 to 20 bar	0 to 6 bar
Nominal sizes	DN 10 to 50	DN 2 to 5	DN 8 to 20
Supply voltages			
110 V AC, 50 Hz	-	•	-
110–230 V AC/DC	-	-	•
120 V AC, 50/60 Hz	•	-	-
20 - 48 V AC/DC	-	-	•
230 V AC, 50 Hz	-	•	-
230 V AC, 50/60 Hz	•	-	-
24 V AC, 50/60 Hz	•	-	-
24 V DC	•	•	•
Connection types			
Solvent cement socket	•	-	•
Spigot	•	-	•
Threaded connection	•	•	•
Union end	•	-	•
Body materials			
1.4408	-	•	-
CW617N	-	•	-
PP-H	-	-	•
PVC-U	•	-	•
PVDF	•	-	•
Conformities			
ATEX	-	•	-
EAC	•	•	•
UL Recognized US	-	-	•

GEMÜ 52

Electrically operated solenoid valve

The GEMÜ 52 directly controlled 2/2-way solenoid valve has a completely plastic encapsulated coil. The armature is sealed by a bellows made of PTFE backed by an additional safety diaphragm. The valve body is available in various materials and with a straight through or angle valve body design.

Features

- Good cleanability
- Hermetic separation between medium and actuator
- The solenoid can be replaced without removing the valve body from the piping



Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	10 to 40 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 2 to 6
Connection type:	Threaded connection
Connection standards:	DIN ISO
Body materials:	PVC-U, grey PVDF
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Protection class:	IP 65
Conformities:	EAC UL Recognized US

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GW-52



GEMÜ 102

Electrically operated solenoid valve

The GEMÜ 102 directly controlled 2/2-way solenoid valve has a completely plastic encapsulated coil. The armature is sealed by a bellows made of PTFE backed by an additional safety diaphragm. The valve body is available in various materials and with a straight through or angle valve body design.

Features

- Good cleanability
- Hermetic separation between medium and actuator
- The solenoid can be replaced without removing the valve body from the piping



Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	10 to 40 °C
Operating pressure :	0 to 4 bar
Nominal sizes:	DN 6 to 10
Connection type:	Solvent cement socket Threaded connection
Connection standards:	DIN ISO
Body materials:	PVC-U, grey PVDF
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Protection class:	IP 65
Conformities:	EAC UL Recognized US

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GW-102



GEMÜ 202

Electrically operated solenoid valve

The GEMÜ 202 directly controlled 2/2-way solenoid valve has a completely plastic encapsulated coil. The armature is sealed by a bellows made of PTFE backed by an additional safety diaphragm. The valve body is available in various materials and with a straight through or angle valve body design.

Features

- Good cleanability
- The solenoid can be replaced without removing the valve body from the piping
- Hermetic separation between medium and actuator



Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	10 to 40 °C
Operating pressure :	0 to 2 bar
Nominal sizes:	DN 10 to 15
Connection types:	Solvent cement socket Threaded connection
Connection standards:	DIN ISO
Body materials:	PVC-U, grey PVDF
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Conformities:	EAC UL Recognized US

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GW-202



GEMÜ 205

Electrically operated solenoid valve

The GEMÜ 205 directly controlled 2/2-way plastic solenoid valve has a high performance coil. It is hermetically separated from the medium by means of a flexible PTFE bush. The armature is sealed by a bellows made of PTFE backed by an additional safety diaphragm. The plug has a rectifier for use with an AC supply. A manual override and an optical position indicator are integrated as standard.

Features

- Hermetic separation between medium and actuator
- In case of power failure operation possible by manual override
- Standard integral optical position indicator



Technical specifications

Media temperature :	-20 to 60 °C
Ambient temperature:	10 to 40 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 10 to 50
Connection type:	Solvent cement socket Spigot Threaded connection Union end
Connection standards:	DIN ISO
Body materials:	PVC-U, grey PVDF
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Protection class:	IP 65
Conformities:	EAC

Go online!



GW-205



GEMÜ 8259

Electrically operated solenoid valve

The GEMÜ 8259 direct-acting electromagnetic 2/2-way solenoid valve has a brass or stainless steel valve body. All parts that come into contact with the medium are made from FKM, NBR, PTFE, EPDM, brass or stainless steel. The valve is suitable for inert liquids and gases.

Features

- Direct acting, normally open or normally closed
- Valve operates without minimum pressure differential
- High flow rate
- Compact design
- Simple coil replacement without tools (Click-on®)
- Suitable for vacuum applications
- Explosion protected solenoids acc. to ATEX available as an option
- Various threaded connections per nominal size
- CSA approval available



Technical specifications

Media temperature :	-10 to 110 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 20 bar
Nominal sizes:	DN 2 to 5
Connection type:	Threaded connection
Connection standards:	DIN ISO NPT
Body materials:	1.4408, investment casting material CW617N, brass
Supply voltages:	110 V AC, 50 Hz 230 V AC, 50 Hz 24 V DC
Conformities:	ATEX EAC

Go online!



GW-8259



GEMÜ M75

Electrically operated solenoid valve

The GEMÜ M75 directly controlled 2/2-way process solenoid valve has innovative double bellows as a seal, with which the pressure forces can be compensated. The plastic-encapsulated compact coil is available in several supply voltages. O-rings in various designs ensure hermetic separation between medium and actuator. The valve is suitable for liquid and gaseous media in Open/Close applications with short operating times. The GEMÜ M75 process solenoid valve has a manual override and an energy-saving reduction in holding current as standard.

Features

- Compact design thanks to the small solenoid
- Resistant against corrosive media
- Low maintenance
- Suitable for vacuum
- GEMÜ electrical position indicator can be fitted



Technical specifications

Media temperature :	-10 to 90 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 8 to 20
Connection type:	Solvent cement socket Spigot Threaded connection Union end
Connection standards:	DIN
Body materials:	PP-H, grey PVC-U, grey PVDF
Supply voltages:	110–230 V AC/DC 20 - 48 V AC/DC 24 V DC
Protection class:	IP 65
Conformities:	EAC UL Recognized US

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GW-M75



Servo-assisted process solenoid valves

Overview

GEMÜ type	8258	225
		
Media temperature	-10 to 110 °C	-20 to 60 °C
Ambient temperature	-10 to 50 °C	10 to 40 °C
Operating pressure	0,1 to 16 bar	0 to 6 bar
Nominal sizes	DN 8 to 50	DN 15 to 50
Supply voltages		
110 V AC, 50/60 Hz	•	-
120 V AC, 50/60 Hz	-	•
230 V AC, 50/60 Hz	•	•
24 V AC, 50/60 Hz	•	•
24 V DC	•	•
Connection types		
Spigot	-	•
Threaded connection	•	-
Union end	-	•
Body materials		
1.4408	•	-
CW617N	•	-
PVC-U	-	•
Conformities		
EAC	•	•

GEMÜ 8258

Electrically operated solenoid valve

The GEMÜ 8258 servo-assisted 2/2-way solenoid valve has a brass or stainless steel valve body. All parts that come into contact with the medium are made from stainless steel, NBR, EPDM or FKM. The valve is suitable for inert media such as air, water and oils.

Features

- Low power consumption
- High flow rate
- Soft closing action
- Low minimum pressure differential
- Simple, compact construction
- Simple coil replacement without tools (Click-on®)
- Optional manual override
- Explosion protected solenoids acc. to ATEX available as an option
- Type examination up to DN 25 to DIN EN 60730-2-8
- Optional mounting bracket available (not pre-assembled)
- NPT thread available

Technical specifications

Media temperature :	-10 to 110 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0,1 to 16 bar
Nominal sizes:	DN 8 to 50
Connection type:	Threaded connection
Connection standards:	DIN ISO NPT
Body materials:	1.4408, investment casting material CW617N, brass
Supply voltages:	110 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Conformities:	EAC



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GW-8258



GEMÜ 225

Electrically operated solenoid valve

The GEMÜ 225 servo assisted 2/2-way plastic solenoid valve has a high performance coil. The armature is sealed by a bellows made of PTFE backed by an additional safety diaphragm. The plug has a rectifier for use with an AC supply. A manual override and an optical position indicator are integrated as standard.

Features

- Hermetic separation between medium and actuator
- In case of power failure operation possible by manual override
- Standard integral optical position indicator



Technical specifications

Media temperature :	-20 to 60 °C
Ambient temperature:	10 to 40 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 15 to 50
Connection types:	Spigot Union end
Connection standards:	DIN
Body materials:	PVC-U
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Conformities:	EAC

Go online!



GW-225



Process solenoid valves with positive lift diaphragm

Overview

GEMÜ type	8253	8257
		
Media temperature	-10 to 110 °C	-10 to 150 °C
Ambient temperature	-10 to 50 °C	-10 to 50 °C
Operating pressure	0 to 16 bar	0 to 10 bar
Nominal sizes	DN 8 to 50	DN 10
Supply voltages		
110 V AC, 50/60 Hz	•	-
230 V AC, 50 Hz	-	•
230 V AC, 50/60 Hz	•	-
230 V AC, 60 Hz	-	•
24 V AC, 50 Hz	-	•
24 V AC, 50/60 Hz	•	-
24 V AC, 60 Hz	-	•
24 V DC	•	•
Connection types		
Threaded connection	•	•
Body materials		
1.4408	•	•
CW617N	•	•
Conformities		
EAC	•	•

GEMÜ 8253

Electrically operated solenoid valve

The GEMÜ 8253 2/2-way solenoid valve with a positive lift diaphragm has a brass or stainless steel valve body. All media wetted parts are made of NBR, FPM, EPDM, brass, PVDF or stainless steel. The valve is suitable for inert medium such as air, water and oil.

Features

- Valve operates without minimum pressure differential
- High flow rate
- Soft closing action
- Suitable for vacuum applications
- Simple coil replacement without tools (Click-on®)
- NPT thread available
- Explosion protected solenoids acc. to ATEX available as an option
- CSA approval available



Technical specifications

Media temperature :	-10 to 110 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 8 to 50
Connection type:	Threaded connection
Connection standards:	DIN ISO NPT
Body materials:	1.4408, investment casting material CW617N, brass
Supply voltages:	110 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Conformities:	EAC

Go online!



GEMÜ 8257

Electrically operated solenoid valve

The GEMÜ 8257 2/2-way solenoid valve with a positive lift diaphragm is electromagnetically operated and has a brass or stainless steel valve body. All media wetted parts are made of NBR, HNBR, FKM, EPDM, brass or stainless steel. The valve is suitable for inert media such as air, water and oils.

Features

- Valve operates without minimum pressure differential
- Soft closing action
- Compact design
- Suitable for vacuum applications
- Explosion protected solenoids acc. to ATEX available as an option
- Optimum media compatibility due to choice of materials
- NPT thread available
- Option: for liquids and steam up to 150 °C



Technical specifications

Media temperature :	-10 to 150 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal size:	DN 10
Connection type:	Threaded connection
Connection standards:	DIN ISO NPT
Body materials:	1.4408, investment casting material CW617N, brass
Supply voltages:	230 V AC, 50 Hz 230 V AC, 60 Hz 24 V AC, 50 Hz 24 V AC, 60 Hz 24 V DC
Conformities:	EAC

Go online!



GW-8257





Check valves and strainers

Check valves are used if you want to ensure that the medium flows in only one direction in a system. This involves the closing element being blocked in one direction using a spring or gravity, and unblocked by the volumetric flow in the other direction. Two designs can basically be distinguished here – check valves with angle seat globe valve bodies and standard check valves.

Check valves and strainers

Overview

GEMÜ type	RSK	ZRSK	560	N560
				
Design	Check valve	Check valve	Check valve	Check valve
Media temperature	-10 to 120 °C	-40 to 200 °C	-10 to 180 °C	5 to 80 °C
Operating pressure	1 to 10 bar	1 to 16 bar	0,2 to 25 bar	0 to 16 bar
Nominal sizes	DN 32 to 600	DN 32 to 600	DN 6 to 50	DN 10 to 100
Body materials				
1.0460	-	●	-	-
1.0619	-	-	-	-
1.4408	-	●	●	-
1.4435	-	-	●	-
1.4435 (BN2)	-	-	●	-
1.4571	-	●	-	-
2.0975	-	●	-	-
PP	●	-	-	-
PP-H	-	-	-	●
PTFE	-	-	-	-
PVC-U	●	-	-	●
PVDF	●	-	-	-
Conformities				
ATEX	-	●	●	●
DVGW Drinking water	-	-	-	-
EAC	●	●	●	-
FDA	●	●	●	-
KTW	-	-	-	-
WRAS	-	-	-	-

GEMÜ type	CV	R90	R91
			
Design	Check valve		
Media temperature	0 to 130 °C	-196 to 400 °C	-200 to 300 °C
Operating pressure	0 to 6 bar	0 to 50 bar	0 to 16 bar
Nominal sizes	DN 4 to 20	DN 15 to 300	DN 50 to 600
Body materials			
1.0460	-	-	-
1.0619	-	•	•
1.4408	-	-	-
1.4435	-	-	-
1.4435 (BN2)	-	-	-
1.4571	-	-	-
2.0975	-	-	-
PP	-	-	-
PP-H	-	-	-
PTFE	•	-	-
PVC-U	-	-	-
PVDF	-	-	-
Conformities			
ATEX	-	•	-
DVGW Drinking water	-	•	-
EAC	•	•	•
FDA	-	•	-
KTW	-	•	-
WRAS	-	-	•

GEMÜ RSK

Plastic check valve

GEMÜ RSK is a plastic check valve with integrated flange seal. The valve body, disc and seal are available in various materials. The GEMÜ RSK is clamped between two flanges during installation. The centring is based on the outside diameter of the housing

Features

- Weight and space-saving construction
- Short length
- Simple construction
- Option with return spring
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



EAC

FDA

Technical specifications

Media temperature :	-10 to 120 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	1 to 10 bar
Nominal sizes:	DN 32 to 600
Connection types:	Flange
Connection standards:	ANSI DIN EN ISO
Body materials:	PP PVC-U, grey PVDF
Seal materials:	FKM NBR PTFE
Disc materials:	PP-H PVC-U PVDF
Conformities:	EAC FDA

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GEMÜ ZRSK

Metal check valve

GEMÜ ZRSK is a metal check valve with integrated flange seal. The valve body, disc and seal are available in various materials. The GEMÜ ZRSK is clamped between two flanges during installation. The centring is based on the outside diameter of the body.

Features

- Weight and space-saving construction
- Short length
- Simple construction
- Option with return spring
- Bubble tight sealing in accordance with EN 12266-1/P12, leakage rate A and G



Technical specifications

Media temperature :	-40 to 200 °C
Ambient temperature:	-40 to 95 °C
Operating pressure :	1 to 16 bar
Nominal sizes:	DN 32 to 600
Connection types:	Flange
Connection standards:	ANSI DIN EN ISO
Body materials:	1.0460, galvanized cast steel material 1.4408, investment casting material 1.4571, forged material 2.0975, cast bronze material
Seal materials:	EPDM FKM NBR PTFE
Disc materials:	1.0460, galvanized cast steel material 1.4408, investment casting material 1.4571, forged material
Conformities:	ATEX EAC FDA

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GEMÜ 560

Check valve, angle seat design

The GEMÜ 560 check valve comprises an angle seat valve body in stainless steel. The valve has either a PTFE or PFA seat for tight shut off. The valve is available with various connection types. The valve is available with various connection types.

Features

- High flow rates due to angle seat design
- Seven different connection codes for worldwide use



Technical specifications

Media temperature :	-10 to 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0,2 to 25 bar
Nominal sizes:	DN 6 to 50
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME DIN EN ISO SMS
Body materials:	1.4408, investment casting material 1.4435 (BN2), forged material 1.4435, investment casting material
Seal materials:	PFA PTFE
Conformities:	ATEX EAC FDA

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GW-560



GEMÜ N560

Check valve

The GEMÜ N560 check valve comprises an angle seat globe valve body made of plastic (either PVC-U or PP-H). The sealing elements are manufactured from EPDM and FPM.

Features

- Easy to service
- High flow rates due to angle seat design
- Low weight



Technical specifications

Media temperature :	5 to 80 °C
Ambient temperature:	5 to 50 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 10 to 100
Connection types:	Flange Solvent cement socket Spigot Threaded connection
Connection standards:	ANSI DIN EN
Body materials:	PP-H, natural PVC-U
Seal materials:	EPDM FKM
Conformities:	ATEX

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GW-N560



GEMÜ CV

Check valve

The GEMÜ CV metal-free check valve comprises a PTFE body. All functional parts are also made of PTFE. PFA, PVDF and CPFA materials are available for the union nuts in the flare connections. Sealing is O-ring-free.

Features

- Long life seal characteristics
- O-ring free seal system
- Compact design
- Low opening pressure
- Special versions available for direct integration into a block valve



EAC

Technical specifications

Media temperature :	0 to 130 °C
Ambient temperature:	0 to 100 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 4 to 20
Connection types:	Flare
Body materials:	PTFE
Seal materials:	PTFE
Conformities:	EAC

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GEMÜ R90

Metal disco check valve

The GEMÜ R90 is a metal disco check valve with flange connection and standardized length to DIN EN 558. The valve body, disc and seal are available in various materials. In the version with metallic seal, the GEMÜ R90 valve can be used at high temperatures up to 400 °C.

Features

- Suitable for low and high temperatures
- Standardized length to DIN EN 558, series 49
- Available as option free of oil and grease
- A special disc guide prevents the disc from tilting and the occurrence of strong flutter
- Bubble tight sealing in accordance with EN 12266-1/P12, leakage rate A and G



Technical specifications

Media temperature :	-196 to 400 °C
Ambient temperature:	-20 to 95 °C
Operating pressure :	0 to 50 bar
Nominal sizes:	DN 15 to 300
Connection types:	Flange
Connection standards:	ANSI ASME EN
Body materials:	1.0619, galvanized cast steel material 1.4408, investment casting material
Seal materials:	EPDM FKM NBR PTFE
Disc materials:	1.0619, galvanized cast steel material 1.4408, investment casting material
Disc/spring cross materials:	1.4408, investment casting material 1.4469, duplex cast steel material
Spring materials:	1.4571, spring steel 2.4610
Conformities:	ATEX DVGW Drinking water EAC FDA KTW

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GW-R90



GEMÜ R91

Metal dual plate check valve

The GEMÜ R91 is a metal dual plate check valve with flange connection and standardized length to DIN EN 558-1. The valve body, plates and seals are available in various materials. In the version with metallic seal, the GEMÜ R91 valve can be used at high temperatures up to 300 °C.

Features

- Suitable for low and high temperatures
- Standardized length to DIN EN 558-1, series 16
- Available as option free of oil and grease
- Bubble tight sealing in accordance with EN 12266-1/P12, leakage rate A and G



Technical specifications

Media temperature :	-200 to 300 °C
Ambient temperature:	-20 to 95 °C
Operating pressure :	0 to 16 bar
Nominal sizes:	DN 50 to 600
Connection types:	Flange
Connection standards:	ANSI ASME EN
Body materials:	1.0619, galvanized cast steel material 1.4408, investment casting material EN-GJS-400-15
Seal materials:	EPDM FKM NBR
Disc materials:	1.4408 2.0975, bronze casting material EN-GJS-400-15
Spring materials:	1.4571, spring steel
Conformities:	EAC WRAS
Plate material:	1.4408, investment casting material 1.4469, duplex cast steel material EN-GJS-400-15, SG iron material

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GW-R91



Control systems

Controlling with valves

In many areas of application for valves, simply shutting off the relevant medium is not sufficient. Instead, a control option is required.

According to DIN 19226 Part 1, control is defined as follows: Control is a process in which a variable (controlled variable) is continuously measured, compared with another variable (reference variable) and adjusted to be in line with the reference variable. The characteristic feature of control is the closed control action in which the controlled variable continuously influences itself in the action path of the control circuit. Various control tasks are pending within a single process. As a result, the areas of use for control valves are also extremely versatile:

You can find further information in the "Valve knowledge" chapter.

Flow control

- Hot and cold water feed for parts cleaning
- Cooling cast moulds
- Carbonation of beverages
- Inoculation of biocultures
- Flow monitoring in WFI loops (water for injections)

Pressure and back pressure control

- EPS foaming (steam temperature)
- Chemical circulation systems
- Pressure maintenance in short-term heater systems and analytical apparatus
- Gas injection for foodstuff
- Filling pressure control
- Pressure maintenance in WFI loops

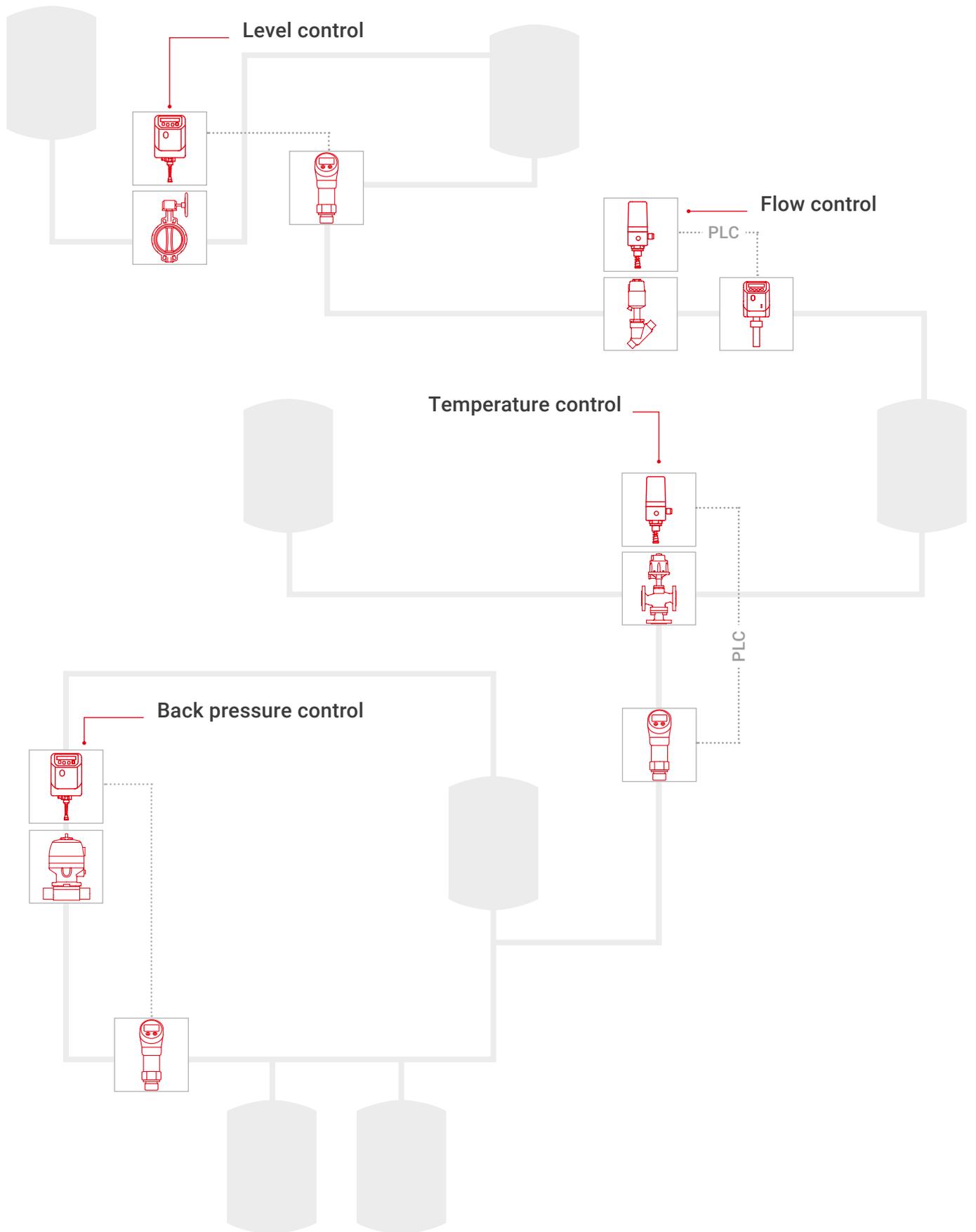
Level control

- Electroplating baths
- Highly precise dosing and control of trace elements, additives, growth promoters, flavourings or colourings in beverages, foodstuff and pharmaceutical products

Temperature control

- Cooling systems for server rooms
- Heating biogas fermentation tanks
- Sterilization in place (SIP)





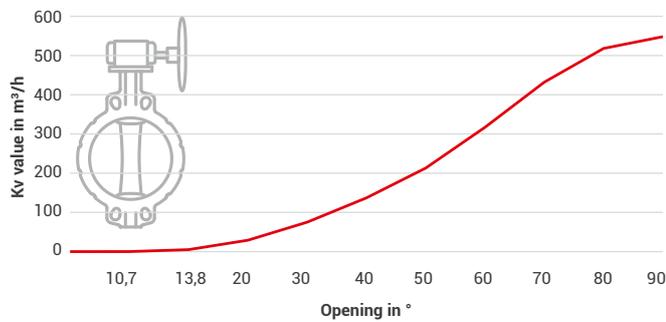
Overview of valve group controllability

Control valves affect the volumetric flow indirectly via the opening and the accompanying unblocked cross-section. The functional principle of the control valve used has a decisive impact on the control accuracy here. It can generally be controlled using virtually all valve groups, but, depending on the requirements, there are advantages and disadvantages that you have to bear in mind:

Controlling with butterfly valves

Butterfly valves can also be used as control valves when they are in the intermediate position. Three different control characteristics can be realized within a small stroke distance:

- Opening up to 25° = smallest possible flow volume increase
- Opening up to 65° = large flow volume increase
- Opening up to 90° = small flow volume increase

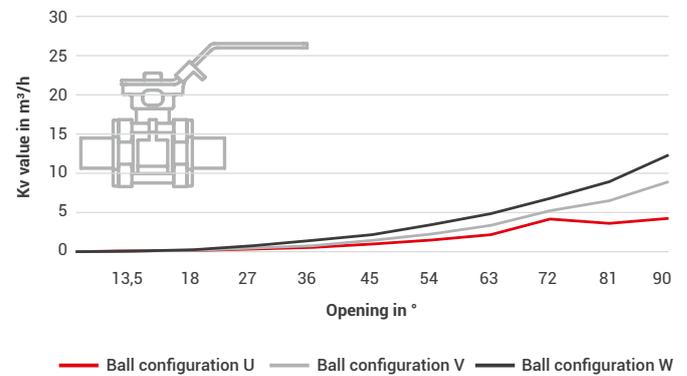


Typical control characteristic for butterfly valves

Controlling with ball valves

Ball valves also allow a relatively large cross-section with little rotation. This reduces control accuracy.

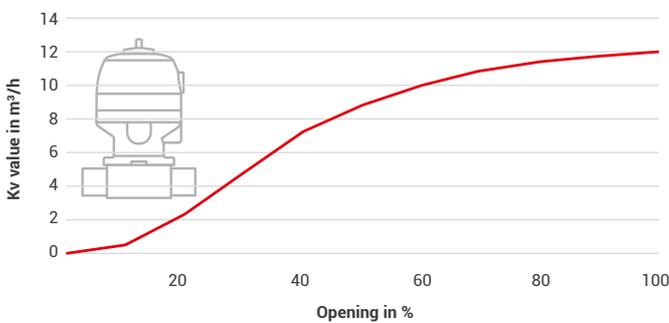
By using what has become known as an orifice plate, relatively constant control characteristics can, nevertheless, be achieved.



Typical control characteristic for ball valves

Controlling with diaphragm valves

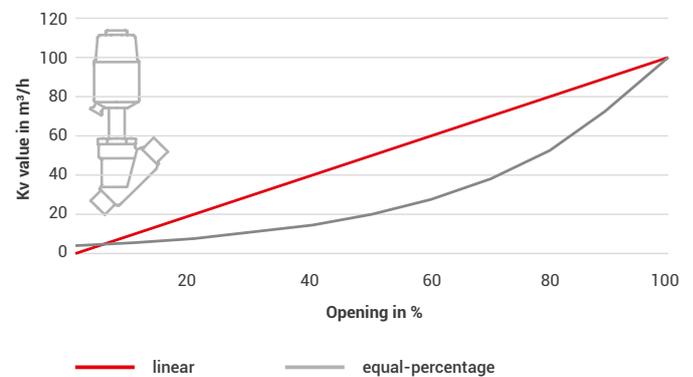
The controllable area is between 20% and 80% of the maximum achievable Kv value for the respective GEMÜ diaphragm size. This combines various nominal sizes and pipe standards (inside diameter).



Typical control characteristic for diaphragm valves

Controlling with globe valves

Due to the long stroke and other design advantages, globe valves are especially well-suited to precise control tasks. A suitable globe valve, the right flow restrictor and a suitable positioner are necessary for optimum functionality.

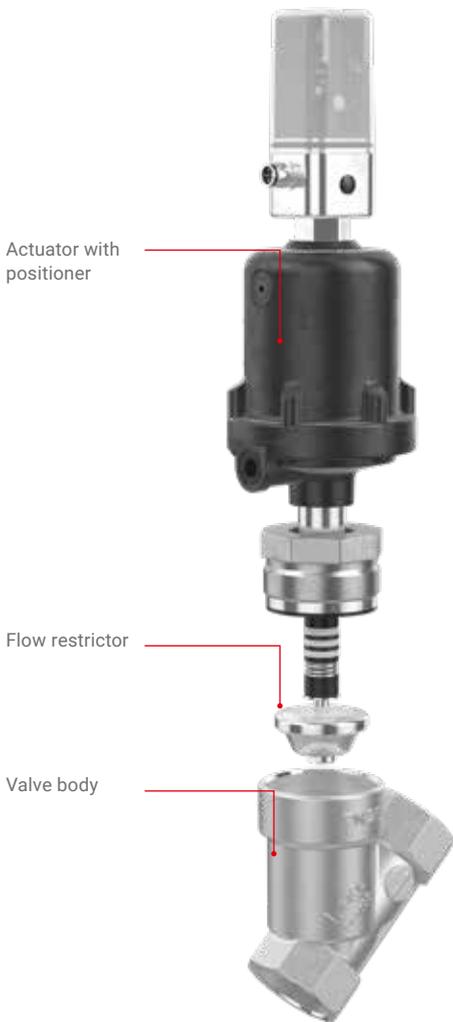


Typical control characteristic for globe valves

Globe valves as control valves

Thanks to the long stroke distance, combined with the small increase in cross-section at the valve seat, GEMÜ globe valves are ideally suited to control tasks. Moreover, they are distinguished by jolt-free actuation and a long service life in terms of switching frequency.

This is how a globe valve becomes a control valve



Flow restrictors with different geometries

With increasing opening of the valve, the flow restrictor changes the ring-shaped gap at the valve seat providing a defined control characteristic. Depending on the type of globe valve and the nominal size, flow restrictors may feature the most varied geometries.

Regulating needles are used for very small nominal sizes and high pressures because they can control with high precision. For larger diameters, modified regulating cones or regulating cages are preferred for weight reasons.

The most frequently used control characteristics are linear and equal-percentage 1:25 and 1:50. Linear means that the flow increases linearly with the opening stroke of the valve. The flow is 50% at the 50% open valve position. This provides good valve control over the whole stroke range. The equal-percentage control characteristics have the character of an exponential function. In the lower range, with an opening stroke of approx. 20% to 60%, these valves can be very finely controlled depending on the valve stroke.



Regulating needle



Regulating cone



Regulating cage

The incorrect design of control valves can result in poor control results or premature wear. This is why GEMÜ places particular importance on the precise design of the control valves.

Our technical advisors and specification sheet can help you to design control valves.



Control systems

Description

In addition to the individual control valve, GEMÜ also supplies complete control systems. The valve type is then always preceded by the prefix PCS. For example, GEMÜ PCS 550 refers to a system solution based on valve type GEMÜ 550.

In addition to the control valve, the control system also includes the mounting kit, the appropriate controller and the compressed air line.

Features

- Linear or modified equal-percentage control characteristics
- Three actuators available (plastic, aluminium, stainless steel)
- PI or PID control can be selected
- Simple and fast commissioning
- Functional safety in accordance with IEC 61508 and IEC 61511 (SIL), depending on the valve type
- Gland packing suitable for vacuum of up to 20 mbar, depending on the valve type
- ATEX on request
- Depending on choice of controller, process and/or position control is possible



Overview of control systems



GEMÜ PCS 514

GEMÜ PCS 550

GEMÜ PCS 554

GEMÜ PCS 530

GEMÜ PCS 532

GEMÜ PCS 534

GEMÜ PCS 536

For pneumatic actuators, our positioners and process controllers are fitted ex works, and tested and delivered as an entire system.

Not only can you obtain all components from a single source, you simultaneously reduce the effort required for logistics and installation of the system on site, as well as for documentation.



For motorized actuators, the controller is mostly fully integrated. These actuators are an optimal alternative to control valves in sterile environments or when considering service life.

If required, the positioner in question can also be commissioned at the place of use by GEMÜ service engineers.

Modular system for control systems

With the GEMÜ modular system, we offer you the opportunity to put together a suitable valve in line with your requirements. Discover all configuration options at www.gemu-group.com

Positioners and process controllers

GEMÜ 1434 μ Pos | GEMÜ 1435 ePos | GEMÜ 1436 cPos | GEMÜ 1436 eco cPos | GEMÜ 1441 cPos-X



Actuators

Metal | Plastic



Flow restrictor

Regulating needle | Regulating cage | Regulating cone



Body

Angle seat body | Straight seat body



Configure your valve online
at www.gemu-group.com



Positioners and process controllers

In process automation, positioners and process controllers take on the task of putting the installed valves in the desired position and achieving a defined process variable (e.g. temperature, pressure, volumetric flow). To do this, they compare the desired/set variable with the actual variable and output a corresponding positioning signal to the positioning element (control module) in the event of a deviation.

Our product range for valve process automation also comprises electro-pneumatic positioners for valves with pneumatic quarter turn or linear actuators.

Information for selecting positioners

A controlled system achieves optimum functionality not only through the selection of the positioner. All system components must be optimally adapted to each other. If this is not achieved, poor positioning and control results will be observed. The greater the requirements with regard to control accuracy, positioning ratio, cavitation and optimum operating and procurement costs are, the more carefully the selection must be made.

You can find further information in the "Valve knowledge" chapter.

Independently of the correct valve design, the valve must be positioned with the positioner and the necessary sensors at the "correct place" in the piping system. Only then is optimum functionality guaranteed. With electro-pneumatic positioners, you should install pressure and flow sensors, for example, upstream of the valve, but temperature and pH value sensors downstream of the valve, whilst considering the required inlet/outlet distances.



Positioners and process controllers

Overview

GEMÜ type	1434 µPos	1436 eco cPos	1435 ePos	1436 cPos	1441 cPos-X
					
Controller type	Positioner	Positioner	Positioner	Positioners and process controllers	Positioner
Ambient temperature	0 to 60 °C	0 to 60 °C	-20 to 60 °C	0 to 60 °C	-10 to 60 °C
Supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	Via set value signal
Flow rate	15 NI/min	100 NI/min 84 NI/min	50 NI/min 90 NI/min	100 NI/min 172 NI/min 84 NI/min	115 NI/min
Control function of valve actuator					
Double acting	-	-	•	•	•
Single acting	•	•	•	•	•
Measuring range					
Max. 30 mm, linear	•	•	•	•	-
Max. 50 mm, linear	-	•	•	•	-
Max. 75 mm, linear	-	•	•	•	•
Max. 90°, radial	-	•	•	•	•
Electrical connection types					
Cable glands	-	-	•	-	•
Connectors	•	•	•	•	•
Set value signal					
0–10 V	•	-	•	-	-
0–20 mA	•	-	•	•	-
4–20 mA	•	•	•	•	•
Analogue feedback signal					
0–10 V	•	-	•	-	-
0–20 mA	•	-	-	•	-
4–20 mA	•	•	•	•	•
Communication modes					
BLE	-	-	-	-	•
DeviceNet	-	-	-	•	-
HART	-	-	-	-	•
Profibus	-	-	-	•	-
ProfiNet	-	-	-	•	-
None	•	•	•	•	-
Programmable outputs					
No	•	•	-	-	-
Yes	-	-	•	•	•
Input option					
No	•	•	-	-	•
Yes	-	-	•	•	-
Conformities					
ATEX	-	-	-	-	•
EAC	•	•	•	•	-
FCC	-	-	-	-	•
IECEX	-	-	-	-	•
UL listed	-	•	-	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 1434 μ Pos

Intelligent electro-pneumatic positioner

The GEMÜ 1434 μ Pos digital electro-pneumatic positioner is used to control pneumatically operated small to medium nominal size process valves with single acting linear actuators. The solid compact housing has a transparent cover. LEDs for status indication are integrated. Due to factory preconfiguration, this product does not require a display with operating keys. Pneumatic and electrical connections arranged so as to save space and enable easy access. All these features make the GEMÜ 1434 μ Pos a cost-effective solution for control tasks with basic requirements.

Features

- No air consumption when idle
- Simple mounting to various actuators
- Simple commissioning due to automatic initialization
- Speed^{AP} function for fast mounting and initialization
- Easy operation due to balanced preconfiguration
- Compact design



EAC

Technical specifications

Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Mode of action:	Single acting
Flow rate:	15 NI/min
Measuring range:	Max. 30 mm, linear
Supply voltage:	24 V DC
Electrical connection types:	M12 connector
Conformity:	EAC

Go online!



GW-1434



GEMÜ 1436 eco cPos

Intelligent electro-pneumatic positioner

The GEMÜ 1436 eco cPos digital electro-pneumatic positioner is used to control pneumatically operated process valves with single acting linear or quarter turn actuators. The positioner, travel sensor, switching valves and status LEDs are integrated into the robust and compact housing. Due to factory preconfiguration, this product does not require a display with operating keys. The pneumatic and electrical connections are arranged in one mounting direction to save space and enable easy access. All these features make this positioner a cost-effective solution for control tasks with basic requirements.

Features

- No air consumption when idle
- Simple mounting to various actuators
- Simple commissioning due to automatic initialization
- Speed^{AP} function for fast mounting and initialization
- Easy operation due to balanced preconfiguration
- High flow rate



Technical specifications

Ambient temperature:	0 to 60 °C
Operating pressure :	1,5 to 7 bar
Mode of action:	Single acting
Flow rate:	100 NI/min 84 NI/min
Measuring range:	Max. 30 mm, linear Max. 50 mm, linear Max. 75 mm, linear Max. 90°, radial
Supply voltage:	24 V DC
Electrical connection types:	M12 connector
Conformity:	EAC UL listed

Go online!



GW-1436 eco



GEMÜ 1435 ePos

Intelligent electro-pneumatic positioner

The GEMÜ 1435 ePos digital electro-pneumatic positioner is used to control pneumatically operated process valves with single acting or double acting linear or quarter turn actuators, and detects the position of the valve using an external travel sensor. It has a robust aluminium housing with protected operating keys and an LCD display which allows the product to be individually adapted to the control task. The travel times can be set using integrated throttles. Connection and mounting to NAMUR is also possible. Therefore, the GEMÜ 1435 ePos is an optimal solution for control tasks with high requirements, especially in applications with harsh environmental conditions.

Features

- Simple handling and commissioning
- Simple electrical connection by detachable terminals
- Automatically optimizes the valve control during initialization
- No air consumption when idle
- Robust coated aluminium housing



EAC

Technical specifications

Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 6 bar
Mode of action:	Double acting Single acting
Flow rate:	50 NI/min 90 NI/min
Measuring range:	Max. 30 mm, linear Max. 50 mm, linear Max. 75 mm, linear Max. 90°, radial
Supply voltage:	24 V DC
Electrical connection types:	M12 cable gland M12 connector
Conformity:	EAC

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GW-1435



GEMÜ 1436 cPos

Intelligent positioner and integrated process controller

The GEMÜ 1436 cPos digital electro-pneumatic positioner has an optional integrated process controller to control pneumatically operated process valves with single acting or double acting linear or quarter turn actuators. When using the optional process controller, the signals from the sensors (e.g. flow, level, pressure, temperature) are detected and the media adjusted according to the specified set value. GEMÜ 1436 cPos has a robust aluminium housing with protected operating keys and an LCD display which allows the product to be individually adapted to complex control tasks. With additional equipment, the positioner can be used directly in fieldbus environments.

Features

- Digital inputs (option) for variable function control for automation
- Fieldbus interfaces, e.g. Profibus DP, Profinet and DeviceNet (option)
- No air consumption when idle
- Simple mounting to various actuators
- Access rights via different user levels
- High flow rate



Technical specifications

Ambient temperature:	0 to 60 °C
Operating pressure :	1,5 to 7 bar
Mode of action:	Double acting Single acting
Flow rate:	100 NI/min 172 NI/min 84 NI/min
Measuring range:	Max. 30 mm, linear Max. 50 mm, linear Max. 75 mm, linear Max. 90°, radial
Supply voltage:	24 V DC
Electrical connection types:	M12 connector
Communication modes:	DeviceNet Profibus ProfiNet None
Conformity:	EAC

Go online!



GW-1436



GEMÜ 1441 cPos-X

Intelligent electro-pneumatic positioner

The GEMÜ 1441 cPos-X is an intelligent, digital electro-pneumatic positioner in 2-wire technology used to control pneumatically operated process valves. It can be combined with single acting or double acting linear actuators or quarter turn actuators. This means that it can be used, among other things, for diaphragm, globe and diaphragm globe valves as well as for ball valves and butterfly valves, for instance. The positioner has a robust housing with a covered LCD display for status information. The positioner can be operated remotely using a mobile device in order to configure settings and to view detailed information.

Features

- 2-wire-connection technology
- Quick commissioning using well-balanced preconfiguration
- HART communication available upon request
- "Fail safe" and "Fail freeze" safety function available
- BLE communication for remote access and configuration
- Almost no air consumption when idle



Technical specifications

Ambient temperature:	-10 to 60 °C
Operating pressure :	1,5 to 7 bar
Mode of action:	Double acting Single acting
Flow rate:	115 NI/min
Linear measuring range:	2 to 75 mm
Radial measuring range:	0to 90°
Supply voltage:	Via set value signal
Electrical connection types:	M16 cable gland M12 plug
Communication modes:	BLE HART

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GW-1441





Pressure control valves

Description

Pressure control valves are used to regulate the pressure within a process and ensure a constant operating pressure or system pressure. They control the upper pressure limits, prevent pressure peaks and/or balance out pressure fluctuations. GEMÜ offers three types of pressure control valves:

1. Pressure reducing valves ensure a consistently reduced outlet pressure.
2. Pressure retaining valves, by contrast, control the pressure in the piping upstream of the valve (inlet pressure).
3. Pressure relief valves are used in piping systems to avoid pressure surges and media surpluses.

Features

- All media wetted parts are made of highly resistant plastic
- Excellent control characteristics due to geometrical optimisations based on many years of experience
- No auxiliary power required
- Low maintenance
- Can be installed irrespective of location

Applications

- Water treatment plants
- Chemical plants
- Ultra-pure water applications
- HP and UPW plants
- Desalination plants
- Swimming pools
- Aquacultures
- Sewage treatment plants
- Mining

Pressure control valves

Overview

GEMÜ type	N082 / N182	N086 / N186	N085 / N185
			
Design	Pressure reducers	Pressure retaining valves	Pressure relief valves
Media temperature	-20 to 100 °C	-20 to 100 °C	-20 to 100 °C
Operating pressure	0 to 10 bar	0 to 10 bar	0 to 10 bar
Nominal sizes	DN 10 to 100	DN 10 to 100	DN 10 to 100
Connection types			
Flange	•	•	•
Spigot	•	•	•
Union end	•	•	•
Body materials			
PP-B	•	•	•
PVC-U	•	•	•
PVDF	•	•	•
Conformities			
EAC	•	•	•

GEMÜ N082 / N182

Pressure reducer

The GEMÜ N082 / N182 pressure reducers ensure that a constant outlet pressure is maintained in process plant utilizing the pressure differential. If the pressure rises on the outlet side, the spring force is lower and the valve closes as the spring is raised. The pressure is reduced until the spring force and the outlet pressure are the same. If the pressure falls, the valve opens as the spring force presses against the diaphragm surface via the control aperture. The outlet pressure can be read off a diaphragm-protected pressure gauge and the spring force adjusted using an adjusting screw as required.

Features

- The working pressure can be very easily adjusted using a set screw and secured with the integrated lock nut. If required, the setting that has been made can be lead sealed
- The flow-efficient design of the valve body ensures good flow rate values
- Control errors are kept to a minimum due to the large control face and the spiral spring
- The actuator is hermetically separated from the medium



EAC

Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 100
Connection types:	Flange Spigot Union end
Connection standards:	DIN EN ISO
Body materials:	PP-B, grey PVC-U, grey PVDF
Conformities:	EAC

Go online!



GEMÜ N086 / N186

Pressure retaining valve

The GEMÜ N086 / N186 pressure retaining valves are used to provide a constant back pressure in process plant. If the inlet pressure rises above a preset value, the diaphragm is raised against the spring force. The valve opens and the excess pressure can escape into the outlet line. If the pressure on the inlet side is reduced, the valve closes as the spring force pushes the diaphragm against the seal seat. The spring force can be adjusted as required using an adjusting screw and secured with the lock nut.

Features

- The working pressure can be very easily adjusted using a set screw and secured with the integrated lock nut. If required, the setting that has been made can be lead sealed
- The flow-efficient design of the valve body ensures good flow rate values
- Control errors are kept to a minimum due to the large control face and the spiral spring
- The actuator is hermetically separated from the medium



Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 100
Connection types:	Flange Spigot Union end
Connection standards:	DIN EN ISO
Body materials:	PP-B, grey PVC-U, grey PVDF
Conformities:	EAC

Go online!



GEMÜ N085 / N185

Pressure relief valve

The GEMÜ N085 / N185 pressure relief valves protect the plant and the piping system against gauge pressure and reduce pressure peaks. The third pipe spigot enables the valve to be installed in the main pipe. If the pressure increases, the spring is raised and the valve opens. The pressure is reduced to the preset value and can escape via the third pipe spigot into an adjacent pipe. If the pressure falls, the spring force presses the diaphragm in the direction of the seal seat and it is closed. The spring force can be adjusted as required using an adjusting screw.

Features

- Valve adjustments can also be made under working pressure
- The optimization of piston, springs and control face ensures good control characteristics
- The actuator is hermetically separated from the medium



EAC

Technical specifications

Media temperature :	-20 to 100 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 100
Connection types:	Flange Spigot Union end
Connection standards:	DIN EN ISO
Body materials:	PP-B, grey PVC-U, grey PVDF
Conformities:	EAC

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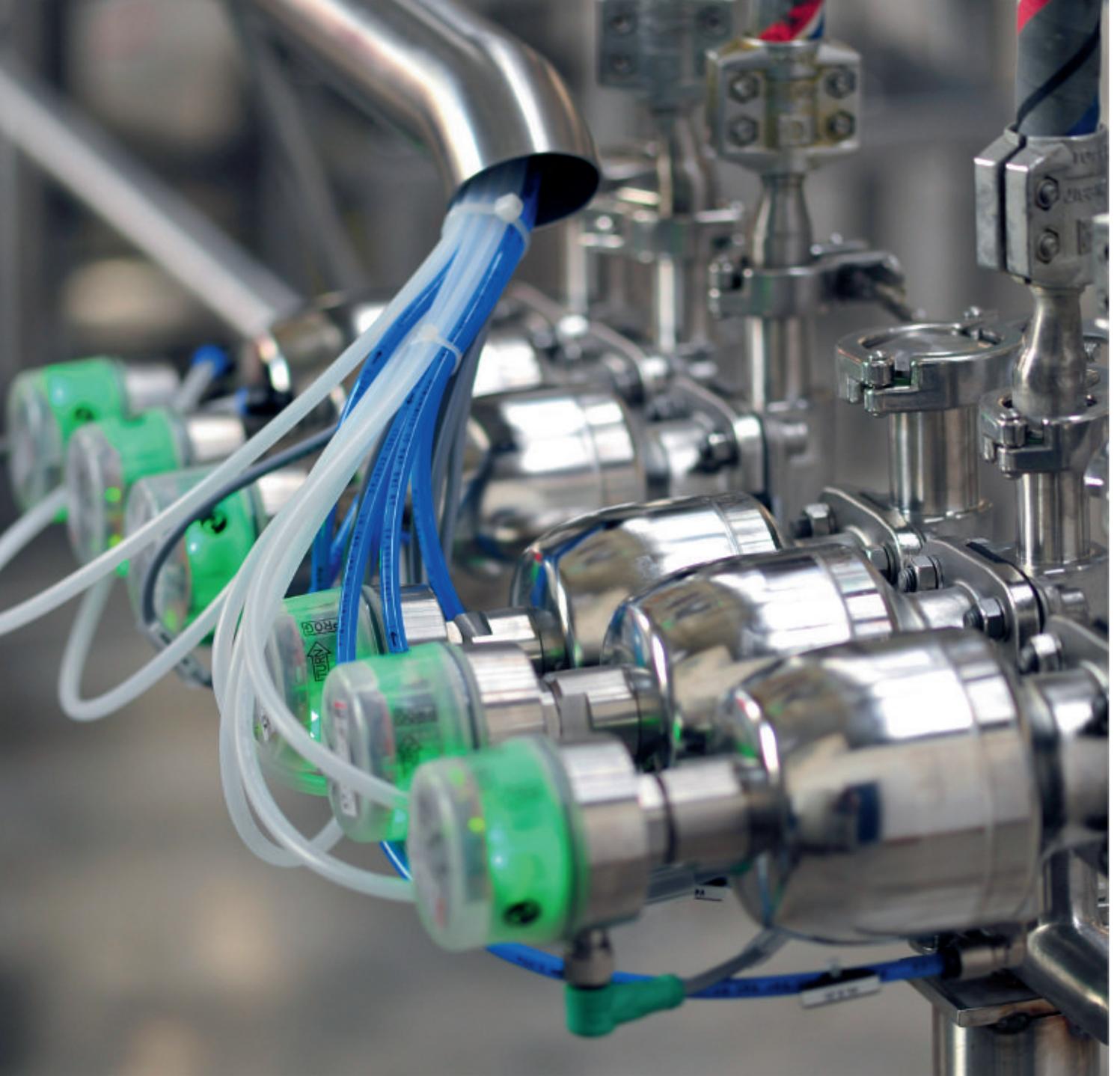
GW-N085



GW-N185



Measurement and control technology



Electrical position indicators and combi switchboxes

Monitoring the valves installed is essential for all automated processes or systems with particular safety or quality requirements. The end positions of process valves can be measured using electrical position indicators. This is why position indicators are often also designated as limit switches or actuators. A signal transmits the position of the valve, measured using the integrated sensor, to the plant control system. In comparison with electrical position indicators, combi switchboxes also have integrated pilot valves.

Our electrical position indicators and combi switchboxes can be adapted to the pneumatic actuators of globe and diaphragm valves, as well as to quarter turn valves such as butterfly valves and ball valves. Our products range from programmable position indicators and combi switchboxes with automatic initialization through to systems with proximity switches or microswitches and solutions for the explosion-proof area. AS-Interface, DeviceNet and IO-Link are available as communication interfaces.



Electrical position indicators

Overview

GEMÜ type	1205	1215	1230	1231	1232
					
Linear measuring range	2 to 70 mm	-	2 to 20 mm	2 to 20 mm	2 to 20 mm
Radial measuring range	-	-	-	-	-
Ambient temperature	-20 to 60 °C	-15 to 60 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C
Optical position indicators					
High visibility LED	-	-	-	-	-
Mechanical	-	●	-	-	-
On-site LED	-	-	●	-	●
Yes	-	●	-	-	-
Electrical connection types					
Cable glands	●	●	●	●	●
Connectors	-	●	●	●	●
Switch types					
Microswitch	●	●	●	-	-
2-wire proximity switch (NAMUR)	-	-	-	●	●
3-wire proximity switch	-	-	-	-	●
Communication modes					
AS-Interface	-	-	-	-	-
DeviceNet	-	-	-	-	-
IO-Link	-	-	-	-	-
None	●	●	●	●	●
Supply voltage					
10 - 30 V DC	-	-	●	-	●
230 V AC, 50/60 Hz	-	●	-	-	-
24 V DC	-	●	-	-	-
250 V AC	●	-	●	-	-
8 V NAMUR	-	-	-	●	●
Conformities					
ATEX	●	●	-	●	-
CSA	-	-	●	-	●
EAC	-	●	●	-	●
ETL Listed C US	-	-	-	-	-
Functional safety	-	-	-	-	-
IECEX	-	-	-	●	-
NEC 500	-	-	-	-	-
UL listed	-	-	-	-	-
UL Recognized	-	-	●	-	●

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	1234	1235/1236	1240	1241	1242
					
Linear measuring range	1 to 10 mm	2,0 to 74,4 mm	5 to 75 mm	5 to 75 mm	2 to 75 mm
Radial measuring range	-	0 to 90°	-	0 to 90°	0 to 90°
Ambient temperature	-10 to 70 °C	-10 to 70 °C	0 to 60 °C	0 to 60 °C	0 to 60 °C
Optical position indicators					
High visibility LED	-	●	-	-	●
Mechanical	-	-	●	●	-
On-site LED	●	●	-	-	●
Yes	-	-	-	-	-
Electrical connection types					
Cable glands	-	-	●	●	-
Connectors	●	●	●	●	●
Switch types					
Microswitch	-	-	●	-	-
2-wire proximity switch (NAMUR)	-	-	●	●	-
3-wire proximity switch	-	-	●	-	-
Communication modes					
AS-Interface	-	-	-	-	●
DeviceNet	-	-	-	-	●
IO-Link	-	●	-	-	●
None	●	●	●	●	-
Supply voltage					
10 - 30 V DC	-	-	-	-	-
230 V AC, 50/60 Hz	-	-	-	-	-
24 V DC	●	●	●	-	●
250 V AC	-	-	●	-	-
8 V NAMUR	-	-	●	●	-
Conformities					
ATEX	-	-	-	●	●
CSA	-	-	-	-	●
EAC	-	●	-	-	●
ETL Listed C US	-	-	-	-	●
Functional safety	-	●	-	-	-
IECEX	-	-	-	●	●
NEC 500	-	-	-	-	●
UL listed	-	●	-	-	-
UL Recognized	-	-	-	-	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

Overview

GEMÜ type	LSC	LSF
		
Linear measuring range	-	-
Radial measuring range	0 to 90°	0 to 90°
Ambient temperature	-25 to 80 °C	-25 to 85 °C
Optical position indicators		
Mechanical	•	-
On-site LED	•	•
Electrical connection types		
Cable glands	•	-
Connectors	•	•
Threaded connection	•	-
Switch types		
Reed contact	•	-
Microswitch	•	-
2-wire proximity switch (NAMUR)	•	•
3-wire proximity switch	•	•
Communication modes		
None	•	•
Supply voltage		
10 - 30 V DC	-	•
5–250 V AC/DC	•	-
8 V NAMUR	-	•
Conformities		
ATEX	•	•
CSA	-	•
EAC	•	-
Functional safety	•	•
IECEX	•	•
UL Recognized	-	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 1205

Electrical position indicator ATEX

The GEMÜ 1205 electrical position indicator has electro-mechanical microswitches in a flameproof enclosure. Two valve positions, open and/or closed can be remotely indicated.

Features

- Can be fitted to GEMÜ valves or third-party actuators
- Compact, solid aluminium housing
- Adjustable switch point tolerances



Technical specifications

Ambient temperature:	-20 to 60 °C
Linear measuring range:	2 to 70 mm
Supply voltages:	250 V AC
Protection class:	IP 65
Electrical connection types:	Cable glands
Switch types:	Microswitch
Conformities:	ATEX

Go online!



GW-1205



GEMÜ 1215

Electrical position indicator

The GEMÜ 1215 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. The position (end position open) of the valve spindle is reliably detected and fed back electronically by the operating bush with a microswitch.

Features

- Position feedback via microswitch
- The housing can be rotated through 360°
- In addition to electrical position indication an optical position indicator is also installed
- ATEX version available as an option
- Standard optical position indicator



Technical specifications

Ambient temperature:	-15 to 60 °C
Supply voltages:	230 V AC, 50/60 Hz 24 V DC
Protection class:	IP 65
Electrical connection types:	Cable glands Connectors
Switch types:	Microswitch
Conformities:	ATEX EAC

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GEMÜ 1230

Electrical position indicator

The GEMÜ 1230 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. The position of the valve spindle is reliably detected and fed back electronically via microswitches through play-free and non-positive mounting. The GEMÜ 1230 has been specially designed for valves with a stroke of 2 to 20 mm.

Features

- Position feedback via microswitch, option with LED indication of end position
- Adjustable switch point tolerances via threaded spindle
- Can be fitted to GEMÜ valves or third-party actuators
- UL approval available



Technical specifications

Ambient temperature:	-20 to 60 °C
Linear measuring range:	2 to 20 mm
Supply voltages:	10 - 30 V DC 250 V AC
Protection class:	IP 65
Electrical connection types:	Cable glands Connectors
Switch types:	Microswitch
Conformities:	CSA EAC UL Recognized

Go online!



GW-1230



GEMÜ 1231

Electrical position indicator

The GEMÜ 1231 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. The position of the valve spindle is reliably detected electronically and fed back via proximity switches through play-free and non-positive mounting. GEMÜ 1231 has been designed specially for valves with a stroke of 2 to 20 mm .

Features

- Position feedback via 2-wire proximity switch (NAMUR)
- Adjustable switch point tolerances via threaded spindle
- Can be fitted to GEMÜ valves or third-party actuators
- Explosion protection for zone 1 and 21



Technical specifications

Ambient temperature:	-20 to 60 °C
Linear measuring range:	2 to 20 mm
Supply voltages:	8 V NAMUR
Protection class:	IP 65
Electrical connection types:	Cable glands Connectors
Switch types:	2-wire proximity switch (NAMUR)
Conformities:	ATEX IECEX

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GW-1231



GEMÜ 1232

Electrical position indicator

The GEMÜ 1232 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. The position of the valve spindle is reliably detected and fed back electronically via one or two inductive proximity switches, using play-free and non-positive mounting. The GEMÜ 1232 has been specially designed for valves with a stroke of 2 to 20 mm.

Features

- Position feedback via 2-wire proximity switches (NAMUR) or 3-wire proximity switches (PNP) with optional LED indication of end position
- Adjustable switch point tolerances via threaded spindle
- Can be fitted to GEMÜ valves or third-party actuators
- UL approval available



Technical specifications

Ambient temperature:	-20 to 60 °C
Linear measuring range:	2 to 20 mm
Supply voltages:	10 - 30 V DC 8 V NAMUR
Protection class:	IP 65
Electrical connection types:	Cable glands Connectors
Switch types:	2-wire proximity switch (NAMUR) 3-wire proximity switch
Conformities:	CSA EAC UL Recognized

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GW-1232



GEMÜ 1234

Electrical position indicator

The GEMÜ 1234 electrical position indicator for linear actuators has a microprocessor controlled intelligent position sensor with an integrated analogue travel sensor system. Optical position indication is made by LEDs.

Features

- Adjustable switch point tolerances
- Open/Closed position indicator as standard
- Quick cable connection
- Easy to fit
- On-site end position programming
- Can be fitted to GEMÜ valves or third-party actuators



Technical specifications

Ambient temperature:	-10 to 70 °C
Linear measuring range:	1 to 10 mm
Supply voltages:	24 V DC
Protection class:	IP 65
Electrical connection types:	Connectors

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GW-1234



GEMÜ 1235/1236

Electrical position indicator

GEMÜ 1235 / 1236 electrical position indicators are suitable for mounting on pneumatically operated actuators. The position of the valve spindle is reliably electronically detected and evaluated using play-free and non-positive mounting. Intelligent microprocessor controlled functions facilitate commissioning and support during operation. The current position of the valve is displayed via high-visibility LEDs and fed back via electrical signals.

Features

- Communication and programming interface IO-Link
- Adjustable switch point tolerances
- Speed^{AP} function for fast mounting and initialization
- High visibility position indicator by LED
- Can be fitted to GEMÜ valves or third-party actuators
- On-site or remote end position programming via programming input



Technical specifications

Ambient temperature:	-10 to 70 °C
Linear measuring range:	2,0 to 74,4 mm
Radial measuring range:	0 to 90°
Supply voltages:	24 V DC
Protection class:	IP 67
Electrical connection types:	Connectors
Communication modes:	IO-Link None
Conformities:	EAC Functional safety UL listed

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GEMÜ 1240

Electrical position indicator

The GEMÜ 1240 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. The position of the valve spindle is reliably detected electronically and fed back via microswitches or proximity switches, using play-free and non-positive mounting. The product has been designed specially for valves with a stroke of 5 to 75 mm.

Features

- Position feedback via microswitches, optionally via 2-wire NAMUR proximity switches or 3-wire proximity switches
- Adjustable switch point tolerances using locking levers
- Can be fitted to GEMÜ valves or third-party actuators



Technical specifications

Ambient temperature:	0 to 60 °C
Linear measuring range:	5 to 75 mm
Supply voltages:	24 V DC 250 V AC 8 V NAMUR
Protection class:	IP 67
Electrical connection types:	Cable glands Connectors
Switch types:	Microswitch 2-wire proximity switch (NAMUR) 3-wire proximity switch

Go online!



GW-1240



GEMÜ 1241

Electrical position indicator

The GEMÜ 1241 electrical position indicator is suitable for mounting to pneumatically operated actuators. The position of the valve spindle is reliably electronically detected and fed back via the play-free and non-positive mounting by means of a 2-wire proximity switch (NAMUR). The product has been designed specially for valves with a stroke of 5 to 75 mm.

Features

- Position feedback via 2-wire proximity switch (NAMUR)
- Adjustable switch point tolerances using locking levers
- Can be fitted to GEMÜ valves or third-party actuators
- Explosion protection for zone 1 and 21



Technical specifications

Ambient temperature:	0 to 60 °C
Linear measuring range:	5 to 75 mm
Supply voltages:	8 V NAMUR
Protection class:	IP 67
Electrical connection types:	Cable glands Connectors
Switch types:	2-wire proximity switch (NAMUR)
Conformities:	ATEX IECEX

Go online!



GW-1241



GEMÜ 1242

Electrical position indicator

The GEMÜ 1242 electrical position indicator is suitable for installation on pneumatically operated linear actuators. The position of the valve spindle is reliably electronically detected and evaluated using play-free and non-positive mounting. Intelligent microprocessor-controlled functions facilitate commissioning and support during operation. The current position of the valve is displayed via high-visibility LEDs and fed back via electrical signals. The GEMÜ 1242 has been specially designed for valves with a stroke of 2 to 46 mm.

Features

- Fieldbus connection AS-Interface and DeviceNet (optional)
- Communication and programming interface IO-Link
- Adjustable switch point tolerances
- Speed^{AP} function for fast mounting and initialization
- High visibility position indicator by LED
- Can be fitted to GEMÜ valves or third-party actuators
- On-site or remote end position programming via programming input



Technical specifications

Ambient temperature:	0 to 60 °C
Linear measuring range:	2 to 75 mm
Radial measuring range:	0 to 90°
Supply voltages:	24 V DC
Protection class:	IP 67
Electrical connection types:	Connectors
Communication modes:	AS-Interface DeviceNet IO-Link
Conformities:	ATEX CSA EAC ETL Listed C US IECEX NEC 500

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GW-1242



GEMÜ LSC

Limit switch box for quarter turn actuators

The GEMÜ LSC limit switch box is suitable for mounting to manually and pneumatically operated quarter turn valves. It is also fitted with an optical position indicator for visual confirmation of position.

Features

- Adjustable switch point tolerances
- Compact, solid housing
- Can be attached to all quarter turn valves in accordance with the VDI/VDE 3845 standard interface
- Simple mounting and retrofitting to quarter turn actuators
- Up to four position feedback messages
- Solenoid valve connection (optional)
- 3D optical position indicator (optional)
- Option with LED indication
- Low temperatures to -40 °C (optional)



Technical specifications

Ambient temperature:	-25 to 80 °C
Radial measuring range:	0 to 90°
Supply voltages:	5–250 V AC/DC
Protection class:	IP66, IP67
Electrical connection types:	Cable glands Connectors Threaded connection
Switch types:	Reed contact Microswitch 2-wire proximity switch (NAMUR) 3-wire proximity switch
Conformities:	ATEX EAC Functional safety IECEX

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GEMÜ LSF

Inductive dual sensor for quarter turn valves

The GEMÜ LSF inductive dual sensor is suitable for mounting to manually and pneumatically operated quarter turn valves. It is also fitted with an optical position indicator for visual confirmation of position.

Features

- Simple mounting and retrofitting to quarter turn actuators
- Compact, solid housing
- Can be attached to all quarter turn valves in accordance with the VDI/VDE 3845 standard interface
- With LED display



Technical specifications

Ambient temperature:	-25 to 85 °C
Radial measuring range:	0 to 90°
Supply voltages:	10 - 30 V DC 8 V NAMUR
Protection class:	IP 67
Electrical connection types:	Connectors
Switch types:	2-wire proximity switch (NAMUR) 3-wire proximity switch
Conformities:	ATEX CSA Functional safety IECEx UL Recognized

Go online!



GW-LSF



Combi switchboxes

Overview

GEMÜ type	4240	4241	4242
			
Linear measuring range	5 to 75 mm	5 to 75 mm	2 to 75 mm
Radial measuring range	0 to 90°	0 to 90°	0 to 90°
Ambient temperature	0 to 60 °C	0 to 50 °C	0 to 60 °C
Flow rate			
14 NI/min	-	-	•
145 NI/min	-	-	•
23 NI/min	-	-	•
250 NI/min	•	•	•
Electrical connection types			
Cable glands	•	•	-
Connectors	-	-	•
Switch types			
Microswitch	•	-	-
2-wire proximity switch (NAMUR)	•	•	-
3-wire proximity switch	•	-	-
Communication modes			
ASI-5	-	-	•
AS-Interface	-	-	•
DeviceNet	-	-	•
IO-Link	-	-	•
Supply voltage			
24 V DC	•	-	•
250 V AC	•	-	-
8 V DC	•	•	-
or as per fieldbus specification	-	-	•
Conformities			
ATEX	-	•	•
EAC	-	•	•
ETL Listed C US	-	-	•
Functional safety	-	-	•
IECEX	-	•	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 4240

Combi switchbox

The GEMÜ 4240 combi switchbox is suitable for mounting to pneumatically operated linear actuators. The position of the valve spindle is reliably detected electronically and fed back via microswitches or proximity switches, using play-free and non-positive mounting. Integrated pilot valves enable direct activation of the process valve connected to them. The product has been designed specially for valves with a stroke of 5 to 75 mm.

Features

- Position feedback via microswitches, optionally via 2-wire NAMUR proximity switches or 3-wire proximity switches
- Adjustable switch point tolerances using locking levers
- Can be fitted to GEMÜ valves or third-party actuators
- Integrated manual override



Technical specifications

Ambient temperature:	0 to 60 °C
Linear measuring range:	5 to 75 mm
Radial measuring range:	0 to 90°
Flow rate:	250 NI/min
Supply voltages:	24 V DC 250 V AC 8 V DC
Protection class:	IP 65, IP 67
Electrical connection types:	Cable glands
Switch types:	Microswitch 2-wire proximity switch (NAMUR) 3-wire proximity switch

Go online!



GW-4240



GEMÜ 4241

Combi switchbox

The GEMÜ 4241 combi switchbox is suitable for mounting to pneumatically operated linear actuators. The position of the valve spindle is reliably electronically detected and fed back via the play-free and non-positive mounting by means of a 2-wire proximity switch (NAMUR). Integrated pilot valves enable direct activation of the process valve connected to them.

Features

- Position feedback via 2-wire proximity switch (NAMUR)
- Adjustable switch point tolerances using locking levers
- Can be fitted to GEMÜ valves or third-party actuators
- Integrated manual override
- Explosion protection for zone 1 and 21



Technical specifications

Ambient temperature:	0 to 50 °C
Linear measuring range:	5 to 75 mm
Radial measuring range:	0 to 90°
Flow rate:	250 NI/min
Supply voltages:	8 V DC
Protection class:	IP 65, IP 67
Electrical connection types:	Cable glands
Switch types:	2-wire proximity switch (NAMUR)
Conformities:	ATEX EAC IECEX

Go online!



GW-4241



GEMÜ 4242

Combi switchbox with integrated pilot valve

The GEMÜ 4242 combi switchbox is suitable for installation on pneumatically operated linear actuators. The position of the valve spindle is reliably electronically detected and evaluated using play-free and non-positive mounting. Integrated pilot valves enable direct activation of the process valve connected to them. Intelligent microprocessor-controlled functions facilitate commissioning and support during operation. The current position of the valve is displayed via high-visibility LEDs and fed back via electrical signals.

Features

- Fieldbus connection AS-Interface (3.0), ASi-5 and DeviceNet (optional)
- Communication and programming interface IO-Link
- Adjustable switch point tolerances
- Speed^{AP} function for fast mounting and initialization
- High visibility position indicator by LED
- Can be fitted to GEMÜ valves or third-party actuators
- On-site or remote end position programming via programming input
- Integrated manual override

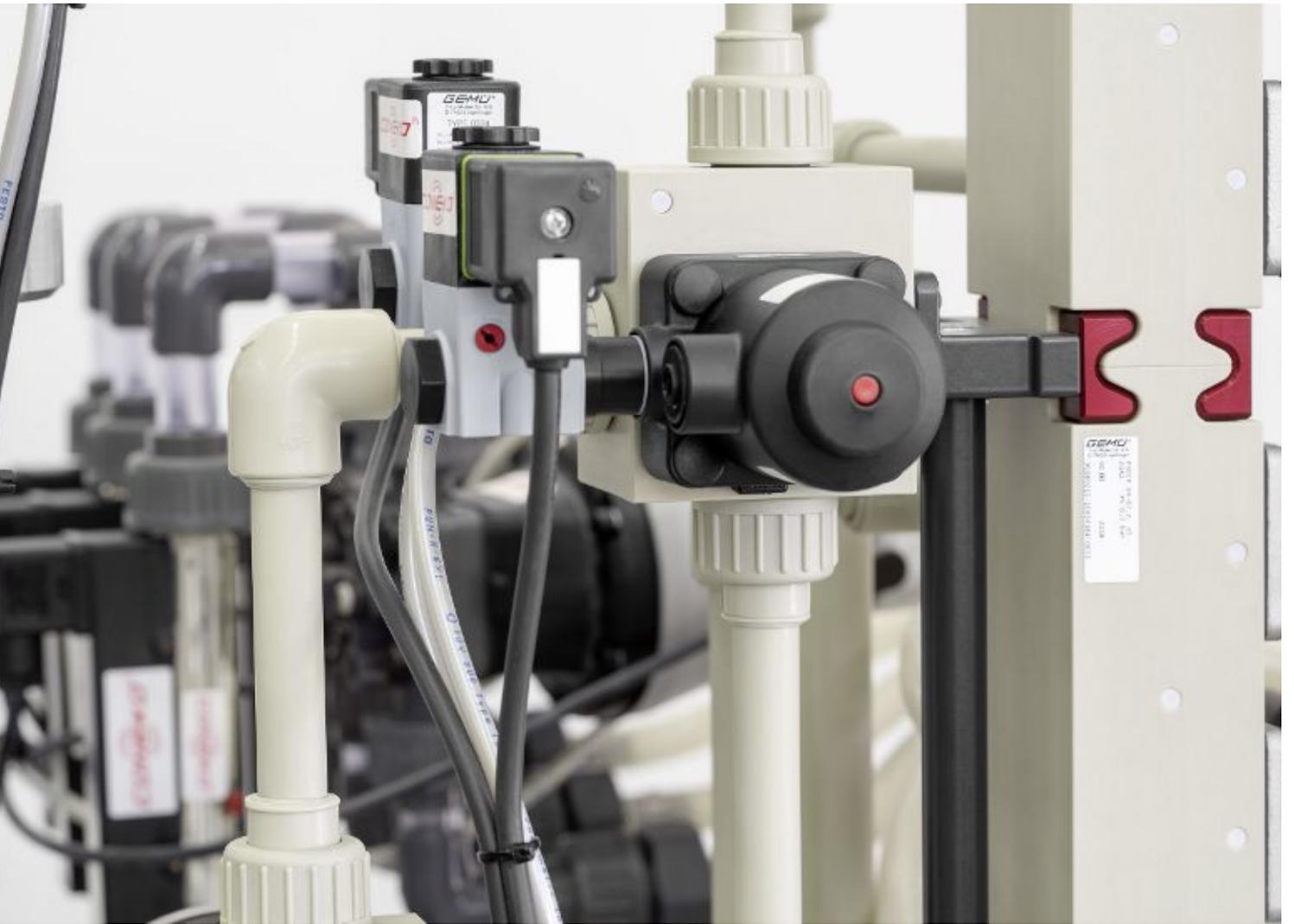


Technical specifications

Ambient temperature:	0 to 60 °C
Linear measuring range:	2 to 75 mm
Radial measuring range:	0 to 90°
Flow rate:	14 NI/min 145 NI/min 23 NI/min 250 NI/min
Supply voltages:	24 V DC or as per fieldbus specification
Electrical connection types:	Connectors
Protection class:	IP 65, IP 67
Communication modes:	ASi-5 AS-Interface DeviceNet IO-Link
Conformities:	ATEX EAC ETL Listed C US Functional safety IECEx

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Pilot valves

Pilot valves are used to control pneumatic actuators. They are also known as pilot valves or actuators, among other terms. Pilot valves are generally electromagnetically operated. A pressure differential of the pressure differential for operating the valve is also used here. This advantage of this is that even small electro solenoid actuators can control high operating pressures in the valve.

Our GEMÜ product range includes pilot valves for direct mounting on pneumatic actuators, as well as single valves, valve batteries and complete valve manifolds for assembly in a control cabinet.



Overview

GEMÜ type	0322	0324	0326
			
Media temperature	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C
Ambient temperature	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C
Operating pressure	0 to 10 bar	0 to 10 bar	0 to 10 bar
Nominal sizes	DN 2	DN 2	DN 2
Electrical connection types			
Plug, design A	•	•	•
Plug, design B	-	-	-
M12 plug	•	•	•
Supply voltages			
110 V AC, 50 Hz	-	-	-
110 V AC, 50/60 Hz	-	-	-
12 V DC	-	-	-
120 V AC, 50/60 Hz	•	•	•
230 V AC, 50 Hz	-	-	-
230 V AC, 50/60 Hz	•	•	•
24 V AC, 50 Hz	-	-	-
24 V AC, 50/60 Hz	•	•	•
24 V DC	•	•	•
Connection types			
Threaded connection	•	•	•
Body materials			
Aluminium casting	-	-	-
CW617N	-	-	-
PA	•	•	•
Conformities			
ATEX	•	•	•
EAC	•	•	•
Functional safety	•	•	•

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ type	8303	8500	8506
			
Media temperature	-10 to 60 °C	-10 to 60 °C	-10 to 50 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-10 to 50 °C
Operating pressure	1 to 10 bar	2,5 to 10 bar	2 to 8 bar
Nominal sizes	DN 2	DN 7	DN 6
Electrical connection types			
Plug, design A	•	-	•
Plug, design B	-	•	-
M12 plug	-	-	-
Supply voltages			
110 V AC, 50 Hz	•	-	•
110 V AC, 50/60 Hz	-	•	-
12 V DC	-	•	-
120 V AC, 50/60 Hz	-	-	-
230 V AC, 50 Hz	•	-	•
230 V AC, 50/60 Hz	-	•	-
24 V AC, 50 Hz	•	-	•
24 V AC, 50/60 Hz	-	•	-
24 V DC	•	•	•
Connection types			
Threaded connection	•	•	•
Body materials			
Aluminium casting	-	•	•
CW617N	•	-	-
PA	-	-	-
Conformities			
ATEX	•	•	-
EAC	•	-	•
Functional safety	-	•	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 0322

Electrically operated pilot solenoid valve

The GEMÜ 0322 directly controlled 3/2-way pilot solenoid valve is designed for direct mounting or for modular battery mounting by using clips. The body is made of plastic. The coil is plastic encapsulated.

Features

- Robust design
- Coil easy to replace
- Option: integrated LED (M12 version)
- Multi-functional application possibilities due to various designs
- Modular battery mounting



Technical specifications

Media temperature :	-10 to 50 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal size:	DN 2
Electrical connection types:	Plug, design A M12 plug
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Connection types:	Threaded connection
Connection standards:	DIN ISO
Body materials:	PA
Conformities:	ATEX EAC Functional safety

Go online!



GEMÜ 0324

Electrically operated pilot solenoid valve

The GEMÜ 0324 directly controlled 3/2-way pilot solenoid valve is designed for direct mounting to pneumatically operated valves. The body is made of plastic. The coil is plastic encapsulated.

Features

- Robust design
- Coil easy to replace
- Option: integrated LED (M12 version)
- Multi-functional application possibilities due to various designs



Technical specifications

Media temperature :	-10 to 50 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal size:	DN 2
Electrical connection types:	Plug, design A M12 plug
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Connection types:	Threaded connection
Connection standards:	DIN ISO
Body materials:	PA
Conformities:	ATEX EAC Functional safety

Go online!



GW-0324



GEMÜ 0326

Electrically operated pilot solenoid valve

The GEMÜ 0326 directly controlled 3/2-way pilot solenoid valve is designed for mounting to a compact aluminium rail as a valve battery for mounting in control cabinets or as a valve manifold near the pneumatic components to be controlled. The body is made of plastic. The coil is plastic encapsulated.

Features

- Robust design
- Coil easy to replace
- Option: integrated LED (M12 version)
- Multi-functional application possibilities due to various designs
- Modular battery mounting



Technical specifications

Media temperature :	-10 to 50 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	0 to 10 bar
Nominal size:	DN 2
Electrical connection types:	Plug, design A M12 plug
Supply voltages:	120 V AC, 50/60 Hz 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Connection types:	Threaded connection
Connection standards:	DIN ISO
Body materials:	PA
Conformities:	ATEX EAC Functional safety

Go online!



GW-0326



GEMÜ 8303

Electrically operated pilot solenoid valve

The GEMÜ 8303 3/2-way pilot solenoid valve requires differential pressure. The housing is made from aluminium or stainless steel. The plastic encapsulated coil is detachable.

Features

- Optional installation position
- Simple coil replacement without tools (Click-on®)
- The solenoid can be replaced without removing the valve body from the piping
- Standard silenced venting



Technical specifications

Media temperature :	-10 to 60 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	1 to 10 bar
Nominal size:	DN 2
Electrical connection types:	Plug, design A
Supply voltages:	110 V AC, 50 Hz 230 V AC, 50 Hz 24 V AC, 50 Hz 24 V DC
Connection types:	Threaded connection
Connection standards:	DIN
Body materials:	1.4581 Aluminium
Conformities:	ATEX EAC

Go online!



GW-8303



GEMÜ 8500

Electrically operated pilot solenoid valve

The GEMÜ 8500 servo assisted 3/2 or 5/2-way pilot solenoid valve is indirectly controlled. The body is made of aluminium. The plastic encapsulated coil is detachable. The piston valve has a soft elastomer seal.

Features

- Optional installation position
- Standard manual override
- Rotatable solenoid coil
- Suitable for activating single or double acting pneumatic actuators
- Available with NAMUR connection as an option



Technical specifications

Media temperature :	-10 to 60 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	2,5 to 10 bar
Nominal size:	DN 7
Electrical connection types:	Plug, design B
Supply voltages:	110 V AC, 50/60 Hz 12 V DC 230 V AC, 50/60 Hz 24 V AC, 50/60 Hz 24 V DC
Connection types:	Threaded connection
Body materials:	Aluminium
Conformities:	ATEX Functional safety

Go online!



GW-8500



GEMÜ 8506

Electrically operated pilot solenoid valve

The GEMÜ 8506 servo assisted 3/2 or 5/2-way pilot solenoid valve is indirectly controlled. The body is made of aluminium. The plastic encapsulated coil is detachable.

Features

- Optional installation position
- The solenoid can be replaced without removing the valve body from the piping
- The coil can be rotated by 90°
- Simple conversion from 3/2-way valve to 5/2-way valve



Technical specifications

Media temperature :	-10 to 50 °C
Ambient temperature:	-10 to 50 °C
Operating pressure :	2 to 8 bar
Nominal size:	DN 6
Electrical connection types:	Plug, design A
Supply voltages:	110 V AC, 50 Hz 230 V AC, 50 Hz 24 V AC, 50 Hz 24 V DC
Connection types:	Threaded connection
Body materials:	Aluminium
Conformities:	EAC

Go online!



GW-8506





Flowmeter

A flowmeter can be used to determine the volumetric flow of liquid or gaseous media in the piping of a plant. GEMÜ offers various valve designs for this:

Variable area flowmeter

A measuring float is lifted by the volumetric flow in a conical metering tube until equilibrium is achieved between the weight of the measuring float and the force caused by the flow resistance. The higher the volumetric flow, the higher the measuring float is lifted.

Ultrasonic flowmeter

For ultrasonic flowmeters, the flow is determined by contactless means with the help of audible signals. GEMÜ uses the phase difference method here.

Turbine flowmeters

A turbine wheel in the flowmeter is driven by the volumetric flow. The flow velocity can be determined by measuring the rotational speed. The measuring turbines here provide various electrical output signals for further processing.

Magnetically inductive flowmeter (MIF)

A magnetically inductive flowmeter is suitable only for electrically conductive media. The functional principle is based on Faraday's law of electromagnetic induction.



Variable area flowmeter

Overview

GEMÜ type	800	850	840
			
Measuring range - Liquids	0,5 to 33000 l/h	0,1 to 1600 l/h	2500 to 50000 l/h
Measuring range - Gases	0,2 to 450 Nm ³ /h	0,02 to 37,5 Nm ³ /h	-
Media temperature	-20 to 120 °C	-20 to 120 °C	5 to 90 °C
Operating pressure	0 to 15 bar	0 to 15 bar	0 to 10 bar
Nominal sizes	DN 20 to 65	DN 10 to 25	DN 65
Connection types			
Flange	•	•	-
Spigot	•	•	•
Union end	•	•	-
Metering tube materials			
PA	•	•	-
PSU	•	•	•
PVC-U	•	•	-
Float materials			
1.4571 (316 Ti)	•	•	-
PP	•	•	•
PVC-U	•	•	•
PVDF	•	•	-
Conformities			
ATEX	•	•	-

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 800

Variable area flowmeter

The GEMÜ 800 flowmeter operates according to the variable area principle and has a transparent metering tube. The scale printed onto the metering tube is suited to the medium. Dovetail sections moulded onto the metering tube allow for easy mounting of adjustable visual flow indicators, limit switches and a continuous readout transmitter.

Features

- Good level of accuracy, simple operation
- Clear and large size printed scale
- ATEX version available as an option
- Over 500 standard scales and 13,000 special scales are available with further scales on request
- Corrosion-resistant plastic parts



Technical specifications

Connection types:	Flange Spigot Union end
Measuring range - Liquids:	0,5 to 33000 l/h
Measuring range - Gases:	0,2 to 450 Nm ³ /h
Error of measurement:	± 1% of final value and ± 3% of measured value
Media temperature :	-20 to 120 °C
Operating pressure :	0 to 15 bar
Nominal sizes:	DN 20 to 65
Metering tube materials:	PA PSU PVC-U
Float materials:	1.4571 (316 Ti) PP PVC-U PVDF
Conformities:	ATEX

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GW-800



GEMÜ 850

Variable area flowmeter

The GEMÜ 850 flowmeter operates according to the variable area principle and has a transparent metering tube. The scale printed onto the metering tube is suited to the medium. Dovetail sections moulded onto the metering tube allow for easy mounting of adjustable visual flow indicators, limit switches and a continuous readout transmitter.

Features

- Good level of accuracy, simple operation
- Clear and large size printed scale
- ATEX version available as an option
- Over 500 standard scales and 13,000 special scales are available with further scales on request
- Corrosion-resistant plastic parts



Technical specifications

Connection types:	Flange Spigot Union end
Measuring range - Liquids:	0,1 to 1600 l/h
Measuring range - Gases:	0,02 to 37,5 Nm ³ /h
Error of measurement:	± 1% of final value and ± 3% of measured value
Media temperature :	-20 to 120 °C
Operating pressure :	0 to 15 bar
Nominal sizes:	DN 10 to 25
Metering tube materials:	PA PSU PVC-U, transparent
Float materials:	1.4571 (316 Ti) PP PVC-U PVDF
Conformities:	ATEX

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GW-850



GEMÜ 840

Variable area flowmeter

The GEMÜ 840 flowmeter operates according to the part flow principle. The device consists of three parts: Main flow unit, part flow unit and manual diaphragm valve.

Features

- Good level of accuracy, simple operation
- Impact resistant, corrosion resistant
- Large measuring range 3 - 50 m³/h (depending on orifice diameter)
- Part flow metering tube can also be easily replaced without downtime



Technical specifications

Measuring range - Liquids:	2500 to 50000 l/h
Media temperature :	5 to 90 °C
Operating pressure :	0 to 10 bar
Nominal size:	DN 65
Connection types:	Spigot
Metering tube materials:	PSU
Float materials:	PP PVC-U

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GW-840



Electrical flowmeters

Overview of electrical flowmeters

GEMÜ type	3020	3021	C38 SonicLine
			
Measuring range - Liquids	120 to 25000 l/h	120 to 25000 l/h	1,8 to 7200 l/h
Media temperature	-20 to 80 °C	-20 to 80 °C	0 to 80 °C
Max. operating pressure	10 bar	10 bar	6 bar
Nominal sizes	DN 25 to 50	DN 25 to 50	DN 6 to 20
Connection types			
Flare	-	-	●
Union end	●	●	-
Metering tube materials			
PFA	-	-	●
PVC-U	●	●	-
PVDF	●	●	-
Electrical connection types			
Cable glands	-	-	●
Connectors	●	●	●
Supply voltage			
24 V DC	●	●	●
Conformities			
EAC	●	●	●
FDA	-	-	●

Technical data depends on the respective configuration - see datasheet or Product Selection Tool

GEMÜ 3020

Flow transmitter, turbine

GEMÜ 3020 is a volumetric flow measuring turbine. There is a separation of media between the measuring and evaluating unit and it has integrated flow rectifiers. The evaluating unit uses industrial standard measurement signals and is works calibrated.

Features

- Very low pressure loss
- Short inlet/outlet distances
- Precise volume flow measurement
- Integrated flow rectifier



EAC

Technical specifications

Measuring range - Liquids:	120 to 25000 l/h
Error of measurement:	± 1 % of final value
Media temperature :	-20 to 80 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 25 to 50
Connection types:	Union end
Metering tube materials:	PVC-U PVDF
Electrical connection types:	Plug, design A
Supply voltages:	24 V DC
Conformities:	EAC

Go online!



GW-3020



GEMÜ 3021

Flow transmitter, turbine

GEMÜ 3021 is a volumetric flow measuring turbine. The fascia keys enable simple setting of measurement units, required display values etc.

Features

- Simple operation
- Process adaptable
- Freely scalable measuring range
- Integrated flow rectifier
- Short inlet/outlet distances
- Totalizer or batch controller types available
- Relay outputs available



EAC

Technical specifications

Measuring range - Liquids:	120 to 25000 l/h
Error of measurement:	± 1 % of final value
Media temperature :	-20 to 80 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 25 to 50
Connection types:	Union end
Metering tube materials:	PVC-U PVDF
Electrical connection types:	Plug, design A M12 plug
Supply voltages:	24 V DC
Conformities:	EAC

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GW-3021



GEMÜ C38 SonicLine

Ultrasonic flowmeter

The GEMÜ C38 SonicLine is an ultrasonic flowmeter that works according to the phase difference method. Two sensors opposite each other alternately send and receive ultrasonic signals. With a standing medium, both sensors receive the sent ultrasonic signals within the same phase, i.e. no phase difference occurs. With a flowing medium, a phase shift takes place. This phase difference is directly proportional to the flow velocity. The flow volume is determined from the flow velocity and the pipe diameter.

Features

- High accuracy and repeatability
- Extremely fast detection of measured values (250 measured values/sec.)
- Free tube cross section – no moving parts
- Suitable for dynamic processes (dosing time < 1 s)
- High chemical resistance
- Integrated dosing function



EAC

FDA

Technical specifications

Measuring range - Liquids:	1,8 to 7200 l/h
Error of measurement:	± 1 % of measured value (± 3 mm/s)
Media temperature :	0 to 80 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 6 to 20
Connection types:	Flare
Metering tube materials:	PFA
Electrical connection types:	M12 plug
Supply voltages:	24 V DC
Conformities:	EAC FDA

Go online!



GW-C38





Pressure and temperature measurement devices

The pressure and temperature of a medium can be measured with the help of pressure and/or temperature measurement devices. These parameters are an important basis for process control, monitoring and automation.

GEMÜ offers electrical measuring transducers and switches for this. Pressure and temperature switches are actuated depending on the medium pressure and/or temperature. Measuring transducers convert the pressure or temperature into an electrical signal that can be transmitted to the plant control system. In addition, our range includes pressure gauges for ultra-pure applications.

GEMÜ 3140

Pressure transducer and pressure switch

The GEMÜ 3140 pressure transducer/switch is ideal for precise measurements in a wide pressure range. The sensor is suitable for use with both highly viscous and contaminated media and is also suitable for corrosive media due to its high-quality material selection. A variety of electrical and mechanical connections are available, depending on the version. The LED display version boasts a rotatable 4-digit display.

Features

- Featuring a rotatable LED display and IO-Link interface, depending on version
- Suitable for highly viscous, contaminated and corrosive media
- Appropriate in-line housing optionally available
- ATEX and SIL2 design optionally available
- Accuracy 0.5% FSO (in accordance with IEC 60770)
- Optional installation position
- Ceramic sensor



Technical specifications

Measuring range:	0 to 40 bar
Error of measurement:	± 0.5 % of final value
Media temperature :	-40 to 125 °C
Operating pressure :	0 to 40 bar
Housing material:	1.4404
Body materials:	1.4404 PVDF
Connection type:	Threaded connection
Output signals:	0–10 V 0–20 mA 4–20 mA NPN PNP
Conformities:	ATEX EAC Functional safety UL Recognized

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GEMÜ 3240

Temperature transducer and temperature switch

The GEMÜ 3240 temperature transducer/switch is ideal for precise measurements in a wide temperature range. The sensor is suitable for both highly viscous, as well as contaminated media. It is also suitable for corrosive media thanks to the high-quality material selection. Furthermore, it stands out thanks to its extremely short installation length. The electrical output signals can optionally be changed over between power, current or switching outputs.

Features

- With rotatable LED display and IO-Link interface
- Suitable for highly viscous, contaminated and corrosive media
- Switching output as standard
- Switchable electrical output
- Accuracy in accordance with IEC60770: 0.35% FSO
- Extremely short installation length
- Temperature sensor PT1000 / class A



EAC

Technical specifications

Temperature measuring range:	-40 to 150 °C
Error of measurement:	± 0.35 % of final value
Media temperature :	-40 to 150 °C
Operating pressure :	0 to 160 bar
Housing material:	1.4404
Body materials:	1.4404 PVDF
Connection type:	Threaded connection
Output signals:	0–10 V 4–20 mA NPN PNP
Conformities:	EAC

Go online!



GW-3240



GEMÜ C30 HydraLine

Pressure gauge

The GEMÜ C30 pressure measurement device is equipped with a PFA pressure transmitter and an analogue pressure gauge. The device body is made of PFA/PTFE and can be integrated directly into the piping system using flare unions. The pressure transmission is carried out with a monitoring liquid (standard IPA (isopropyl alcohol)/DI water, others available on request).

Features

- The proven GEMÜ CleanStar® technology is the basis of the transmitter
- Working medium hermetically isolated from the gauge by a patented PFA double diaphragm
- Pressure gauge can be positioned through 360° enabling individual user options
- Production, assembly, calibration and packaging in cleanroom ISO 6
- Minimal deadleg



Technical specifications

Measuring range:	-1 to 6 bar
Media temperature :	5 to 60 °C
Operating pressure :	-1 to 6 bar
Housing material:	1.4571 (316 Ti)
Body materials:	PFA PTFE
Connection type:	Flare NPT thread
Conformities:	FDA

Go online!



GW-C30



GEMÜ C31 HydraLine

Pressure gauge

The GEMÜ C31 pressure measurement device is equipped with a measuring transducer. The measuring transducer can be rotated through 360°. The device body is made of PFA/PTFE and can be integrated directly into the piping system using flare unions. The pressure transmission is carried out with a monitoring liquid (standard IPA (isopropyl alcohol)/DI water, others available on request).

Features

- The proven GEMÜ CleanStar® technology is the basis of the transmitter
- Working medium hermetically isolated from the gauge by a patented double diaphragm
- Pressure gauge can be positioned through 360° enabling individual user options
- Production, assembly, calibration and packaging in cleanroom ISO 6
- Minimal deadleg



Technical specifications

Measuring range:	-1 to 6 bar
Error of measurement:	± 0.5 % of final value
Media temperature :	5 to 60 °C
Operating pressure :	-1 to 6 bar
Housing material:	1.4571 (316 Ti)
Body materials:	PFA PTFE
Connection type:	Flare NPT thread
Output signals:	4–20 mA
Conformities:	FDA

Go online!



GW-C31



Connection technology

GEMÜ FlareStar PFA fittings

Over 1,000 different types of fitting are produced under cleanroom conditions in compliance with DIN 16901-140. The fitting bodies are made of PFA, while the union nuts are made of PFA, PVDF or CPFA. We can also supply all standard market connections.

Features

- For leak free performance with minimum dead space in ultra pure fluid applications
- High reliability, even in high vibration applications
- Simple operation
- Available as "Space saver version", for space-saving connection
- Over 1000 different versions for commonly available connections



Technical specifications

Media temperature :	20 to 200 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 4 to 32
Connection types:	Flare Flare SpaceSaver Spigot Threaded connection
Materials :	PFA PTFE PVDF

Go online!



GW-FlareStar



GEMÜ TubeStar Tube

TubeStar is a product range comprising ultra-pure and standard PFA tubing.
The tubes are particularly suitable for applications with high-purity media and other chemicals.

Features

- The values from the dynamic leach out tests are well below the SEMI F57 standard (high purity version)
- Outstanding chemical and physical properties
 - High-purity design, Teflon® PFA 450 HP (Chemours)
- Excellent pressure resistance
- Good flexural fatigue strength
- High transparency



Technical specifications

Media temperature :	-70 to 250 °C
Operating pressure :	2 to 20 bar
Tube sizes:	1/4" to 1 1/4"
Materials :	PFA

Go online!



GW-TubeStar



Accessories

Valve mounting accessories

GEMÜ 1040
Mounting plate



GEMÜ 205 process solenoid valves can be fitted to the GEMÜ 1040 mounting plate.

GEMÜ 1041
Mounting and compensating plate



GEMÜ 1041 is a mounting and compensating plate which serves to mount and align GEMÜ plastic diaphragm valves with union ends.

GEMÜ 1050
Mounting plate



GEMÜ 1050 is a mounting set for mounting pilot valves on a DIN rail.

Connection accessories

GEMÜ 1035
Union end



The GEMÜ 1035 union end can be used for GEMÜ plastic valves and flowmeters and is available in various materials (PVC-U, PP, PVDF) and nominal sizes (DN 10 to 100).

GEMÜ 1034
Full face flange with solvent
cement socket



The GEMÜ 1034 plastic flange is suitable for GEMÜ plastic valves.

GEMÜ 1031
Threaded socket



The GEMÜ 1031 threaded socket is suitable for GEMÜ plastic valves and flowmeters with weld or solvent cement spigots.

GEMÜ CF
Union nut



The GEMÜ CF union nut is suitable for GEMÜ plastic valves with flare connection. It is available in PFA, PVDF or carbon fibre reinforced PFA. All parts are manufactured in cleanroom conditions and have extremely high chemical resistance.

GEMÜ 2023
Pneumatic fitting



We offer various pneumatic fittings under the GEMÜ 2023 type. Various connection sizes are available with female thread, male thread, connector, plug-in nipple or quick connectors.

GEMÜ 1219
Cable socket / cable plug M12



The GEMÜ 1219 is a connector (cable socket / cable plug) M12, 5-pin. Straight and/or 90° angled plug type. Defined cable length or with threaded connection without cable. Various materials available for the threaded ring.

Connection accessories

GEMÜ 1470
NAMUR control air adapter



The GEMÜ 1470 adapter makes it possible to connect the control air connector to the NAMUR pilot valve.

GEMÜ 1750
Silencer



The GEMÜ 1750 silencer can be used to reduce the noise caused by leaking compressed air. It is available either in brass or plastic.

GEMÜ 1755
Double threaded nipple



GEMÜ 1755 is a metal double nipple and is available in various materials and designs.

GEMÜ 2022
Throttle valve



The GEMÜ 2022 throttle valves are available as throttle valve, throttle check valve and dual throttle check valve. In pneumatic actuators they are used to regulate the compressed air depending on the function for the supply or exhaust air and can be set independently of each other in the case of dual throttle check valves.

Commissioning and maintenance accessories

GEMÜ CFSTF
Service tool for flare union nuts



The GEMÜ CFSTF service tool is used for the assembly of GEMÜ CF flare union nuts in PFA, PVDF and carbon fibre reinforced PFA. A precisely defined torque can be achieved when using it in combination with a torque wrench.

GEMÜ 1098
Flaring mandrel



The GEMÜ 1098 flaring mandrel is an assembly tool for flare connections.

GEMÜ WG600
Angle gauge



To simplify the assembly of 2/2-way diaphragm valve bodies made from stainless steel, we have developed a patented angle gauge. The angle gauge allows the correct mounting position of a diaphragm valve body to be set quickly and easily.

GEMÜ PPF
Multifunction adapter



With the GEMÜ PPF multifunction adapter, the penetration of foreign particles during the installation of diaphragm valves can be prevented. It can also be used to conduct welding gas when welding the bodies onto the piping. It is also possible to supply and conduct passivation media or to carry out an endoscopic examination of the weld seams.

GEMÜ 1560
IO-Link master



The GEMÜ 1560 IO-Link master is used for parametrization, actuation, commissioning and for evaluating process and diagnostics data on products with IO-Link interface with communication standard in accordance with IEC 61131-9. The IO-Link master is available with USB port for use on a computer or with a Bluetooth or WLAN interface for use on mobile devices (iOS and Android). GEMÜ 1560 can be ordered separately or as a set for GEMÜ products including the required adapter.

GEMÜ 1434 000 Z IK
Initialisation kit



The GEMÜ 1434 000 Z IK initialization kit is intended for on-site initializing of GEMÜ 1434 µPos and GEMÜ 1436 eco cPos intelligent positioners. The initialization kit is connected to the system's connection cable on the one side and to the positioner's connector plug on the other. You can disconnect it again when initialization is complete.

Clamping devices

GEMÜ 1107

Tool to keep actuator open



The GEMÜ 1107 tool to keep the actuator open holds pneumatically operated diaphragm valves in the open position even if no control medium is applied to them. You can choose to secure it using a padlock. The GEMÜ 1107 tool to keep the actuator open can, for example, be used for autoclaving.

GEMÜ 1109

Tool to keep actuator closed



The GEMÜ 1109 tool to keep the actuator closed holds diaphragm valves in the closed position, even if a control medium is applied to them. You can choose to secure this using a padlock.

Position indicators and travel sensors

GEMÜ 1300

Optical position indicator with transparent cap



GEMÜ 1300 is a plastic optical position indicator with transparent cap for pneumatically operated globe and diaphragm valves.

GEMÜ 1310

Optical position indicator with transparent cap



GEMÜ 1310 is a plastic optical position indicator with transparent cap for pneumatically operated globe and diaphragm valves. It has an indicator spindle with metal core. There is also the option to connect two mounting brackets for proximity switches.

GEMÜ 4231

Travel sensor for quarter turn actuators



The GEMÜ 4231 travel sensor is intended for the attachment to valves with quarter turn actuators with 90° travel and is used to determine the valve position. It is used as a travel sensor for the GEMÜ 1435 ePos, GEMÜ 1436 cPos, GEMÜ 1436 eco cPos and GEMÜ 1441 cPos X intelligent positioners, which can be connected using either the open cable ends or an M12 cable connector (depending on the design and/or selection of the controller).

GEMÜ 4232

Travel sensor for linear actuators



The GEMÜ 4232 travel sensor is intended for the attachment to valves with linear actuators and is used to determine the valve position. It is used as a travel sensor for the GEMÜ 1434 μ Pos, GEMÜ 1435 ePos, GEMÜ 1436 cPos and GEMÜ 1441 cPos-X intelligent positioners, which can be connected using either the open cable ends or an M12 cable connector (depending on the design and/or selection of the positioner).

Stroke limiters

GEMÜ 1101 / 1104 / 1110 /
1114 / 1151 / 1152 / 1161
Opening stroke limiter



Pneumatic linear actuators of GEMÜ butterfly valves, ball valves, diaphragm valves and globe valves are not fully opened by opening stroke limiters. This limits the maximum flow through a valve. The opening stroke limiter is available either with handwheel, transparent cap, position indicator or manual override.

GEMÜ 1108
Closing stroke limiter



GEMÜ 1108 is a mechanical closing stroke limiter with integrated optical position indicator and transparent cap for pneumatically operated linear actuators. It is used when Open/Close valves should not be closed fully and a minimal flow should be ensured.

GEMÜ 1106
Opening stroke and closing
stroke limiter



The GEMÜ 1106 opening stroke and closing stroke limiter limits both the opening and closing of a valve, thereby specifying a minimum and maximum flow rate. It is available with or without a stainless steel or plastic protective cap.

GEMÜ 1118
Seal adjuster



The GEMÜ 1118 seal adjuster is a closing stroke limiter that can only be adjusted within the lower stroke range. In these cases, it reduces the compression of the diaphragm on the sealing weir, thereby increasing the diaphragm service life.

GEMÜ 1116
Opening stroke limiter with
seal adjuster



The GEMÜ 1116 model combines an opening stroke limiter with a diaphragm protection function. This allows the opening stroke to be set as required. The closing stroke can only be adjusted within the lower stroke range.

Manual override

GEMÜ 1002
Handwheel



GEMÜ 1002 is a manual override for pneumatic linear actuators for diaphragm, globe and control valves. An integral optical position indicator is standard. The manual override cannot be used as a closing stroke limiter.

GEMÜ 1450
NAMUR mounting bracket



GEMÜ 1450 is a NAMUR mounting bracket for pneumatically operated diaphragm valves and globe valves. An integrated optical position indicator is standard. The product is available either with or without handwheel as a manual override. It has height adjustable trip cams. The mounting parts are included.

GEMÜ 1460/1461
NAMUR mounting bracket



GEMÜ 1460 / 1461 is a NAMUR mounting bracket for pneumatically operated diaphragm valves and globe valves. The product is available either with or without handwheel as a manual override. It has height adjustable trip cams. The mounting parts are included.

Sensor accessories

GEMÜ 1200
Proximity switch



The GEMÜ 1200 proximity switch is a sensor that detects the valve position contactlessly and displays it via an electrical signal.

GEMÜ 1210
Mount for proximity switches



The GEMÜ 1210 is an enclosed proximity switch mount in stainless steel for two proximity switches M8 x 1 or M12 x 1 (only suitable for GEMÜ 550 and GEMÜ 650). An integral optical position indicator is standard. The basic version does not contain any proximity switches.

GEMÜ 1216
Mount for proximity switches



GEMÜ 1216 is an open proximity switch mount for two proximity switches M8 x 1 for pneumatically operated linear actuators. It has two adjustable trip cams and can be ordered either with or without stroke limiter. The switching interval is dependent on the proximity switches used. The basic version does not contain any proximity switches.

GEMÜ 125x
Limit switches



Limit switches with bistable reed contact (change-over contact or make contact) can be combined with GEMÜ flowmeters with magnetic float. They can be easily mounted and adjusted by clamping them onto the flowmeter. The electrical connection is via a cable gland. An ATEX version is available on request.

GEMÜ 127x
Instrument sensor



Instrument sensors are suitable for GEMÜ flowmeters with magnetic floats for continuous flow monitoring. They can be easily mounted and adjusted by clamping them onto the flowmeter. The electrical connection is established via a cable gland.

Accessories for motorized actuators

GEMÜ 1571
Emergency power supply
module



The GEMÜ 1571 capacitive emergency power supply module is suitable for valves with motorized actuators such as GEMÜ eSyStep and eSyDrive as well as the GEMÜ C53 iComLine control valve. In the event of a power failure, the product provides an uninterrupted power supply so that the valve can be moved to the safety position. The emergency power supply module is available individually or with an expansion module and can supply several valves. The input and output voltage is 24 V.

GEMÜ 1573
Switching power supply unit



The GEMÜ 1573 switching power supply unit converts unstable input voltages from 100 to 240 V AC into a continuous DC voltage. It can be used as an accessory for valves with motorized actuators e. g. GEMÜ eSyLite, eSyStep und eSyDrive and for additional devices with a 24 V DC power supply. Different power levels, output currents and a 48 V DC version for servoDrive actuators are available.

GEMÜ 2026
Plug



GEMÜ 2026 are plugs with lights, with or without interference suppression. Various versions available. The DC voltage version with a bridge rectifier has a plug with reverse battery protection. The scope of supply comprises a gasket made from NBR and a M3x35 central screw

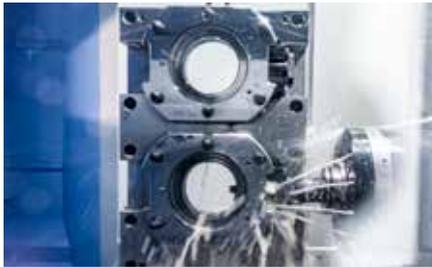
Valve knowledge

Highly automated valve manufacture

At GEMÜ, we place great importance on carrying out the most important production steps in-house, allowing us to monitor the processes that are decisive for quality. The high level of vertical integration of our automated valve manufacture is an example of this. With the help of state-of-the-art robot technology and a sophisticated transport system, the unmachined parts of our butterfly valves are then mechanically machined precisely. Using a whirl-sintering method, we also coat the valve bodies with an even layer of high-strength corrosion protection.



All manufacturing steps are involved in producing a robust coating. All mechanical machining measures, from sand blasting through to powder coating, are precisely synchronized with each other.



Mechanical processing

All valve bodies are milled in one clamping position in our state-of-the-art machining centre at GEMÜ Valves China. This allows us to achieve precise shape and positional tolerances.



Sand blasting

We take strict care in further processing that the moulded parts are free from oil, grease, salt and other impurities. Moulding sand, rust and casting flash from the unmachined part are removed from the surface by sand blasting.



Heating

To keep the workpiece at a uniform surface temperature without oxidation, a heating line passes through the valve body. To comply with our standards of quality, avoiding blue/purple oxidized cast iron is very much a priority.



Coating and hardening

Using the whirl-sintering method, the valve body is immersed in a basin with coating powder. The powder melts on to the hot valve body, interconnecting to form a robust and durable surface. The residual heat in the workpiece causes it to harden.



Inspection

GEMÜ always carries out a final inspection at the end of the manufacturing process. Each GEMÜ butterfly valve is tested before delivery for quality features such as pressure, tightness and torque.

Connections

GEMÜ offers you a huge variety of connections for easily and properly connecting the valves with the piping.

Which connection type is most suitable depends on the operating requirements and parameters, such as pressure and temperature. Essentially, the connections in piping and plant engineering are subdivided into two categories:

- Detachable connection: The piping can be disconnected again, for example for maintenance purposes. Examples include union ends, clamps, threads, flare connections and flanges.
- Non-detachable connection: The piping is connected without an additional seal, minimizing weak points and dead space. Examples include solvent cement sockets and spigots.





Union end

Union ends comprise a threaded spigot with male thread, a union nut with corresponding female thread, an insert as a union and a seal (O-ring). By replacing the insert, a variety of thread variants can be covered. Union ends are frequently used in plastic piping and for small nominal sizes.



Clamp

The clamp connection combines two clamp connectors with one intermediate gasket and is locked down with a hinged clip. Valves can therefore be replaced very quickly. Thanks to the minimal deadleg design, barely any waste materials remain in the seal area. This connection type is frequently used for stainless steel lines of small nominal sizes.



Flange

Grooved or loose flanges are joined together at the flange connection using nuts and bolts. They are sealed using a gasket. A liner is used as a gasket for wafer-type valves. This connection is suitable for large nominal sizes as well as high temperatures and operating pressures.



Flare

Flare connections are a type of clamp connection. They involve a flared tube being slipped over a fitting body equipped with male thread and fixed in place with a union nut. This type of connection is mainly used for high-purity applications.



Thread

Threaded connections have a female or male thread and can be bolted together with the appropriate counterpart. A special threaded connection is, for example, a union end. For hygienic and sterile connections, there are also aseptic unions, in which a female union and threaded spigot are bolted together with a union nut.



Spigot

With this connection type, the valve is connected to the piping by welding (butt weld spigot) or solvent cementing (solvent cement spigots). This minimizes the dead space in the area around the connections. Whilst special tools are used for welding, plastics such as PVC can be solvent cemented easily and without the need for expensive tools.

Kv value

Kv value definition:

The Kv value is the flow coefficient of a valve. It is used as a calculation basis for designing and planning processes. Valves of different designs and nominal sizes can be compared with each other using the Kv value.

As valves always have an influence on the volumetric flow, the correct selection of the valve in terms of the Kv value is very important.

Kv	Kv value of an individual valve in conjunction with a stroke reading
Kv100	Kv value of an individual valve when open 100% (may deviate +/- 10% from Kvs)
Kvs	Kv value of a valve series at rated stroke

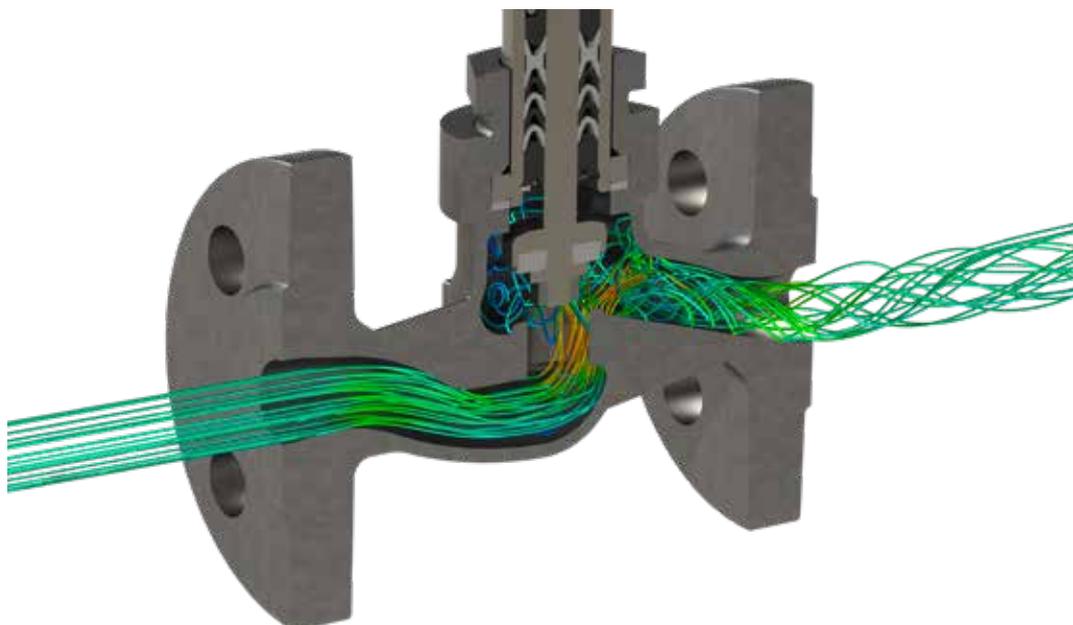
Kv value determination:

In order to compare the varied geometries, valve designs and nominal sizes of different valves, the Kv value is always determined under the same conditions.

Medium:	Water (H ₂ O)
Temperature:	5 to 40 °C
Pressure differential:	Δp between pressure inlet and pressure outlet side 1 bar
Unit of measure:	m ³ /h

In the US market, the data is usually in US gallons per minute. This value is designated as the Cv value.

Cv value:	Measured in US gallons per minute, at a differential pressure Δp of 1 PSI with water
Kv value:	Measured in m ³ per hour, at a differential pressure Δp of 1 bar with water
1 Cv = 1.17 x Kv	1 Kv = 0.86 x Cv

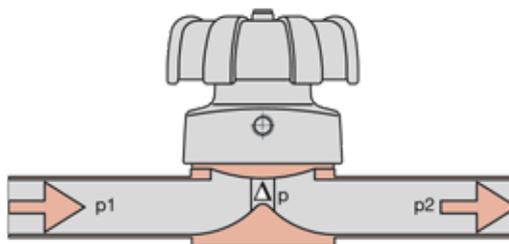


Globe valve flow simulation

Calculation basis for Kv values:

Formulae are used which take into account all the parameters and physical variables deviating from the test. Since liquids, gases and steam are subject to different laws, different formulae are also used.

The original calculation formulae are very extensive, so simplified standard formulae are used in most cases. Here, it is important that they cannot be fully abbreviated and that the units used for the Q value and the Kv value respectively are identical.



Pressure loss	Kv	For water	For liquid	For steam	For gases
$\Delta p < \frac{p_1}{2}$ ($p_2 > \frac{p_1}{2}$)	Kv	$= \frac{Q}{\sqrt{\Delta p}}$	$= \frac{Q}{31.6} \cdot \sqrt{\frac{\rho_1}{\Delta p}}$	$= \frac{\dot{m}}{31.6} \cdot \sqrt{\frac{v'}{\Delta p}}$	$= \frac{Q_N}{514} \cdot \sqrt{\frac{\rho_N \cdot T_1}{\Delta p \cdot p_2}}$
$\Delta p > \frac{p_1}{2}$ ($p_2 < \frac{p_1}{2}$)	Kv	$= \frac{Q}{\sqrt{\Delta p}}$	$= \frac{Q}{31.6} \cdot \sqrt{\frac{\rho_1}{\Delta p}}$	$= \frac{\dot{m}}{31.6} \cdot \sqrt{\frac{2 \cdot v''}{p_1}}$	$= \frac{Q_N}{257 \cdot p_1} \cdot \sqrt{\rho_N \cdot T_1}$

Kv	m ³ /h	Flow coefficient of the valve	ρ_1	kg/m ³	Density of the material in the operating state T ₁ and p ₂
Q	m ³ /h	Volumetric flow	ρ_N	kg/m ³	Density of the gas at 0 °C and 1014 mbar
Q _N	Nm ³ /h	Volumetric flow of the gas at 0 °C and 1014 mbar	v'	m ³ /kg	Spec. steam volume at T ₁ and p ₂
$\dot{m}_{max}/\dot{m}_{min}$	kg/h	Maximum/minimum mass flow to be regulated	v''	m ³ /kg	Spec. steam volume at $\frac{p_1}{2}$ and T ₁
p ₁	bar	Absolute pressure upstream of the positioning element (at Q)	\dot{m}	kg/h	Mass flow
p ₂	bar	Absolute pressure downstream of the positioning element (at Q)	T ₁	K	Media temperature
Δp	bar	(Δp) – pressure differential p ₁ - p ₂ at Q			

Configuration of a control circuit

According to DIN 19226, control or controlling is a process in which the variable to be controlled is continuously measured, compared with the reference variable and influenced in the sense of adjustment to the reference variable. The characteristic feature of control is the closed action circuit in which the controlled variable continuously influences itself within the control circuit.

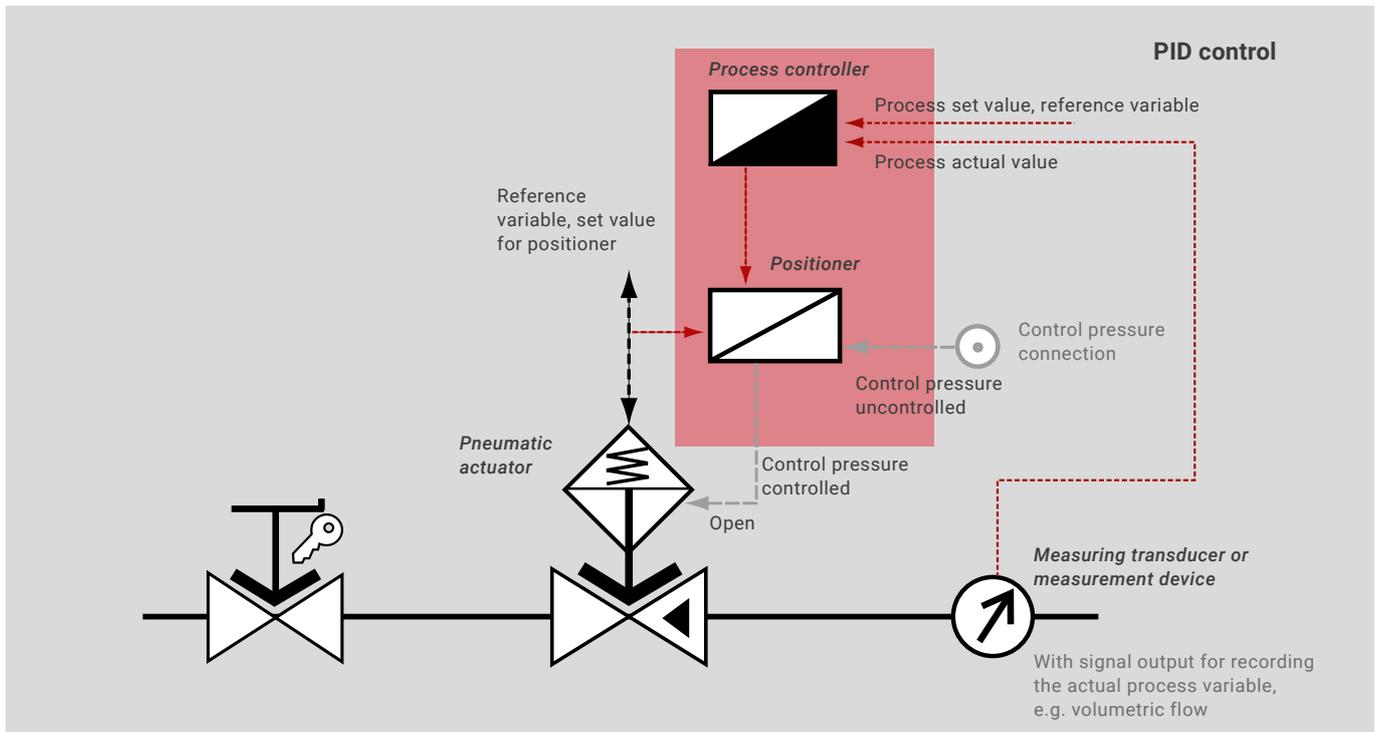
The right design of the control circuit is necessary for good, reliable functionality. The valve and the control or regulating device must be closely adapted to each other.

Example: Electro-pneumatic process control

Positioners and process controllers are available as single and "2 in 1" devices. If the travel is measured mechanically, the positioner must be mounted directly on the positioning element (valve). With electronic travel detection, the positioner can be positioned away from the positioning element.

The control is characterised by:

- Type of control/regulation
- Accuracy of the control
- Controlled system and its influential factors
- Controller type (2-point, 3-point, P, PI, PD, PID etc.)
- Control task (pressure, temperature, filling level, flow, pH value, etc.)
- Control range of the valve (Kv value)



The example shows a diaphragm valve with a pneumatic membrane actuator in control function "normally closed" (single acting) and a manually operated/lockable diaphragm valve. In the control of volumetric/mass flow, the measuring element (actual value transmitter) should be positioned upstream of the positioning element (valve).

In this way, the volumetric flow on the measurement device is damped so that the control does not experience sudden measuring step jumps. The actual value transmitter must be positioned downstream of the positioning element for pressure and temperature control.

Increase control accuracy, save costs – things to bear in mind

The greater the accuracy of the control, the higher the costs for the components and commissioning generally. Under certain process conditions, high-precision controls can only be implemented after substantial effort. This is why you should consider very carefully before planning how accurate the control must be.

The design of a control circuit, the corresponding system layout and the selection of all the necessary components also depends on the level of control accuracy that is sought. The tighter the tolerances of the control are, the more precisely the components operate and the higher the reproducibility has to be. Tight tolerances for a control mean that the valve must be selected and designed very carefully:

- Exact calculation of the necessary minimum and maximum Kv value
- Design of the valve and the control fitting in line with this optimum control range
- Jolt-free actuator without sticking-slipping effect
- Long stroke distance, combined with small increase in cross-section at the valve seat
- How the valve controls depends on the design; for a shut-off function (close tight), an additional open/close valve may be required
- Selection of the right controller type and controller
- Precise coordination of process controller, positioner, valve, sensor system and measuring transducer



Basic terms relating to valve control

Open loop control

Control is to be understood as a process in which one or more process variables are influenced by one or more input variables of a system. The current state of the system is not normally taken into account. A control is an open action circuit without an automatic target-actual comparison. Faults are not detected by the system.

Example:

To fill a container with a constant drain, a valve – the positioning element – is opened. The filling level and the filling speed can be influenced by the position of the valve. When the desired filling level has been reached or the filling speed is to be changed, the valve must be actuated again. By monitoring the process over a certain period of time and repeatedly readjusting the valve position, it will be possible to keep the filling level constant after a certain time. However, this example works only if the process does not change.

Closed loop control

In a closed loop, the actual value and the controlled variable of a system are measured continuously and compared with the set value, the reference variable. This aims to ensure that the target variable is achieved and remains constant.

The difference between these two variables is the control difference or the control error. Depending on the measured difference, a positioning process is initiated to adapt the control difference to the reference variable. Regulation is therefore a closed loop process.

Example:

The fermentation of biomass is strongly influenced by the ambient conditions, as different bacterial groups favour certain temperature ranges. To optimize the gas return, a constant process temperature of between 50 and 57 °C should be maintained in the fermentation tanks. Disturbance variables, e.g. external temperature, can be compensated for through temperature control. Control action is consequently taken if the target variable is exceeded or not reached. This is a closed action path.



Discontinuous control

A process which takes place in several steps is known as discontinuous control. The correcting variable on the controller jumps back and forth between discrete values. Depending on how many states the correcting variable can adopt, it refers to two, three or multi-point controllers. A two-point controller has only two switching states, "OPEN" and "CLOSED".

Due to the erratic switching of the controller, the controlled variable fluctuates within a certain range around the set value. By installing energy stores and through the correct setting of time constants, the controlled variable can be kept constant without too great a fluctuation even in discontinuous control. However, this also strongly depends on the controlled system to be designed, any disturbance variables and the selection of the positioning elements and sensors.

The fluctuation width of the controlled variable depends on different factors (e.g. reaction time of the control circuit, characteristic of the valve).

Closed loop control

Continuous controllers intervene continuously in the process and influence the positioning element accordingly. The positioning process runs permanently. The correcting variable of the controller can adopt any value within the given fluctuation width.

A sensor continuously measures the process variable and passes on the signal to the positioner. This compares it with the set value and influences the valve position accordingly.



Basic terms relating to valve control

Controlled variable x (actual value):

The variable to be controlled in a process is referred to as x . Controlled variables in plant engineering are, for example, temperature, pressure, flow, pH value and hardness.

Reference variable w (set value):

The reference variable indicates the value which the process variable should adopt. Its value in the form of an electrical variable (current or voltage), for example, is compared with the controlled variable x .

Control difference $e = w - x$

The control difference is the difference between the controlled variable and the reference variable. It is the input variable for the controlled element. The control error is exactly the same size as the control difference but with the inverse sign.

Correcting variable y

The correcting variable is the output variable of the controller and has a direct influence on the positioning element. It depends on the control parameters of the controller and the control error.

Disturbance variable z

Factors which have an undesirable influence on a process and therefore change the controlled variables are referred to as disturbance variables.

Positioning range y_h

The correcting variable y of a controller is within the positioning range. This can be defined accordingly depending on the controller used.

Positioning element

The positioning element influences the process to match the controlled variable to the reference variable. Positioning elements in plant engineering are, for example, valves, pumps and heat transfer elements.

Controlled element

The controlled element creates the correcting variable from the control difference. The controlled element is part of the controller.

Dead zone

If a controlled variable only reacts to the changes at the positioning element after a certain time, we refer to controlled systems with dead zone. Examples of such controlled systems are compressible media pressure control or the continuing flow of a medium from a pipe into a container after a valve has been closed.

Energy store

Control processes may run with delays due to the energy stores occurring in every controlled system. This is clearly seen in heating processes in plants. Pipes, containers and valves also have to achieve a temperature increase. At the same time, the energy loss to the environment increases with rising Δt . Energy stores have a damping effect on the temperature rise in the system in this case.



Controlled systems are basically characterised by their time behaviour. This determines the effort and the accuracy with which a control task can be tackled. The jump response of the controlled system is used to represent this system dynamic. The jump response shows how the controlled variable reacts to changes in the correcting variable. Controlled systems are divided into four basic types by their timing. At the same time, a distinction must be made between systems with compensation and systems without compensation. In systems with compensation, a new end value is set whilst systems without compensation do not achieve a new equilibrium.

P controlled systems

In P controlled systems, the controlled variable always changes proportionally to the correcting variable. Adaptation takes place without a time delay.

I controlled systems

An I controlled system exhibits an integral behaviour and has no compensation. The controlled system does not achieve an equilibrium if the correcting variable is not zero. The correcting variable changes continuously so that the controlled variable rises or falls permanently.

Systems with dead zone

In controlled systems with dead zone, the controlled variable only reacts to the positioning intervention after a certain delay. This frequently leads to oscillations, especially when the controlled variable and the correcting variable change periodically in relation to each other and offset to the dead zone. Dead zones are usually caused in the process

sequence or in the plant design (lead times, lag times, positioning of the sensor, controller and positioning element, etc.). Many of these influential variables can be optimized by appropriate plant design for control-specific requirements. Everything else must be influenced by an appropriate design of the control circuit.

Systems with energy stores

Control processes may run with delays due to the energy stores occurring in every controlled system. This is clearly seen in heating processes in plants. Pipes, containers and valves also have to achieve a temperature increase. At the same time, the energy loss to the environment increases with rising Δt . Energy stores have a damping effect on the temperature change in this case. Compensation vessels and bladder accumulators in hydraulic systems, for example, have the same effect, they delay the change in pressure.

Whether and to what extent the energy stores influence the control dynamic is different in every system. It may be ignored in the design of the control circuit depending on the influence on the control circuit.

Complex controlled systems are usually a mixture of the four basic types above with and without compensation. For this reason, the most common positioners are also combinations of the types described above.



Basic terms relating to valve control

Controller selection and controller design

It is important to conduct an exact analysis of the controlled system in order to design the control circuit and its components. Make sure that valves are only assigned one function in a control circuit to guarantee perfect design and operation. The selection of the controller depends on the controlled system (integral or proportional), the delays and energy stores, the desired speed of the control and whether a remaining control error is acceptable.

The following brief characteristics can be used as a rough guideline:

- P controllers are used in easy to control systems in which a remaining control difference is acceptable.
- I controllers are suitable for systems with a low control dynamic. The systems should not contain any long delays.
- Proportional derivation controllers are suitable for systems with major delays in which a remaining control error is not a problem.
- PI controllers achieve a dynamic control behaviour. They can also be used for systems with delays.
- PID controllers are always used when the operating time of a PI controller is insufficient in systems with longer delays. PID controllers are the fastest and most accurate controllers for complex control tasks.

Controlled element	System deviation	Actuating speed
P	Permanent	Fast
I	Idle	Slow
PD	Permanent	Very fast
PI	Idle	Fast
PID	Idle	Very fast

Control tasks

The following table gives you an initial idea of which controls are to be preferred for different applications. It is only a rough guide; every controlled system must be designed to meet the requirements of the actual plant.

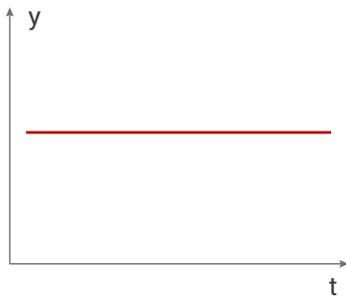
Application	Controller type		
	P	PI	PID
Pressure	○	●	●
Flow	–	●	○
Filling level	●	–	–
Temperature	○	●	●
pH value	○	●	●

- Extremely suitable
- Conditionally suitable
- Not suitable

P controller

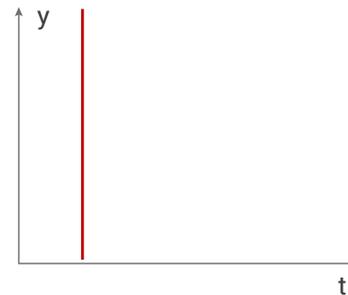
A P controller is a proportionally acting controller. The initial variable (correcting variable y) is always proportional to the control difference. P controllers respond very quickly and have an immediate positioning effect, but they have a permanent control difference between the reference variable and the controlled variable.

The proportional action factor K_p to be set on the controller influences the reaction of the controller to a control error. A large K_p leads to a stronger control intervention and lower control errors. Too high a proportional action factor can, however, lead to oscillations.



D controllers

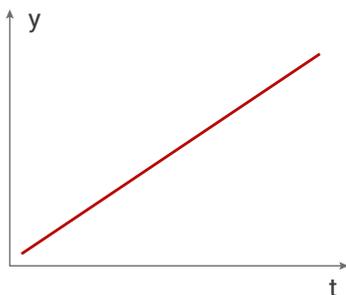
D controllers are controllers with a differentiating action. D controllers only affect the speed with which the control difference changes. They therefore react very quickly independently of the control difference. High positioning amplitudes are achieved even at low control difference. It does not recognise a constant control error. D controllers are only used in practice in connection with P and I controllers.



I controllers

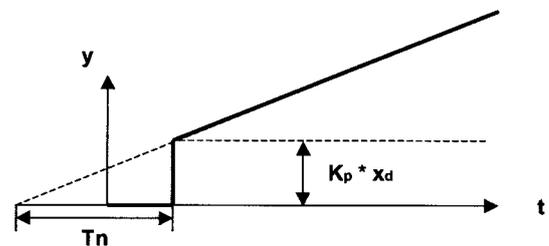
I controllers are integrally acting controllers. A proportional relation exists between control error and actuating speed. I controllers are slower than P controllers but eliminate the control difference completely. The I component in a controller therefore leads to an increase in the accuracy.

The speed of the controller depends on the integral action time T_n . The greater the integral action time, the slower the controller responds. This is because the correcting variable y only rises slowly. If too small an integral action time T_n is selected so that the controller reaches the specified reference variable faster, oscillations may occur.



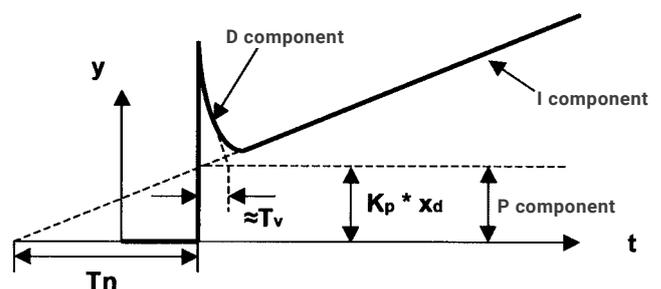
PI controllers

A P and an I controller are connected in parallel in a PI controller. It reacts very quickly and leads to a full control without remaining control error. The control behaviour is influenced by the proportional action factor K_p and the integral action time T_n . PI controllers are very variable in their control.



PID controller

In the PID controller, a D component is connected to the PI controller. This leads to faster transient oscillation of the control, i.e. reaching the idle state. PID controllers are particularly suitable for controlled systems with large energy stores, i.e. for higher order systems.



Product directory

GEMÜ 0322.....	384	GEMÜ 1571	425	GEMÜ 567 eSyDrive	175
GEMÜ 0324.....	385	GEMÜ 1573	425	GEMÜ 601	42
GEMÜ 0326.....	386	GEMÜ 1750	418	GEMÜ 602	42
GEMÜ 1002.....	423	GEMÜ 1755	418	GEMÜ 612	42
GEMÜ 102.....	295	GEMÜ 202	296	GEMÜ 673.....	42
GEMÜ 1031.....	417	GEMÜ 2022.....	418	GEMÜ 605	62
GEMÜ 1034.....	417	GEMÜ 2023.....	417	GEMÜ 625	62
GEMÜ 1035.....	417	GEMÜ 2026.....	425	GEMÜ 687.....	62
GEMÜ 1040.....	416	GEMÜ 205	297	GEMÜ 607.....	52
GEMÜ 1041.....	416	GEMÜ 225	303	GEMÜ 610.....	68
GEMÜ 1050.....	416	GEMÜ 3020.....	400	GEMÜ 611.....	44
GEMÜ 1098.....	419	GEMÜ 3021.....	401	GEMÜ 671.....	44
GEMÜ 1101.....	422	GEMÜ 312	154	GEMÜ 615	63
GEMÜ 1104.....	422	GEMÜ 314	155	GEMÜ 695.....	63
GEMÜ 1110.....	422	GEMÜ 3140.....	406	GEMÜ 617.....	53
GEMÜ 1114.....	422	GEMÜ 3240.....	407	GEMÜ 620.....	64
GEMÜ 1151.....	422	GEMÜ 343 eSyDrive.....	148, 156	GEMÜ 629 eSyLite.....	74
GEMÜ 1152.....	422	GEMÜ 352	157	GEMÜ 630.....	69
GEMÜ 1161.....	422	GEMÜ 354	158	GEMÜ 639 eSyStep.....	75
GEMÜ 1106.....	422	GEMÜ 410.....	227	GEMÜ 649 eSyDrive.....	76
GEMÜ 1107.....	420	GEMÜ 411.....	207	GEMÜ 650 BioStar.....	60
GEMÜ 1108.....	422	GEMÜ 415.....	221	GEMÜ 653 BioStar.....	46
GEMÜ 1109.....	420	GEMÜ 417.....	213	GEMÜ 654 BioStar.....	47
GEMÜ 1116.....	422	GEMÜ 423.....	241	GEMÜ 655.....	48
GEMÜ 1118.....	422	GEMÜ 4231.....	421	GEMÜ 656.....	65
GEMÜ 1200.....	424	GEMÜ 4232.....	421	GEMÜ 660.....	61
GEMÜ 1205.....	362	GEMÜ 4240.....	376	GEMÜ 673P9.....	43
GEMÜ 1210.....	424	GEMÜ 4241.....	377	GEMÜ 675.....	45
GEMÜ 1215.....	363	GEMÜ 4242.....	378	GEMÜ 710.....	270
GEMÜ 1216.....	424	GEMÜ 428	235	GEMÜ 717.....	264
GEMÜ 1219.....	417	GEMÜ 490 Edessa.....	192	GEMÜ 723.....	280
GEMÜ 1230.....	364	GEMÜ 491 Edessa.....	220	GEMÜ 800.....	394
GEMÜ 1231.....	365	GEMÜ 497 Edessa.....	206	GEMÜ 8253.....	306
GEMÜ 1232.....	366	GEMÜ 498 Edessa.....	234	GEMÜ 8257.....	307
GEMÜ 1234.....	367	GEMÜ 505	118	GEMÜ 8258.....	302
GEMÜ 1235.....	368	GEMÜ 507	119	GEMÜ 8259.....	298
GEMÜ 1236.....	368	GEMÜ 514.....	124	GEMÜ 8303.....	387
GEMÜ 1240.....	369	GEMÜ 519 eSyLite.....	140	GEMÜ 840.....	396
GEMÜ 1241.....	370	GEMÜ 52	294	GEMÜ 850.....	395
GEMÜ 1242.....	371	GEMÜ 529 eSyLite.....	141	GEMÜ 8500.....	388
GEMÜ 125x.....	424	GEMÜ 530.....	130	GEMÜ 8506.....	389
GEMÜ 127x.....	424	GEMÜ 532.....	131	GEMÜ B20.....	256
GEMÜ 1300.....	421	GEMÜ 533 eSyStep.....	142	GEMÜ B22.....	257
GEMÜ 1310.....	421	GEMÜ 534.....	132	GEMÜ B24.....	258
GEMÜ 1434 µPos.....	338	GEMÜ 536.....	133	GEMÜ B26.....	259
GEMÜ 1434 000 Z IK.....	419	GEMÜ 537.....	120	GEMÜ B27.....	260
GEMÜ 1435 ePos.....	340	GEMÜ 539 eSyDrive.....	147	GEMÜ B42.....	271
GEMÜ 1436 cPos.....	341	GEMÜ 543 eSyStep.....	143	GEMÜ B44.....	272
GEMÜ 1436 eco cPos.....	339	GEMÜ 549 eSyDrive.....	146	GEMÜ B46.....	273
GEMÜ 1441 cPos-X.....	342	GEMÜ 550.....	125	GEMÜ B47.....	274
GEMÜ 1450.....	423	GEMÜ 553.....	159	GEMÜ B52.....	281
GEMÜ 1460.....	423	GEMÜ 554.....	126	GEMÜ B54.....	282
GEMÜ 1461.....	423	GEMÜ 555.....	127	GEMÜ B56.....	283
GEMÜ 1470.....	418	GEMÜ 560.....	316	GEMÜ B57.....	284
GEMÜ 1560.....	419	GEMÜ 566.....	121	GEMÜ BB02.....	250

GEMÜ BB04	251	GEMÜ R470 Tugela.....	194
GEMÜ BB06	252	GEMÜ R471 Tugela.....	222
GEMÜ BB07	253	GEMÜ R477 Tugela.....	208
GEMÜ C30 HydraLine	408	GEMÜ R478 Tugela.....	236
GEMÜ C31 HydraLine	409	GEMÜ R480 Victoria	190
GEMÜ C38 SonicLine.....	402	GEMÜ R481 Victoria	218
GEMÜ C50 iComLine	170	GEMÜ R487 Victoria	204
GEMÜ C51 iComLine	168	GEMÜ R488 Victoria	232
GEMÜ C53 iComLine	174	GEMÜ R563 eSyStep	145
GEMÜ C57 iComLine	169	GEMÜ R629 eSyLite.....	80
GEMÜ C60 CleanStar	71	GEMÜ R639 eSyStep	81
GEMÜ CF	417	GEMÜ R649 eSyDrive	82
GEMÜ CFSTF.....	419	GEMÜ R677	54
GEMÜ Code 17	97	GEMÜ R690	70
GEMÜ Code 19	94	GEMÜ R90	319
GEMÜ Code 2	104	GEMÜ R91	320
GEMÜ Code 29	95	GEMÜ RSK.....	314
GEMÜ Code 3A.....	96	GEMÜ S717	265
GEMÜ Code 13	96	GEMÜ TubeStar	413
GEMÜ Code 4A.....	98	GEMÜ WG600	419
GEMÜ Code 4	98	GEMÜ ZRSK	315
GEMÜ Code 54	99		
GEMÜ Code 56	103		
GEMÜ Code 5M.....	100		
GEMÜ Code 5T	101		
GEMÜ Code 6	105		
GEMÜ Code 71	102		
GEMÜ Code 8	106		
GEMÜ CV	318		
GEMÜ D450	198		
GEMÜ D451	226		
GEMÜ D457	212		
GEMÜ D458	240		
GEMÜ D480 Victoria	191		
GEMÜ D481 Victoria	219		
GEMÜ D487 Victoria	205		
GEMÜ D488 Victoria	233		
GEMÜ FlareStar	412		
GEMÜ K410	199		
GEMÜ K415	193		
GEMÜ LSC	372		
GEMÜ LSF.....	373		
GEMÜ M75	299		
GEMÜ N082	348		
GEMÜ N182.....	348		
GEMÜ N085	350		
GEMÜ N185.....	350		
GEMÜ N086	349		
GEMÜ N186.....	349		
GEMÜ N560.....	317		
GEMÜ P500M.....	161		
GEMÜ P600M.....	86		
GEMÜ P600S.....	88		
GEMÜ PC50 iComLine	177		
GEMÜ PPF	419		

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Worldwide presence

AUSTRALIA

GEMÜ Australia Pty. Ltd
Unit 4 - 8/10 Yandina Road
West Gosford, NSW 2250
Phone: +61-2-43 23 44 93
Fax: +61-2-43 23 44 96
mail@gemu.com.au

AUSTRIA

GEMÜ GmbH
Europaring F13 401
2345 Brunn am Gebirge
Phone: +43 2236 30 43 45-0
Fax: +43 2236 30 43 45-31
info@gemue.at

BELGIUM

GEMÜ Valves bv/srl
Koning Albert 1 laan, 64
1780 Wemmel
Phone: +32 2 702 09 00
Fax: +32 2 705 55 03
sales@gemue.be

BRAZIL / LATAM

GEMÜ Indústria de Produtos
Plásticos e Metalúrgicos Ltda.
Rua Marechal Hermes, 1141
83.065-000 São José dos Pinhais
Paraná
Phone: +55 41 3382 2425
Fax: +55 41 3382 3531
gemu@gemue.com.br

CANADA

GEMÜ Valves Canada Inc.
2572 Daniel-Johnson Boulevard
Laval, Quebec, H7T 2R8
Phone: +1-450-902-2690
Fax: +1-404-3 44 4003
info@gemu.com

CHINA

GEMÜ Valves (China) Co., Ltd
No.518, North Hengshahe Road
Minhang District, 201108 Shanghai
Phone: +86-21-2409 9878
info@gemue.com.cn

DENMARK

GEMÜ ApS
Brydehusvej 13, 2
2750 Ballerup
Phone: +45 70 222 516
info@gemue.dk

FRANCE

GEMÜ S.A.S
1 Rue Jean Bugatti
67120 Duppigheim
Phone: +33-3 88 48 21 00
info@gemu.fr

INTERCARAT

1 Rue Jean Bugatti
67120 Duppigheim
Phone: +33-3 88 48 21 20
sales@intercarat.com

GERMANY

GEMÜ Gebr. Müller GmbH & Co. KG
Fritz-Müller-Straße 6 - 8
74653 Ingelfingen-Criesbach
Postfach 30
74665 Ingelfingen-Criesbach

Phone: +49 (0)7940-12 30
Fax: +49 (0)7940-12 31 92
(Domestic)
Fax: +49 (0)7940-12 32 24
(Export)
info@gemue.de

GREAT BRITAIN

GEMÜ Valves Ltd.
10 Olympic Way
Birchwood, Warrington
WA2 0YL
Phone: +44-19 25-82 40 44
Fax: +44-19 25-82 80 02
info@gemu.co.uk

HONG KONG

GEMÜ (Hong Kong) Co., Ltd.
Room 2015, Tower B,
Regent Centre,
70 TA Chuen Ping Street
Kwai Chung, N.T., Hong Kong
P.R. China
Phone: +852 6873 8280
Fax: +852 6873 8280
info@gemue.com.cn

INDIA

GEMÜ Gebr. Müller Apparatebau
GmbH & Co. KG
Office No. 101 & 104, 1st Floor,
637 Building, Opposite Sears Towers
Gulbai Tekra 2nd Lane
Near Panchvati
Ahmedabad - 380006, Gujarat
Phone: +91 (79) 6818 1400
sales@gemu.in

INDONESIA

GEMÜ Valves Pte Ltd
(Indonesia Representative Office)
Rukan Mangga Dua Square
Block F17, 2nd Floor
Jl. Gunung Sahari Raya No. 1
Jakarta Utara 14420
Phone: +62 (21) - 6231 0035
Fax +62 (21) - 2907 4643
info@gemu.co.id

IRELAND

GEMÜ Ireland Ltd
15 Eastgate Drive
Eastgate Business Park
Little Island, Co. Cork
Phone: +353 (0)21 4232023
Fax: +353 (0)21 4232024
info@gemu.ie

ITALY

GEMÜ S.r.l.
Via Giovanni Gentile, 3
20157 Milano
Phone: +39-02-40044080
Fax: +39-02-40044081
info@gemue.it

JAPAN

GEMÜ Japan Co., Ltd.
2-5-6, Aoi, Higashi-ku,
Nagoya, Aichi, 461-0004
Phone: +81-52-936-2311
Fax: +81-52-936-2312
info@gemu.jp

MALAYSIA

GEMÜ VALVES MALAYSIA
SDN. BHD.
D-2-01, Capital 4,Oasis Square
No. 2, Jalan PJU 1A/7A
Ara Damansara
47301 Petaling Jaya
Selangor Darul Ehsan
Phone: +(603)- 7832 7640
Fax: +(603)- 7832 7649
info@gemu.com.sg

MEXICO

GEMÜ Valvulas S.A. de C.V.
German Centre,
Av. Santa Fe No. 170 – OF. 5-1-05
Col. Lomas de Santa Fe,
Del. Alvaro Obregon
01210 Mexico, D.F.
Phone: +52 55 7090 4161
+52 55 7090 4179

SINGAPORE

GEMÜ Valves Pte Ltd
25 International Business Park
German Centre #03-73/75
Singapore 609916
Phone: +65-65 62 76 40
Fax: +65-65 62 76 49
info@gemu.com.sg

SOUTH AFRICA

GEMÜ Valves Africa Pty. Ltd
Cnr Olympic Duel Avenue
And Angus Crescent,
Northlands Business Park
(Stand 379),
New Market Road
Randburg
Phone: +27 11 462 7795
Fax: +27 11 462 4226
info@gemue.co.za

SPAIN / PORTUGAL

GEMÜ Iberica, S.L.
Calle Selva 2, P1-B2
Poligono Industrial Mas Blau I.
08820 El Prat de Llobregat
(Barcelona)
Phone: +34 936 22 70 39
info@gemue.es

SWEDEN

GEMÜ Armatur AB
Heljesvägen 8, 437 36 Lindome
Phone: +46-31-996500
order@gemu.se

SWITZERLAND

GEMÜ GmbH
Seetalstr. 210, 6032 Emmen
Phone: +41-41-7 99 05 05
Fax: +41-41-7 99 05 85
info@gemue.ch

GEMÜ Vertriebs AG
Lettenstrasse 3, 6343 Rotkreuz
Phone: +41-41-7 99 05 55
Fax: +41-41-7 99 05 85
vertriebsag@gemue.ch

TAIWAN

GEMÜ Taiwan Ltd.
9F-5, No.8, Ziqiang S. Rd.
Zhubei City
Hsinchu County 302,
Taiwan (R.O.C.)
Phone: +886-3-550-7265
Fax: +886-3-550-7201
office@gemue.tw

UNITED STATES

GEMÜ Valves Inc.
3800 Camp Creek Parkway
Suite 120, Building 2600
Atlanta, Georgia 30331
Phone: +1-678-5 53 34 00
Fax: +1-404-3 44 93 50
info@gemu.com

In addition to this, GEMÜ
has a global partner network.

Contact Details:
https://www.gemu-group.com/en_GB/kontakte/



 GEMÜ manufacturing site

 GEMÜ subsidiary

