



GEMU



Valves, measurement and control systems
for the pharmaceutical, foodstuff and biotechnology industries

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General information



GEMÜ Group

Through continuous innovative design 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. We have achieved this status by investing extensively in application-focused research and development. After more than 55 years of healthy growth, Gert Müller, son of founder Fritz Müller, now directs our independent family-owned enterprise alongside his cousin Stephan Müller.

50+
Countries
Subsidiaries and long-term partners


Employees
1900+

Reorganized – for even greater proximity to our customers.
With our wide product range, we offer solutions for the most varied customer groups.
To operate in a way that is more customer-oriented, strategic business units have been created:



Pharma, Food & Biotech

The Pharma, Food & Biotech business unit is the biggest business unit of the GEMÜ Group. With its large base of user knowledge and its efficient products, it is used for all the processes of the pharmaceutical, biotechnology and cosmetics industries as well as the food and beverage industries.



Industry

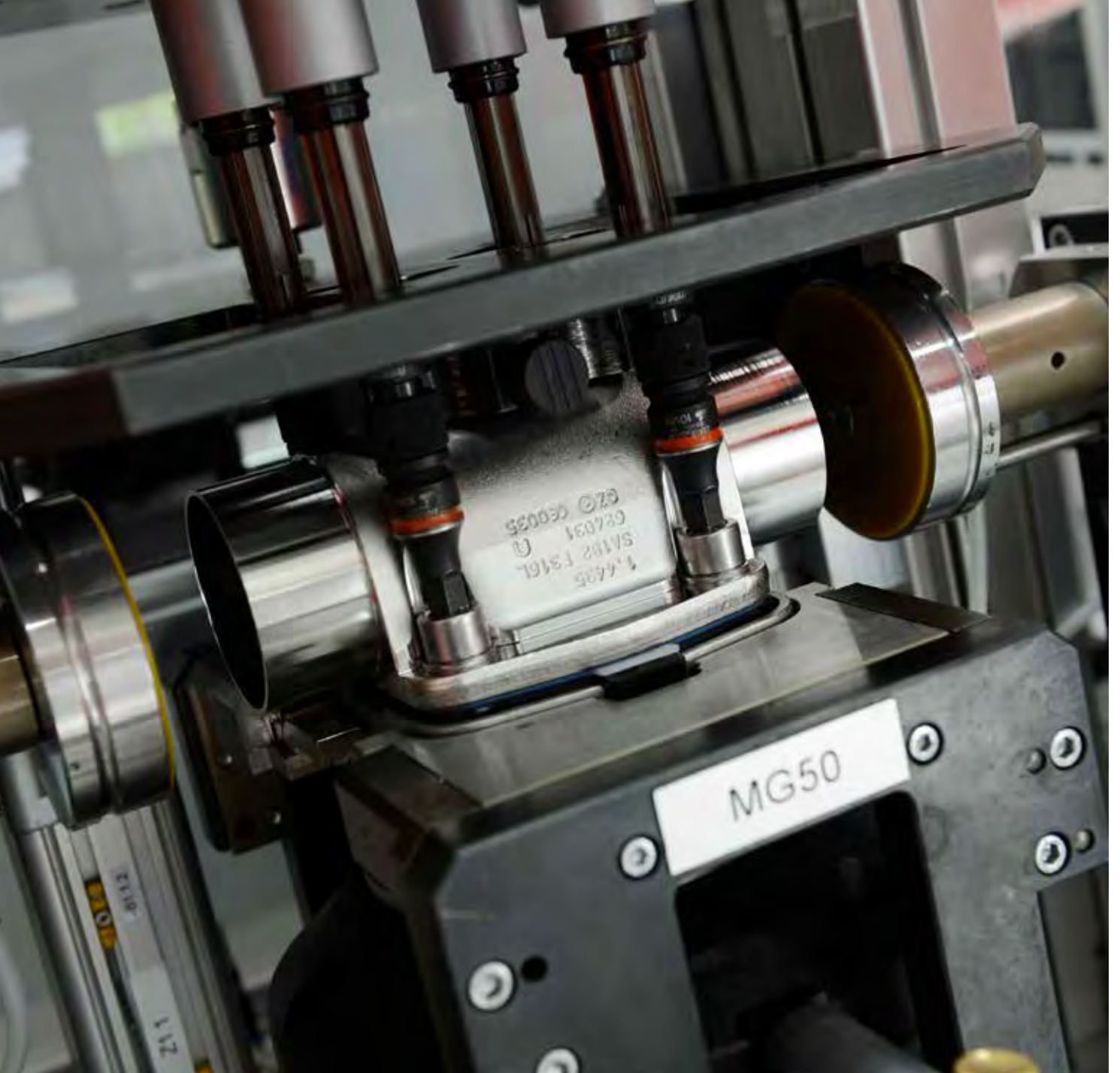
Due to the variety of industrial applications, the Industry business unit has specialized in five main industrial sectors. Regardless of whether it concerns industrial water treatment, chemical industry and environmental systems, mechanical engineering and processing industries or surface finishing, the Industry business unit can provide the right range for these and other areas of application.



Semiconductor

The Semiconductor business segment focuses on pure and ultra pure process media in many different areas of application. The focus here is on valves for systems in the production of semiconductors and microchips, the production of photovoltaic systems and batteries, and the manufacture of ultra high purity chemicals.





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.

So 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.

Surface processing

The surface of a stainless steel component plays a key role. The nature and quality of the surface has a direct effect on service life and cleanability. These requirements are often binding, particularly in the pharmaceutical industry.

With the commissioning of the surface technology centre (OTZ), we are pooling all surface finishing functions (electropolishing, galvanizing, grinding, welding) in one location and expanding capacity in the area of automated surface processing.

Through this, we are offering our customers:

- Broader knowledge and consulting expertise in the area of surface finishing
- Manufacture of high-quality and corrosion-resistant surfaces
- Greater consideration of individual requirements
- More efficient communication channels and shorter lead times and reaction times due to optimized and transparent processes
- Added capacity in the area of automated surface processing

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





Technical consultation and service range

The correct installation and predictive maintenance of valves, measurement and control components are important prerequisites for efficient operation and optimum operating cycles for a plant. This is why we also support you in this regard and offer various additional services.

All-round service

Our well-trained advisors and service engineers support designers, equipment manufacturers and operators, in addition to service providers, in planning, configuring, commissioning and maintaining pipework components. They have in-depth knowledge of the market and can find the optimum technical and cost-effective product version for the relevant application from our comprehensive range. Repair and maintenance work can be carried out at the service centres or directly on site. If you wish, our qualified fitters can also assume responsibility for component inventory, data management and retrofitting for CONEXO.

Furthermore, we offer a variety of technical training courses. With a multi-stage training system and individual training models, we pass all the required knowledge and tools for installing and maintaining GEMÜ products on to employees from Installation and Service. This also includes an innovative, specially designed VR training course (virtual reality training). This lets you practise and internalize the movements required when carrying out maintenance work with CONEXO, for example.

Prepared for Industry 4.0

With CONEXO, we offer an RFID system architecture that enables clear identification of wearing parts, paperless maintenance and process documentation.

To meet the growing requirements of digitalization, we founded the start-up *inevvo solutions* in 2018. Its core expertise is the sale and further development of the CONEXO RFID system. This allows positive electronic identification of our valve components using the integrated RFID chip.

In addition, the CONEXO software supports the user with paperless maintenance. An app for mobile devices guides maintenance technicians through the fully customizable maintenance workflows step by step. Clear identification of components, coupled with innovative elements such as photo documentation or assessment schemes, ensures transparent and reliable maintenance. The recorded data can then be processed electronically. Further information can be obtained from www.inevvo-solutions.com





Overview of industrial sectors

GEMÜ products are in use around the globe. Nowhere are the requirements for valves as stringent as in pharmaceutical and biotechnological applications and the foodstuff and beverage industries.

Our decades of application experience feed directly into the new and further development of valves. That's why, in this demanding environment, GEMÜ valves have proven very successful to date.

Pharmaceutical industry

Coordinated and reproducible processes, as well as permanent monitoring of the production parameters, are essential for manufacturing medicines and vaccines. Hygienic and sterile plant components are the top priority for pharmaceutical processes.

GEMÜ offers numerous combination options for this, to find the appropriate valves for this demanding industrial sector in each case.

Foodstuffs

Process integrity and product reliability play an important role in foodstuff production. In addition, process steps such as fermentation, pasteurization and homogenization are often used to extend shelf life and improve tolerability. Contamination must be avoided at all costs.

GEMÜ offers an extensive range of valves, ensuring the cleanability of systems and components with its hygienic design.

Biotechnology industry

If active ingredients are so complex that they cannot be produced via chemical synthesis, biopharmaceutical processes are used. The more complex the active substance, the more time-consuming and fragile the required process. Aseptic production is indispensable in preventing the contamination of the cell cultures and optimizing the yield of valuable active substances.

To this end, GEMÜ supplies the appropriate sterilizable and minimal deadleg plant components in stainless steel.

Beverages

The beverage industry is the third-largest industrial sector within the foodstuff industry. Due to the ever-increasing requirements set by consumers and the intensive competition, increasingly productive and more significantly automated plants are required.

Whether flexible, fast or precise – innovative, efficient and durable valves are essential in the beverage industry. This is why GEMÜ always offers solution-focused concepts.

Cosmetics

The manufacture of cosmetics does not require you to apply for approval, but it is nevertheless subject to stringent legal requirements.

Manufacturers themselves are obliged to ensure that the cosmetics are produced carefully.

GEMÜ is the right partner when it comes to finding the appropriate plant components for compliance with widely different requirements in the cosmetics industry.

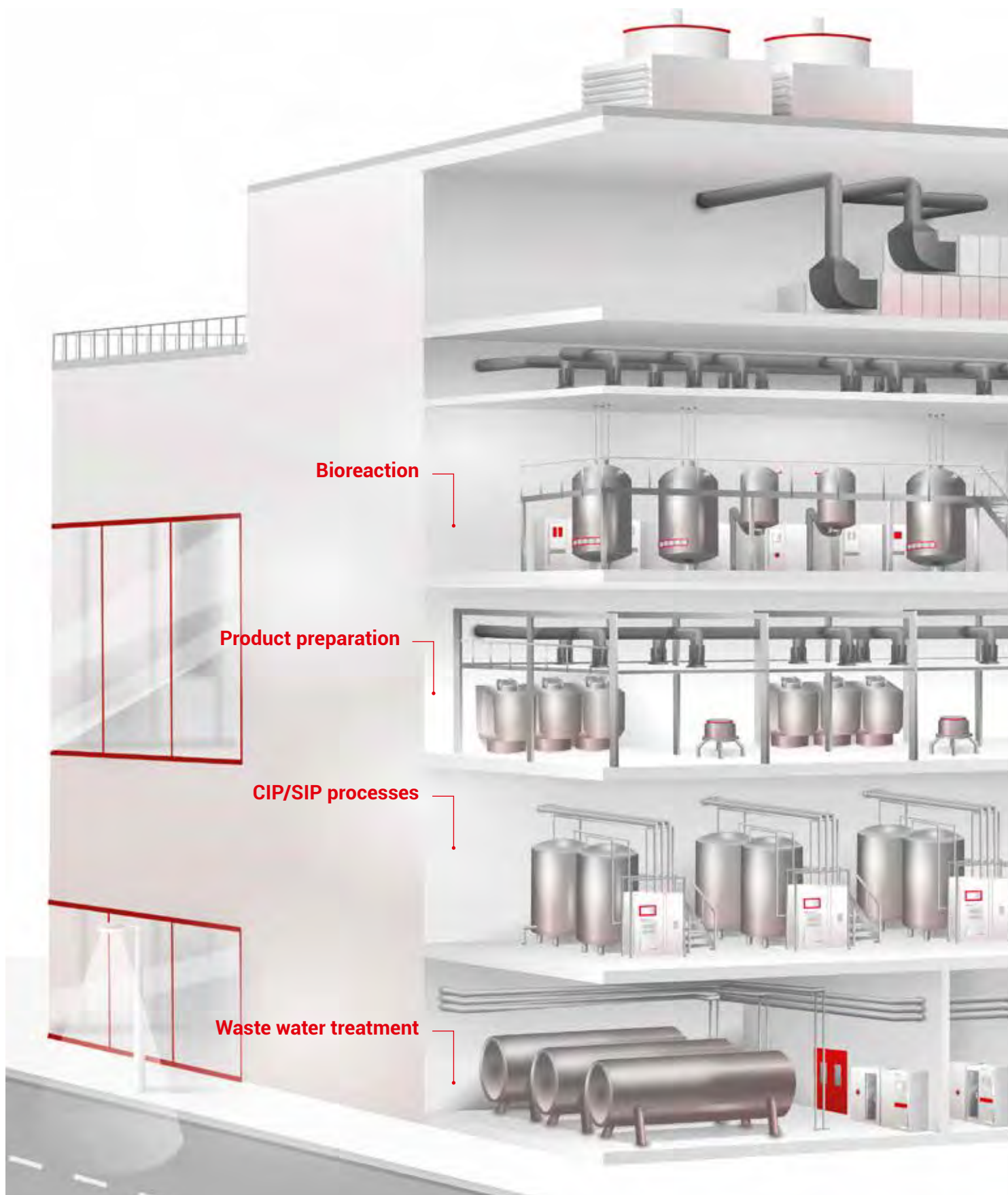
Auxiliary processes

Auxiliary processes are essential to guarantee the necessary cleanliness and thus produce a high-quality product which is harmless to health.

GEMÜ also supplies the appropriate components for these processes with its flexible valve selection. Depending on the requirements, you can select from an extremely wide range of materials, thereby compiling the appropriate valve for the respective auxiliary process.



Areas of application for valves, measurement and control systems



**Exhaust air purification
and climate control**

Media preparation

**Laboratory and analytical
engineering**

Water treatment

**Heating and cooling
systems**

**Ultra pure water
storage and distribution**

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 pharmaceutical and biotechnological applications and the foodstuff and beverage industries.

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 diaphragm becomes deformed via a 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.

Rotating valves



Butterfly valves

Butterfly valves are used whenever pipes are large or simple isolation is 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 body into which a liner and a butterfly disc are inserted. The disc swings 90° into the liner.



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 continuous hole, 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		Diaphragm globe valves	
	Metal	Plastic	Metal	Plastic
MEDIUM				
Gaseous	○	○	○	○
Liquid	●	●	●	●
Viscous	●	●	●	●
Particulate	●	○	–	–
Granular	○	○	–	–
Corrosive (depends on material)	●	●	–	●
PROCESS				
Multi-port design available	●	●	●	●
Piggable	–	–	–	–
Controllable	○	○	●	●
Media temperature	up to 100 °C	up to 80 °C	up to 160 °C	up to 150 °C
Operating pressure	up to 10 bar	up to 10 bar	up to 10 bar	up to 6 bar
Hygienic design (cleanability)	●	○	●	○
Sterility (for sterile steam only)	●	–	●	–
Frequent cycle duties	○	○	●	●

- Very suitable
- Conditionally suitable
- Not suitable

Valve groups for special applications



Single-use valves



Tank valves

Globe valves Metal	Butterfly valves Metal	Ball valves Metal
●	–	●
●	●	●
○	●	○
–	○	–
–	○	–
–	–	–
●	–	●
–	–	●
●	For larger diameters	○
up to 185 °C	up to 210 °C	up to 220 °C
up to 40 bar	up to 16 bar	up to 137 bar
–	–	–
●	–	–
●	–	–



Sampling systems



Control systems

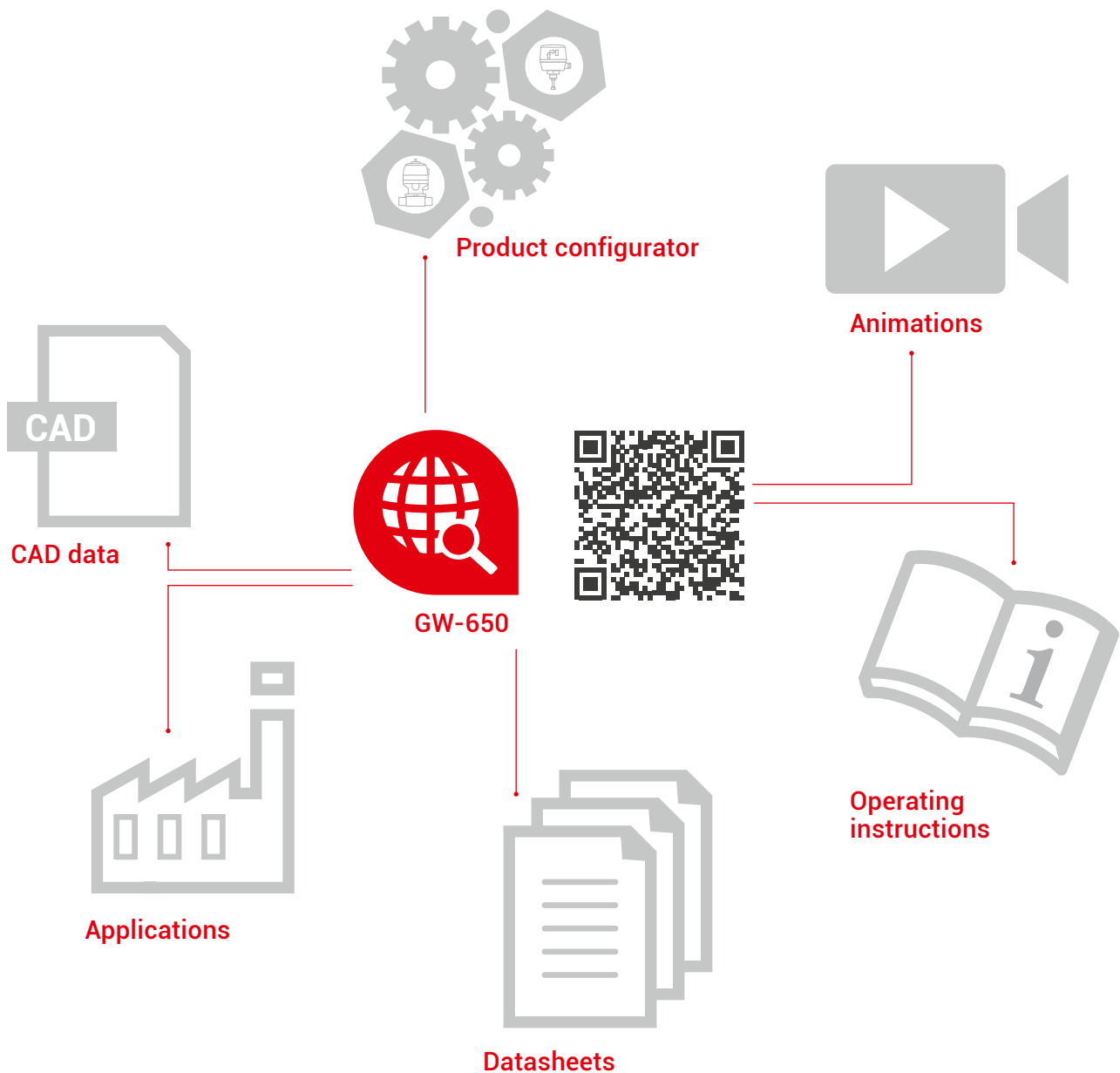


Configure easily online

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 650 diaphragm valve has the web code GW-650. Enter the web code in the search window 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. As numerous body and seal materials are available, our GEMÜ diaphragm valves are used in applications from the most varied of industrial sectors. 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 among the valve types with minimal deadleg and are, therefore, ideally suited for use in the food and beverage industries and the biotechnology and pharmaceutical industries.

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

- 2/2-way bodies
- Welding configurations
- i-bodies
- T bodies
- Multi-port bodies

With our wide selection of connections, materials and grades of surface finish, our valves are ideally suited for use in the pharmaceutical, biotechnology and food industries. In addition, we offer the most varied diaphragm valves for industrial processes.

Further information on our connections and surface processing can be found in the valve information section.

Features

- Very good cleanability (minimal deadleg)
- Hermetic separation of the medium from the actuator
- Optional flow direction
- For ultra pure to heavily contaminated abrasive media

Typical working media

- Liquids: Water, pharmaceutical quality water, hygienic and aseptic products, cleaning media
- Steam: Ultra pure steam, saturated steam, black steam

Applications

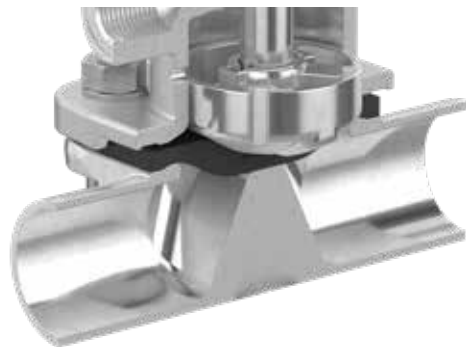
- Manufacture of pharmaceutical and biopharmaceutical active substances
- Cleaning and sterilization processes
- Treatment and distribution of waste water, drinking water and ultra pure water
- Generation and distribution of ultra pure steam and black steam
- Batch and filling processes
- Media supply and product removal
- Sugar production
- Woodpulp and paper manufacturing/processing
- Sewage clarification plants



Functional principle of diaphragm valves



Open



Closed

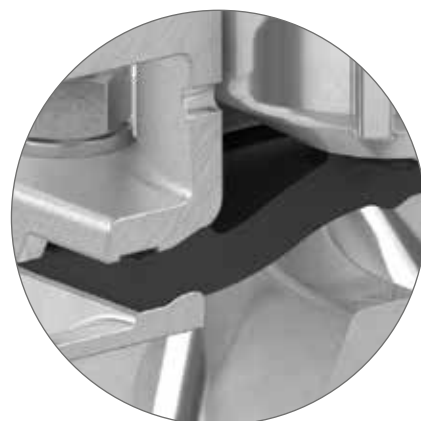
The diaphragm valve works thanks to the interaction of perfectly tuned components. These are the valve body, the shut-off diaphragm, the diaphragm fixing, the compressor as well as the actuator.

The flexible diaphragm becomes deformed via a 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 | PTFE/EPDM | FKM



Bodies

2/2-way body | T body | Welding configurations | i-body | Multi-port body
Metal | Plastic



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

2/2-way body

The 2/2-way straight through body is the simplest and most common valve body version. It is built-in for flow control and shutting off piping. At GEMÜ, we place particular importance on optimum geometries with high flow rates. The body configuration is, therefore, perfectly adjusted to the GEMÜ diaphragms and actuators and can be easily installed.

Valves with 2/2-way bodies can be ordered using our GEMÜ order code. More detailed information can be found with the order data.



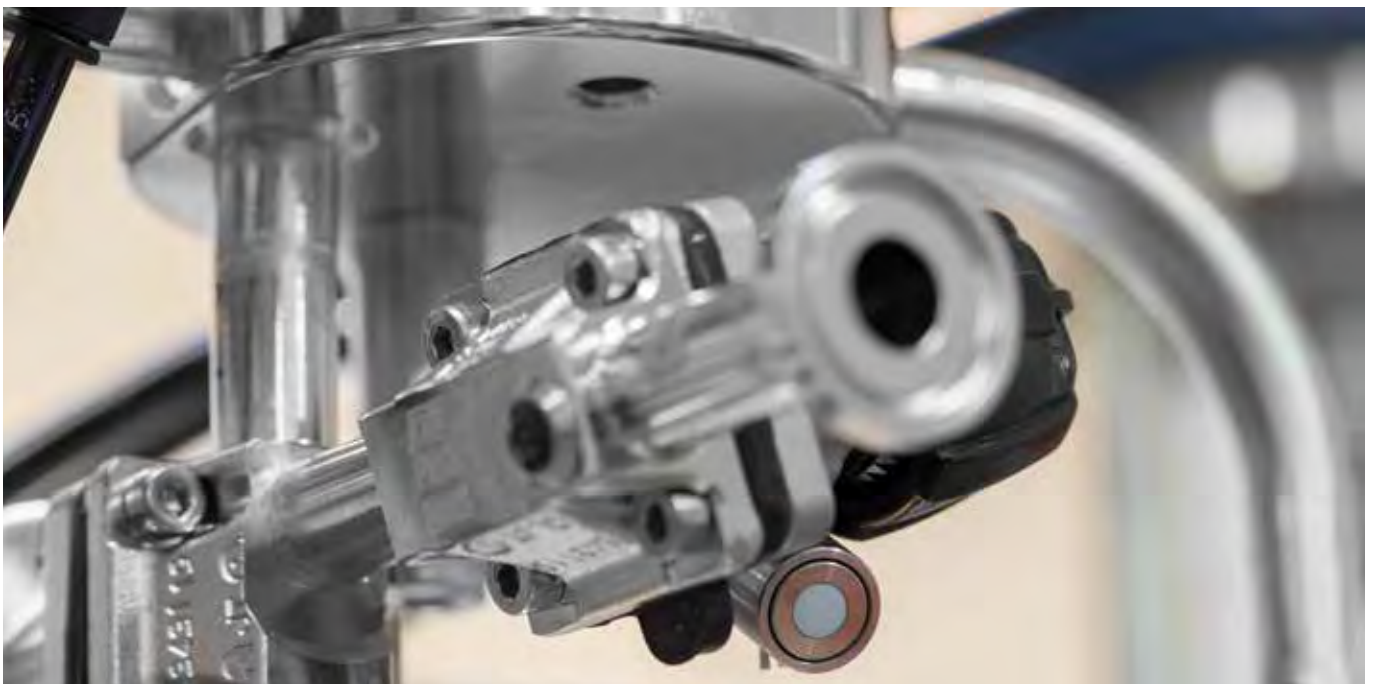
2/2-way body made from investment casting material



2/2-way body made from forged material



2/2-way body made from block material



T body

Our compact T bodies are perfectly suited to media supply and removal. They are made from block material and comprise a through flow with vertical inlet or outlet and without weld seams in the media wetted area.

Special version A is particularly suitable for taking samples from large ring mains (> DN 50). The outlet is \leq DN 15 here.

Special version Y is ideally suited to ring mains in the biotechnology industry, as container inlets/outlets or for product transfers.

Valves with T, A and Y bodies can be ordered using our GEMÜ order code. More detailed information can be found with the order data.

T bodies are also available designed as diaphragm globe valves. Further information can be found in the diaphragm globe valves section.



T body



A body



Y body

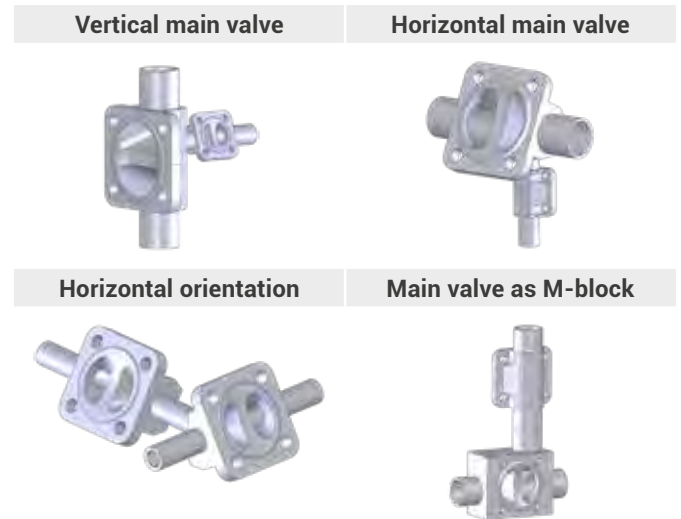


Welding configurations

Welding configurations comprise two 2/2-way bodies welded together. As a T-fitting does not have to be used to join the two valves, they allow maximum functionality in the smallest of spaces. In addition, two weld seams are no longer necessary and the deadleg between the valves is substantially reduced. This makes them ideally suited to CIP/SIP applications, sampling, draining residue and condensate draining.



The GEMÜ welding configurations can be grouped into different categories.



Ordering options

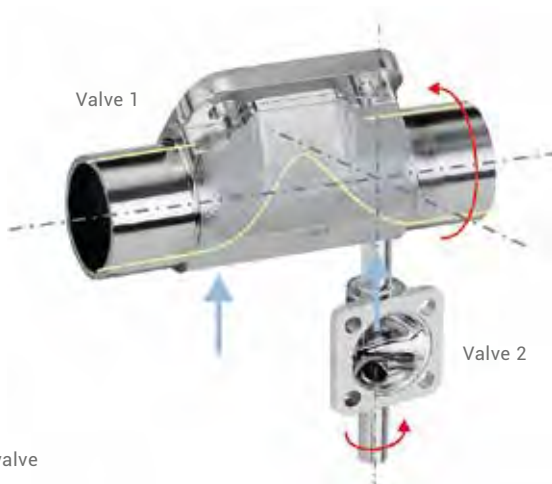
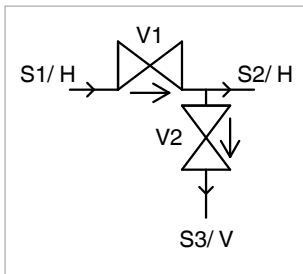
Contact us for a private consultation on designing your valve or use the specification sheet on page 37.



GMP/SAP configuration

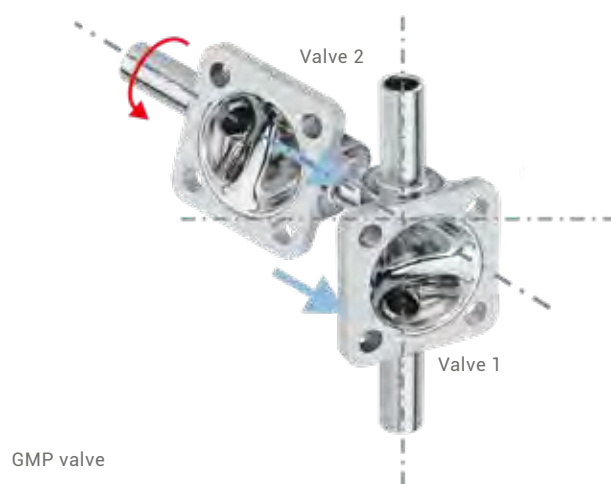
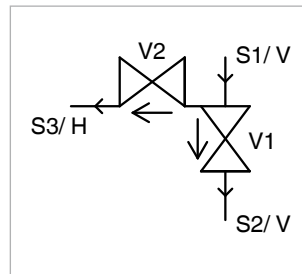
SAP valve

The term SAP (Sterile Access Port) valve defines a configuration of two valves welded together, with the 2/2-way valve (1) being arranged horizontally. The valve (2) is welded on vertically in front of or behind the 2/2-way valve (1) sealing weir depending on the application.



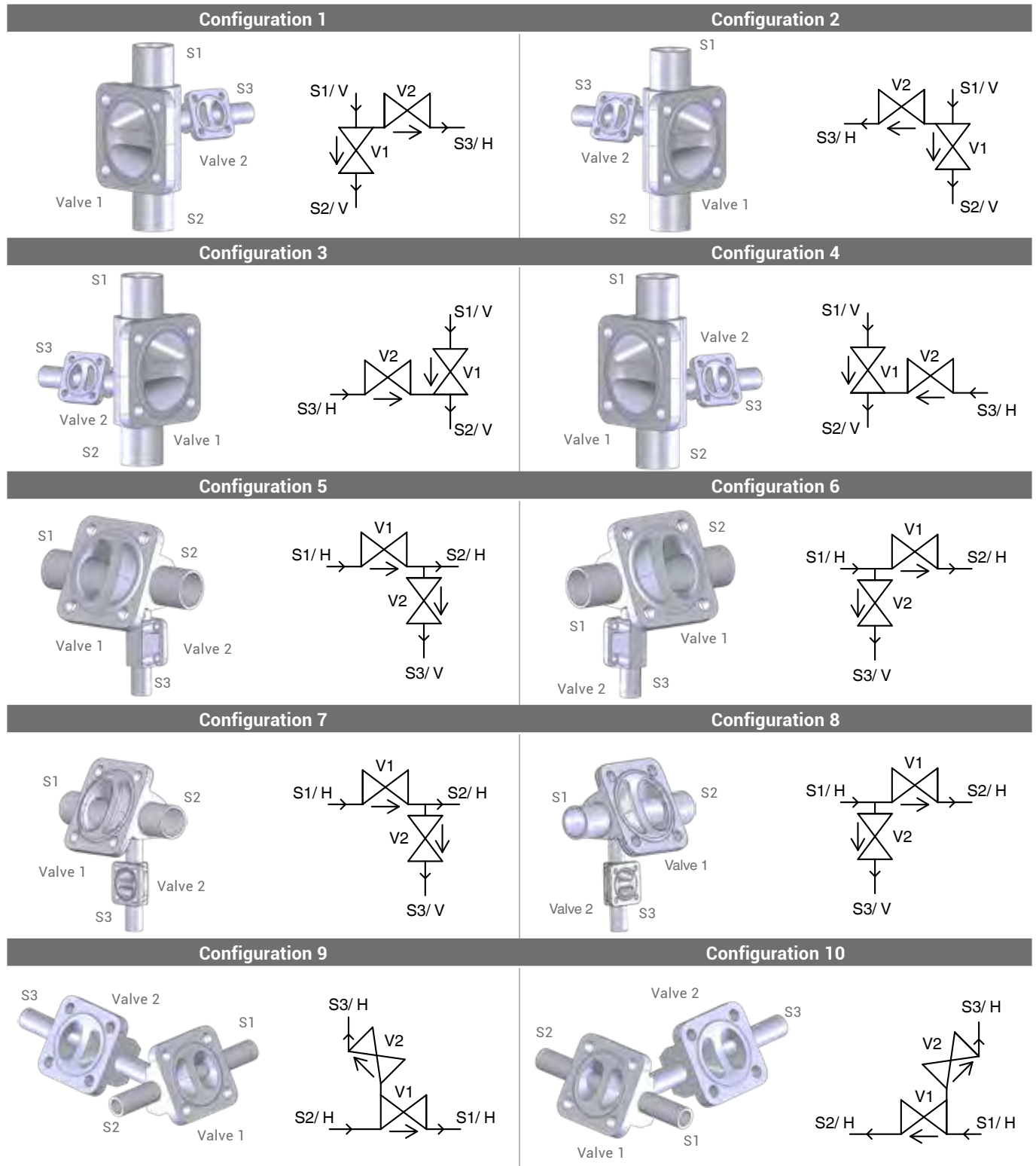
GMP valve

The term GMP (Good Manufacturing Practice) valve defines a configuration of two valves welded together, with the 2/2-way valve (1) being arranged vertically. The valve (2) is welded on horizontally in front of or behind the 2/2-way valve (1) sealing weir depending on the application. It is twisted axially to the extent that its sealing weir is turned away from the volumetric flow and that the working medium can flow out unhindered even under depressurised conditions.

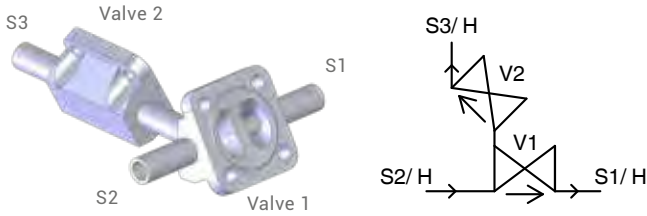


Welding configurations

Valve body versions



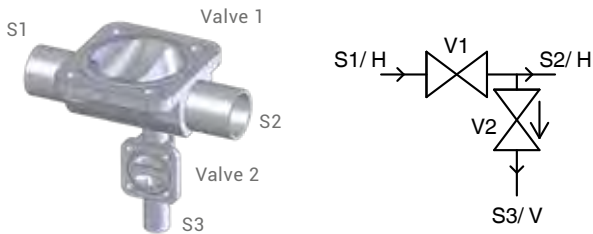
Configuration 11



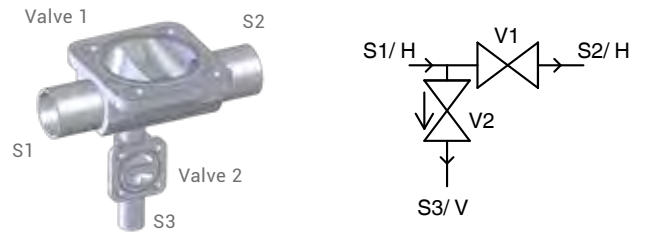
Configuration 12



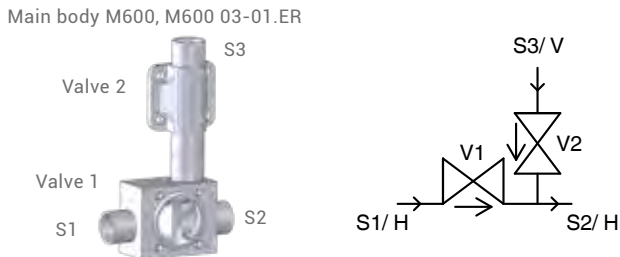
Configuration 13



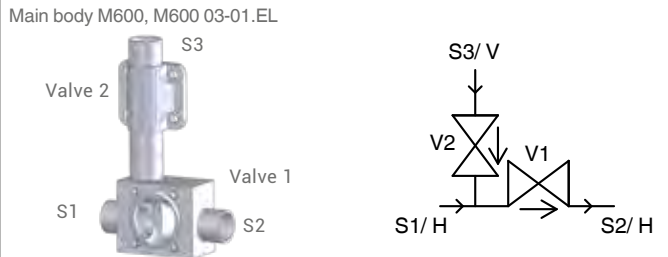
Configuration 14



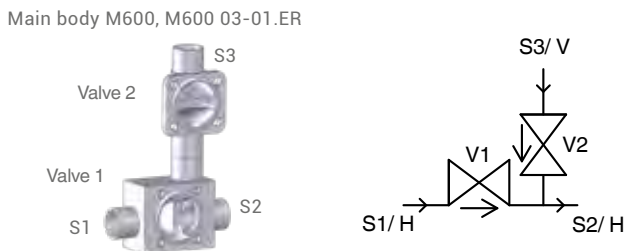
Configuration 15



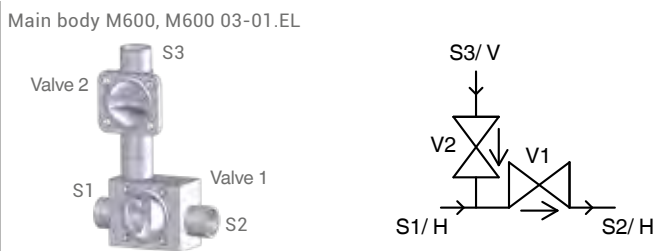
Configuration 16



Configuration 17



Configuration 18



Notes:

- * Since the max. diameter that can be welded on is limited, we ask that the GEMÜ specification sheet (see page 37) is always used to request the desired combinations
- * The illustrations show recommended installation positions
- * The arrows in the flow charts are examples

S1, S2, S3: Spigot

V1, V2: Valve seat

H: Horizontal orientation

V: Vertical orientation

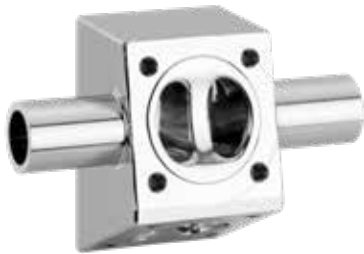
→: Flow direction

→: Draining direction

i-bodies

As a special construction type of the traditional 2/2-way body, the patented GEMÜ i-bodies have an additional integrated valve seat. This means that they feature no internal weld seams and have a reduced deadleg. The integrated valve seats of i-bodies have various uses, including as sampling, steam and condensate valves.

The bypass design is distinguished by the fact that the integrated seat is switched in parallel to the main seat. This makes it particularly suitable for applications that require varying and extremely different flow rates at the same time (e.g. for tank systems and filling machines).






i-body made from block material



i-body made from forged material

The GEMÜ i-bodies can be grouped into different categories.

With spigots	With welded-on pipe
	
With welded-on 90° pipe bend	With bypass
	

Ordering options

Contact us for a private consultation on designing your valve or use our specification sheet.

1. Enter the operating conditions and desired materials.
2. Label all connection spigots starting with S1, all valve seats starting with V1.
3. Assign the necessary features to every connection in the table and add explanatory remarks where necessary.
4. Specify the necessary actuator and type as well as control function for every connection.

Specification sheet for welding configurations and i-bodies

Configuration no.:

Quantity

Operating pressure

bar

Medium temperature

°C

Valve 1

	DN	Code	ød(a) [mm]	s [mm]
Spigot S1				
Spigot S2				

only bored (make entries for dimensions for S3)

Operator type

Diaphragm size

Control function

Accessories

Remark

Body material * Valve 1	1.4435	<input type="radio"/>
	1.4435 BN 2 (Δ Fe < 0,5%)	<input type="radio"/>
	1.4539	<input type="radio"/>
	Other	<input type="radio"/>
	* Forged body as standard	

Diaphragm material	EPDM	<input type="radio"/>	Code	_____
	PTFE	<input type="radio"/>	Code	_____
	Other	<input type="radio"/>		_____

Surface finish Internal contour valve 1 and 2	1502	(Ra) ≤ 0,8 μm	<input type="radio"/>
	1503	(Ra) ≤ 0,8 μm electropolished	<input type="radio"/>
	1507	(Ra) ≤ 0,6 μm	<input type="radio"/>
	1508	(Ra) ≤ 0,6 μm electropolished	<input type="radio"/>
	1536	(Ra) ≤ 0,4 μm	<input type="radio"/>
	1537	(Ra) ≤ 0,4 μm electropolished	<input type="radio"/>
	1527	(Ra) ≤ 0,25 μm	<input type="radio"/>
1516	(Ra) ≤ 0,25 μm electropolished	<input type="radio"/>	
Other	_____	<input type="radio"/>	

Valve 2

	DN	Code	ød(a) [mm]	s [mm]
Spigot S3				

no deadleg requirement

3D rule
See sketch below

6D rule
See sketch below

Operator type

Diaphragm size

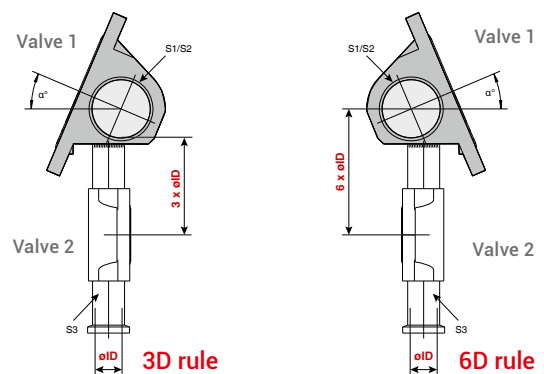
Control function

Accessories

Remark

Body material * Valve 2	1.4435	<input type="radio"/>
	1.4435 BN 2 (Δ Fe < 0,5%)	<input type="radio"/>
	1.4539	<input type="radio"/>
	Other	<input type="radio"/>
	* Forged body as standard	

Diaphragm material	EPDM	<input type="radio"/>	Code	_____
	PTFE	<input type="radio"/>	Code	_____
	Other	<input type="radio"/>		_____



The technical details of each enquiry must be checked by GEMÜ.



i-bodies

Valve body versions

	IOL	IOR	ITL	ITR	I2L	I2R
Weld-on parts	None	None	Pipe	Pipe	90° elbow	90° elbow
Flow chart						
Forged body						
Block material bodies						

I3L	I3R	I4L	I4R	I5L	I5R
90° elbow	90° elbow	90° elbow	90° elbow	90° elbow	90° elbow

Notes:

- * Alternative installation positions are possible
- * The arrows in the flow charts are examples

S1, S2, S3: Spigot

V1, V2: Valve seat

H: Horizontal orientation

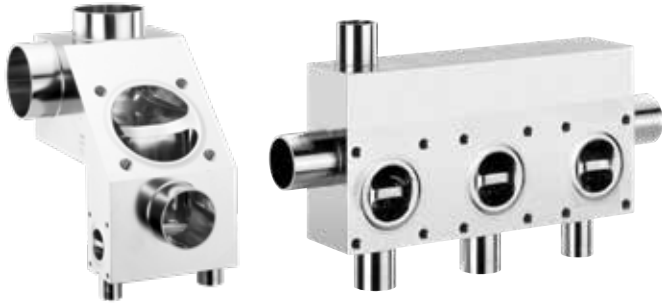
V: Vertical orientation

→ : Flow direction

→ : Draining direction

Multi-port bodies

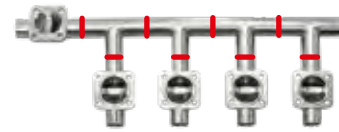
Multi-port bodies are manufactured from a piece of block material. This means that they have the advantage that various functions can be combined in the smallest of spaces.



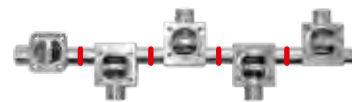
In over 25 years, we have manufactured several thousand multi-port body versions. Therefore, we undoubtedly have the required expertise to implement your individual requirements in the best way possible. Our body designs stand out from the crowd with advantages including:

- Customized, flexible design that is optimized for draining
- GMP-compliant design
- Compact design and consequently greatly reduced deadlegs
- Increased product reliability
- Compliance with 2D or 3D rule possible
- Reduced and simple validation by getting rid of internal weld seams and combining in a single valve body

Classic designs of valves, fittings and pipework components require a lot of space. They also require a correspondingly high installation and welding effort, which results in increased validation costs. Using multi-port valve blocks means that weld seams are no longer necessary in the product area, for example, and that space requirements can be significantly reduced, as shown in the figures below.



Eight weld seams (conventional design with 2/2-way bodies)



Four weld seams (optimized design with 2/2-way and T bodies)

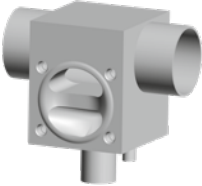
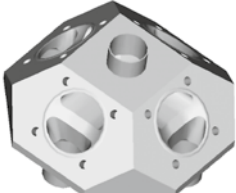
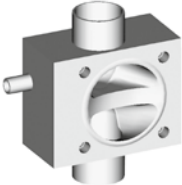
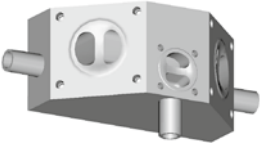

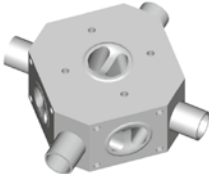




No weld seams (compact design with multi-port body)



The features of multi-port valves allow them to be used for the most varied applications.

Depending on your requirements, we can provide appropriate multi-port bodies for you on a case-by-case basis.

Media supply and removal	Mixing and dividing procedures
	
Draining residue and CIP/SIP processes	Block and bleed
	
Ring mains	Chromatography
	
Sampling	Filter block
	

Multi-port bodies can also be combined with diaphragm globe valves. Further information can be found in the diaphragm globe valves section.

Ordering options

As with the other body configurations, the multi-port bodies can also be combined with the GEMÜ diaphragms and actuators in line with your customized requirements. Contact us for a private consultation on designing your valve or use our specification sheet to configure your M-block diaphragm valve. You can find the specification sheet with the GEMÜ P600M sample configurations.

1. Enter the operating conditions and desired materials.
2. Please state what functions the multi-port valve should fulfil. Draw a pictogram or functional diagram and insert it in the specification.
3. Label all connection spigots starting with S1, all valve seats starting with V1.
4. Assign the necessary features to every connection in the table and add explanatory remarks where necessary.
5. Specify the necessary actuator and type as well as control function for every connection.

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-relevant 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-quality 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 lining thickness 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 galvanization, 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.






Manually operated diaphragm valves made of metal

Overview

GEMÜ type	601 / 612 / 673	602	611/671	673P9
				
Special feature				Valve actuator with sealing
Nominal sizes	DN 4 to 65	DN 4 to 15	DN 10 to 100	DN 4 to 65
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 80 °C	-10 to 100 °C
Sterilization temperature	Max. 150 °C	Max. 150 °C	Not sterilizable	Max. 150 °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	•	•	•	•
CW614N	-	-	•	-
CW617N	-	-	•	-
EN-GJL-250	-	-	•	-
EN-GJS-400-18-LT, lined	•	-	•	•
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	•	•	•	•

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

GEMÜ type	653 BioStar	654 BioStar	650TL
			
Special feature			Tapping valve with fail safe function
Nominal sizes	DN 10 to 100	DN 4 to 100	DN 4 to 25
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C
Sterilization temperature	Max. 150 °C	Max. 150 °C	Max. 150 °C
Operating pressure	0 to 10 bar	0 to 10 bar	0 to 8 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	•	•	•
CW614N	-	-	-
CW617N	-	-	-
EN-GJL-250	-	-	-
EN-GJS-400-18-LT, lined	-	-	-
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	•	•	•

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

GEMÜ 601 / 612 / 673

Manually operated diaphragm valve

The GEMÜ 601/612/673 2/2-way diaphragm valves have temperature-resistant plastic handwheels and are manually operated. A closing stroke limiter or a seal adjuster to increase service life of the diaphragm and an optical position indicator are integrated as standard.

Features

- Compact design (ideal when space is at a premium)
- CIP/SIP capable
- Autoclave capability
- Long diaphragm service life thanks to patented closing stroke limiter
- Continuous minimum flow regulation thanks to closing stroke limiter
- Optional PVDF handwheel available in white (not autoclavable)



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 T body Tank valve 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
Body lining:	PFA PP
Diaphragm materials:	EPDM FKM PTFE/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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GW-601



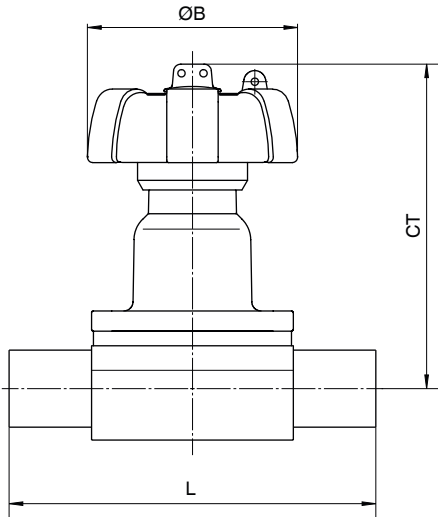
GW-612



GW-673



Installation dimensions (extract)



Type	Diaphragm size	Nominal size	ØB	CT	L
601	MG 8	DN 8	32.0	66.5	72.0
		DN 10	32.0	66.5	72.0
		DN 15	32.0	66.5	72.0
612	MG 10	DN 10	60.0	92.5	108.0
		DN 15	60.0	92.5	108.0
		DN 20	60.0	92.5	108.0
673	MG 25	DN 20	90.0	121.0	120.0
		DN 25	90.0	121.0	120.0
	MG 40	DN 40	114.0	145.0	153.0
	MG 50	DN 50	140.0	168.0	173.0
		DN 65	140.0	170.0	173.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example: GEMÜ 673 with 2/2-way body

673		D	59	40	19	0		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example: GEMÜ 673 with T body

673		T	88	41	5M	0			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

GEMÜ 602

Manually operated diaphragm valve

The GEMÜ 602 2/2-way diaphragm valve has a stainless steel handwheel and is manually operated. Bonnet and internals are made entirely from stainless steel. A closing stroke limiter to increase service life of the diaphragm and an optical position indicator are integrated as standard.

Features

- Compact design (ideal when space is at a premium)
- CIP/SIP capable
- Autoclave capability
- Long diaphragm service life thanks to patented closing stroke limiter
- Continuous minimum flow regulation thanks to closing stroke limiter



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 15
Body configurations:	2/2-way body i-body Multi-port body T body Tank valve 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 FKM PTFE/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

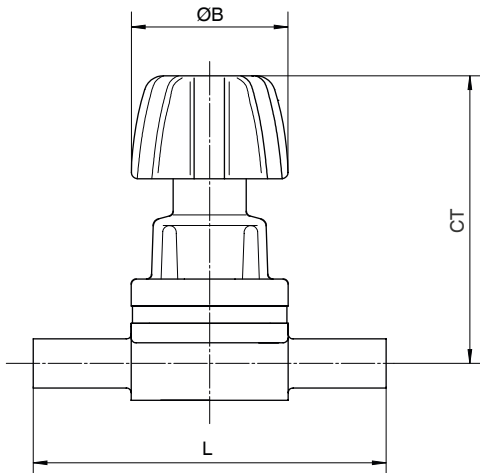
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GW-602



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 8	32.0	66.5	72.0
	DN 10	32.0	66.5	72.0
	DN 15	32.0	66.5	72.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

602		D	59	40	19	0	0TM	SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example of a T body

602		T	88	41	5M	0	0TM		59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2

- 11 Surface
- 12 CONEXO

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
Sterilization temperature:	Not sterilizable
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 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:	PFA PP
Diaphragm materials:	EPDM FKM PTFE/EPDM
Conformities:	EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

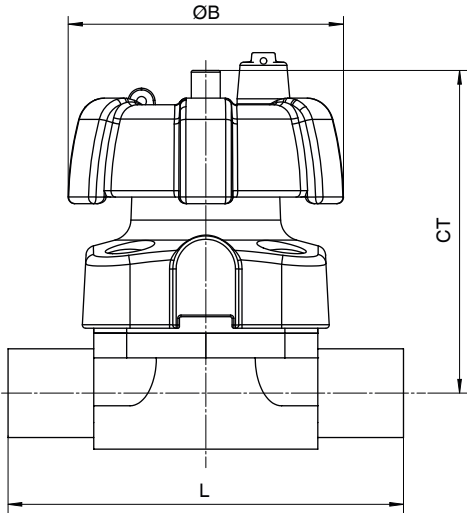
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GW-611/671



Installation dimensions (extract)



Type	Diaphragm size	Nominal size	ØB	CT	L
611	MG 10	DN 10	60.0	92.5	108.0
		DN 15	60.0	92.5	108.0
		DN 20	60.0	92.5	108.0
671	MG 25	DN 20	90.0	98.0	120.0
		DN 25	90.0	98.0	120.0
	MG 40	DN 40	114.0	125.0	153.0
	MG 50	DN 50	140.0	151.0	173.0
		DN 65	140.0	151.0	173.0
	MG 80	DN 65	214.0	229.0	254.0
DN 80		214.0	229.0	254.0	
MG 100	DN 100	214.0	292.0	305.0	

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example: GEMÜ 671 with 2/2-way body

671		D	59	40	19	0		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example: GEMÜ 671 with T body

671		T	88	41	5M	0			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2

- 11 Surface
- 12 CONEXO

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 is specially sealed, making it ideal for demanding cleaning procedures. A closing stroke limiter to increase 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 T body Tank valve 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
Body lining:	PFA PP
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

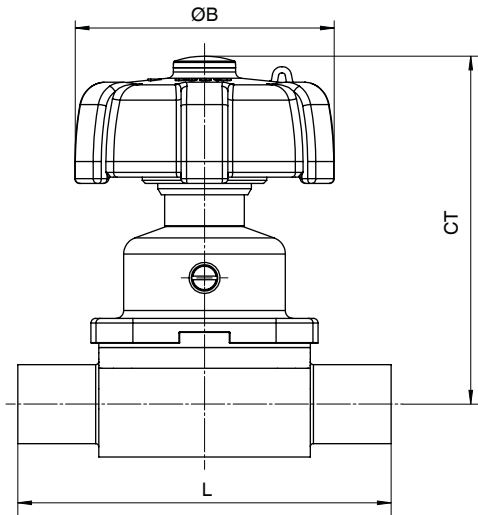
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GW-673P9



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 8	32.0	88.5	72.0
	DN 10	32.0	88.5	72.0
	DN 15	32.0	88.5	72.0
MG 10	DN 10	60.0	95.5	108.0
	DN 15	60.0	95.5	108.0
	DN 20	60.0	95.5	108.0
MG 25	DN 20	90.0	113.0	120.0
	DN 25	90.0	113.0	120.0
MG 40	DN 40	114.0	147.0	153.0
MG 50	DN 50	140.0	163.0	173.0
	DN 65	140.0	165.0	173.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

673		D	59	40	19	0		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example of a T body

673		T	88	41	5M	0			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

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 chemical 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 T body Tank valve 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
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

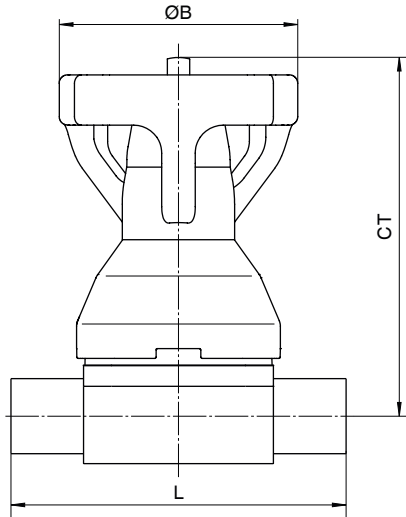
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GW-653



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 10	36.0	73.5	72.0
	DN 15	36.0	73.5	72.0
MG 10	DN 10	63.0	98.5	108.0
	DN 15	63.0	98.5	108.0
	DN 20	63.0	98.5	108.0
MG 25	DN 20	92.0	127.0	120.0
	DN 25	92.0	127.0	120.0
MG 40	DN 40	114.0	171.0	153.0
MG 50	DN 50	132.0	203.0	173.0
	DN 65	132.0	205.0	173.0
MG 80	DN 65	211.0	264.0	216.0
	DN 80	211.0	264.0	254.0
MG 100	DN 100	211.0	299.0	305.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59), 1.4435 body material (code 40) and actuator function without stroke limiter (code N)

Order example of a 2/2-way body

653		D	59	40	19	0		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example of a T body

653		T	88	41	5M	0			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

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 T body Tank valve 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
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

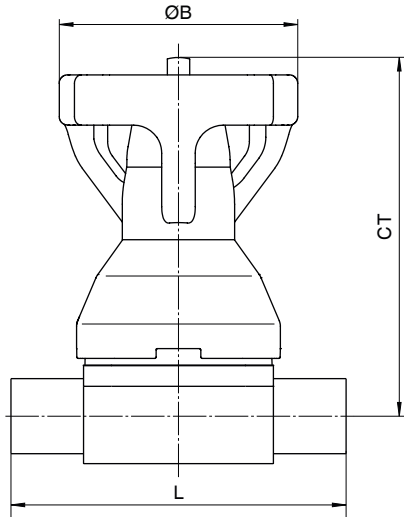
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GW-654



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 10	36.0	73.5	72.0
	DN 15	36.0	73.5	72.0
MG 10	DN 10	63.0	98.5	108.0
	DN 15	63.0	98.5	108.0
	DN 20	63.0	98.5	108.0
MG 25	DN 20	92.0	127.0	120.0
	DN 25	92.0	127.0	120.0
MG 40	DN 40	114.0	171.0	153.0
MG 50	DN 50	132.0	203.0	173.0
	DN 65	132.0	205.0	173.0
MG 80	DN 65	211.0	264.0	216.0
	DN 80	211.0	264.0	254.0
MG 100	DN 100	211.0	299.0	305.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59), 1.4435 body material (code 40) and actuator function without stroke limiter (code N)

Order example of a 2/2-way body

654		D	59	40	19	0		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example of a T body

654		T	88	41	5M	0			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

GEMÜ 650TL

Manually operated diaphragm valve

Diaphragm valve GEMÜ 650TL is a manual take-off valve with a pneumatic fail safe function. The valve can only be operated manually (opened/closed) if the actuator is supplied with compressed air. If this supply is interrupted, the valve closes due to the force of the spring and can no longer be opened manually.

Features

- Fail safe function (closed) thanks to integrated pneumatic actuator
- CIP/SIP capable
- Proximity switches can be fitted for recording the valve position



Technical specifications

Media temperature:	-10 to 100 °C
Sterilization temperature:	Max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 8 bar
Nominal sizes:	DN 4 to 25
Body configurations:	2/2-way body i-body Multi-port body T body Tank valve body Welding configuration
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 (316L), forged material 1.4435 (BN2), block material 1.4435 (BN2), forged material 1.4435, investment casting material 1.4539 (904L), forged material
Diaphragm materials:	EPDM 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

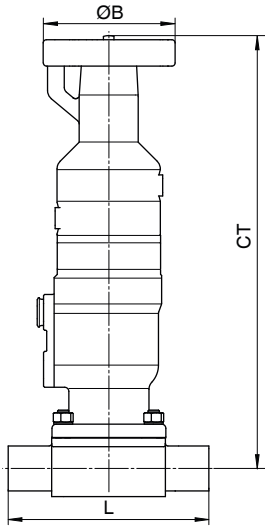
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GW-650TL



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 8	42.0	154.5	72.0
	DN 10	42.0	154.5	72.0
	DN 15	42.0	154.5	72.0
MG 10	DN 10	60.0	208.5	108.0
	DN 15	60.0	208.5	108.0
	DN 20	60.0	208.5	108.0
MG 25	DN 20	85.0	283.0	120.0
	DN 25	85.0	283.0	120.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

650		D	59	40	19	1		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example of a T body

650		T	88	41	5M	1			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12




- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

Order data for manually operated metal diaphragm valves

Order example: GEMÜ 601 with 2/2-way body

601	15	D	59	40	54	0	OTS	1502	
1	2	3	4	5	6	7	8	9	10



configure online

1 Type
2 DN
3 Body configuration
4 Connection type
5 Valve body material

6 Diaphragm material
7 Control function
8 Actuator version
9 Surface
10 Special version

Order codes

1 Type	Code	2 Continuation of DN	Code
Diaphragm valve, manually operated, plastic handwheel, stainless steel distance piece, seal adjuster, optical position indicator	601	DN 8	8
Diaphragm valve, manually operated, stainless steel handwheel, optical position indicator	602	DN 10	10
Diaphragm valve, manually operated, plastic handwheel, optical position indicator	611	DN 12	12
Diaphragm valve, manually operated, plastic handwheel, stainless steel distance piece, seal adjuster, optical position indicator	612	DN 15	15
Diaphragm valve, pneumatically operated, stainless steel piston actuator electropolished, optical position indicator	650	DN 20	20
Diaphragm valve, manually operated, plastic handwheel, stainless steel distance piece electropolished, optical position indicator	653	DN 25	25
Diaphragm valve, manually operated, stainless steel handwheel electropolished, optical position indicator	654	DN 32	32
Diaphragm valve, manually operated, plastic handwheel, plastic distance piece, optical position indicator	671	DN 40	40
Diaphragm valve, manually operated, plastic handwheel, metal distance piece, seal adjuster, optical position indicator	673	DN 50	50
		DN 65	65
		DN 80	80
		DN 100	100
		3 Body configuration	Code
		2/2-way body	D
		T body	T
		Tank bottom valve body	B
		4 Connection type	Code
		Spigot	
		Spigot DIN	0
		Spigot EN 10357 series B, formerly DIN 11850 series 1	16
		Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
		Spigot DIN 11850 series 3	18
		Spigot JIS-G 3447	35
		Spigot JIS-G 3459 schedule 10s	36
		Spigot SMS 3008	37
		Spigot BS 4825, part 1	55
		Spigot ASME BPE / DIN 11866 series C	59
		Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
		Spigot ANSI/ASME B36.19M schedule 10s	63
		Spigot ANSI/ASME B36.19M schedule 40s	65
2 DN	Code		
DN 4	4		
DN 6	6		

4 Continuation of Connection type	Code
Spigot ASME BPE, long design	94
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D	80
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	82
Clamp ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	88
Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D	8A
Clamp ISO 2852/SMS 3017, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8E
Clamp ASME BPE for pipe ASME BPE	8U
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	8
Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D	38
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Thread	
Threaded socket DIN ISO 228	1
Threaded spigot DIN 11851	6
Threaded spigot on one side, DIN 11851, cone spigot and union nut, DIN 11851 on the other side	62
5 Valve body material	
1.4408, investment casting	37
1.4408, PFA lined	39
1.4435, investment casting	C3
1.4435 (F316L), forged body	40
1.4435 (316L), block material	41
1.4435 (BN2), forged body, $\Delta Fe < 0.5\%$	42
1.4435 (BN2), block material, $\Delta Fe < 0.5\%$	43
1.4539, forged body	F4
EN-GJL-250 (GG 25)	8

5 Continuation of Valve body material	Code
EN-GJS-400-18-LT (GGG 40.3), PFA lined	17
EN-GJS-400-18-LT (GGG 40.3), PP lined	18
CW614N, CW617N (brass)	12
6 Diaphragm material	
EPDM	13
EPDM	17
EPDM	19
EPDM	36
EPDM	3A
FPM	4
FPM	4A
PTFE/EPDM two-piece	5M
PTFE/EPDM one-piece	54
7 Control function	
Manually operated (MO)	0
For GEMÜ 671	
Manually operated, with lockable handwheel	L
8 Actuator version	
For GEMÜ 601	
With seal adjuster, black handwheel	0TS
For GEMÜ 602	
With seal adjuster, metal handwheel	0TM
For GEMÜ 612	
With seal adjuster, black handwheel	1TS
For GEMÜ 650TL	
With diaphragm size 8	
Manually operated with automatic closing function, control air connector and connections for proximity switches positioned 90° offset to flow direction	OLL
Manually operated with automatic closing function, control air connector positioned 90° offset to flow direction, connections for proximity switches in-line with flow direction	ORL
Manually operated with automatic closing function, control air connector and connections for proximity switches positioned in-line with flow direction	OTL

Order data for manually operated metal diaphragm valves

8 Continuation of Actuator version	Code
With diaphragm size 10	
Manually operated with automatic closing function, control air connector and connections for proximity switches positioned 90° offset to flow direction	1LL
Manually operated with automatic closing function, control air connector positioned 90° offset to flow direction, connections for proximity switches in-line with flow direction	1RL
Manually operated with automatic closing function, control air connector and connections for proximity switches positioned in-line with flow direction	1TL
With diaphragm size 25	
Manually operated with automatic closing function, control air connector and connections for proximity switches positioned 90° offset to flow direction	2LL
Manually operated with automatic closing function, control air connector positioned 90° offset to flow direction, connections for proximity switches in-line with flow direction	2RL
Manually operated with automatic closing function, control air connector and connections for proximity switches positioned in-line with flow direction	2TL
For GEMÜ 653	
With diaphragm size 8 (only GEMÜ 654)	
With seal adjuster and stroke limiter	0TH
Without seal adjuster and stroke limiter	0TN
With diaphragm size 10	
With seal adjuster and stroke limiter	1TH
Without seal adjuster and stroke limiter	1TN
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	1XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	1XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	1XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	1XK

8 Continuation of Actuator version	Code
With diaphragm size 25	
Actuator size 2DH, for 2/2-way body, with seal adjuster and stroke limiter	2DH
With seal adjuster and stroke limiter	2TH
Without seal adjuster and stroke limiter	2TN
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	2XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	2XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	2XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	2XK
With diaphragm size 40	
With seal adjuster and stroke limiter	3TH
Without seal adjuster and stroke limiter	3TN
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	3XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	3XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	3XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	3XK
With diaphragm size 50	
With seal adjuster and stroke limiter	4TH
Without seal adjuster and stroke limiter	4TN
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	4XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	4XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	4XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	4XK
With diaphragm size 80	
Actuator size 5TH, with seal adjuster and stroke limiter	5TH

8 Continuation of Actuator version	Code
Without seal adjuster and stroke limiter	5TN
With seal adjuster	5TS
With seal adjuster, mounting for proximity switches M12 x 1	5XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M12 x 1	5XB
With diaphragm size 100	
Actuator size 6TH, with seal adjuster and stroke limiter	6TH
Without seal adjuster and stroke limiter	6TN
With seal adjuster	6TS
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M12 x 1	6XB
For GEMÜ 671	
With diaphragm size 25	
Actuator size 2	2
Thread for mounting of electrical position indicator GEMÜ 1215	2Z
With diaphragm size 40	
Actuator size 3	3
Thread for mounting of electrical position indicator GEMÜ 1215	3Z
With diaphragm size 50	
Actuator size 4	4
Thread for mounting of electrical position indicator GEMÜ 1215	4Z
With diaphragm size 80	
Thread for mounting of electrical position indicator GEMÜ 1215	5Z
With diaphragm size 100	
Thread for mounting of electrical position indicator GEMÜ 1215	6Z
For GEMÜ 673	
With diaphragm size 25	
With seal adjuster, black handwheel	2TS
With diaphragm size 40	
With seal adjuster, black handwheel	3TS
With seal adjuster, white handwheel	3TW
With diaphragm size 50	
With seal adjuster, black handwheel	4TS
With seal adjuster, white handwheel	4TW
GEMÜ 673P9	
With diaphragm size 8	
Sealed actuator, silicone seals	0P9




8 Continuation of Actuator version	Code
With diaphragm size 10	
Sealed actuator, silicone seals	1P9
With diaphragm size 25	
Sealed actuator, silicone seals	2P9
With diaphragm size 40	
Sealed actuator, silicone seals	3P9
With diaphragm size 50	
Sealed actuator, silicone seals	4P9
9 DN-2	
Code	
For configurations with T bodies (body configuration code T), please enter the nominal size of the through flow at this point. Options can be found under "2 DN".	
10 Connection type spigot 2	
Code	
For configurations with T bodies (body configuration code T), please enter the connection type of the through flow at this point. Options can be found under "4 Connection type".	
11 Surface	
Code	
Ra ≤ 6.3 µm (250 µin.) for media wetted surfaces, mechanically polished internal	1500
Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1502
Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1503
Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, mechanically polished internal	1507
Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, electropolished internal/external	1508
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 HE5, electropolished internal/external, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1516
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1527
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal	1536

Order data for manually operated metal diaphragm valves




11 Continuation of Surface	Code
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically polished internal	SF1
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF2, mechanically polished internal	SF2
Ra max. 0.76 µm (30 µin.) for media wetted surfaces, in accordance with ASME BPE SF3, mechanically polished internal	SF3
Ra max. 0.38 µm (15 µin.) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF5, electropolished internal/external	SF5
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	SF6
12 Special version	Code
Special version for 3A	M
Special version for oxygen, maximum medium temperature: 60 °C	S
Without	
13 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C
Without	

Pneumatically operated diaphragm valves made of metal

Overview

GEMÜ type	650 BioStar	651	658/688
			
Special feature		With automation module	Two-stage actuator
Nominal sizes	DN 4 to 100	DN 4 to 25	DN 10 to 50
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C
Sterilization temperature	max. 150 °C	Max. 150 °C	Max. 150 °C
Operating pressure	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-GJS-400-18-LT, lined	-	-	-
Conformities			
3A	•	-	•
BSE/TSE	•	•	•
CRN	•	•	•
EAC	•	•	•
FDA	•	•	•
Oxygen	•	•	•
Reg. (EU) No. 10/2011	•	•	•
Regulation (EC) No. 1935/2004	•	•	•
Regulation (EC) No. 2023/2006	•	•	•
SIL	•	-	-
TA Luft (German Clean Air Act)	•	•	•
USP	•	•	•

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

GEMÜ type	660	605 / 625 / 687	615 / 695
			
Special feature	Precise stroke limiter		
Nominal sizes	DN 4 to 25	DN 4 to 100	DN 10 to 50
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 80 °C
Sterilization temperature	Max. 150 °C	max. 150 °C	Not sterilizable
Operating pressure	0 to 5 bar	0 to 8 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-GJS-400-18-LT, lined	-	•	•
Conformities			
3A	•	-	-
BSE/TSE	•	•	•
CRN	•	•	-
EAC	•	•	•
FDA	•	•	•
Oxygen	•	•	•
Reg. (EU) No. 10/2011	•	•	•
Regulation (EC) No. 1935/2004	•	•	•
Regulation (EC) No. 2023/2006	•	•	•
SIL	-	•	-
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 integral 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



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 T body Tank valve 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 PTFE/EPDM
Conformities:	3A BSE/TSE CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 SIL TA Luft (German Clean Air Act) USP

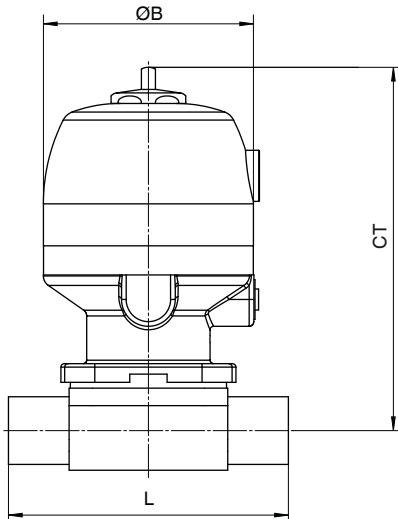
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GW-650



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 8	42.0	89.0	72.0
	DN 10	42.0	89.0	72.0
	DN 15	42.0	89.0	72.0
MG 10	DN 10	61.0	128.5	108.0
	DN 15	61.0	128.5	108.0
	DN 20	61.0	128.5	108.0
MG 25	DN 20	90.0	156.5	120.0
	DN 25	90.0	156.5	120.0
MG 40	DN 40	114.0	199.0	153.0
MG 50	DN 50	144.0	255.0	173.0
	DN 65	144.0	255.0	173.0
MG 80	DN 65	240.0	345.0	216.0
	DN 80	240.0	345.0	254.0
MG 100	DN 100	240.0	374.0	305.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

650		D	59	40	19	1		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example of a T body

650		T	88	41	5M	1			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

GEMÜ 651

Pneumatically operated diaphragm valve

The GEMÜ 651 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. The valve has a fully integrated automation module and an internal air supply. Normally Closed (NC) and Normally Open (NO) control functions are available. An integrated automation module is available as a combi switchbox or electro-pneumatic positioner.

Features

- Reduced planning and cabling time thanks to integrated automation module and internal air supply
- Speed^{AP} function for fast commissioning
- CIP/SIP capable



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 25
Body configurations:	2/2-way body i-body Multi-port body T body Tank valve 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:	BSE/TSE 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

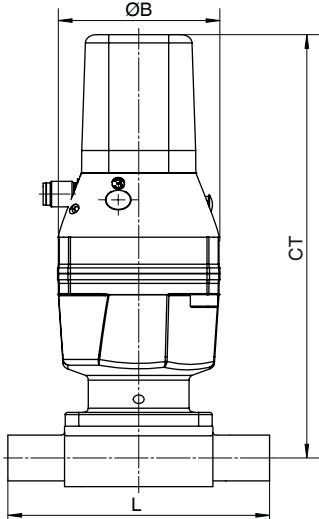
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GW-651



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 8	42.0	89.0	72.0
	DN 10	42.0	89.0	72.0
	DN 15	42.0	89.0	72.0
MG 10	DN 10	61.0	128.5	108.0
	DN 15	61.0	128.5	108.0
	DN 20	61.0	128.5	108.0
MG 25	DN 20	90.0	156.5	120.0
	DN 25	90.0	156.5	120.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

651		D	59	40	19	1		SF4		
1	2	3	4	5	6	7	8	9	10	11



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 Automation module

- 11 CONEXO

Order example of a T body

651		T	88	41	5M	1			59	1537		C
1	2	3	4	5	6	7	8	9	10	11	12	13



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2

- 11 Surface
- 12 Automation module
- 13 CONEXO

GEMÜ 658/688

Pneumatically operated diaphragm valve

The GEMÜ 658/688 2/2-way diaphragm valves have a two-stage actuator and are pneumatically operated. The actuators have a stainless steel housing and are controlled by two pistons working independently of each other. An opening stroke limiter is integrated as standard.

Features

- Two-stage actuator on which a part stroke can be variably set in addition to the full stroke
- Both fast OPEN/CLOSE function and possibility for precision dosing of the working medium are possible when the part stroke is activated
- CIP/SIP capable
- It is possible to query the OPEN / CLOSED position via proximity switches (GEMÜ 688)
- 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 10 to 50
Body configurations:	2/2-way body i-body Multi-port body T body Tank valve 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 FKM PTFE/EPDM
Conformities:	3A BSE/TSE 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

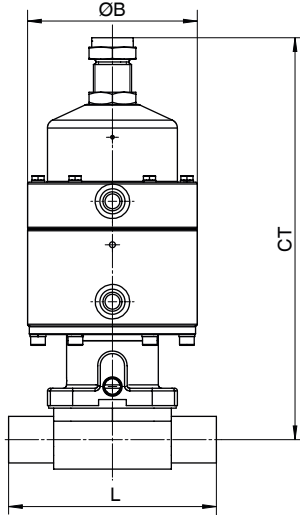
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GW-658/688



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 10	DN 10	61.0	181.5	108.0
	DN 15	61.0	181.5	108.0
	DN 20	61.0	181.5	108.0
MG 25	DN 20	98.0	235.0	120.0
	DN 25	98.0	235.0	120.0
MG 40	DN 40	168.0	346.0	153.0
MG 50	DN 50	168.0	360.0	173.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example: GEMÜ 688 with 2/2-way body

688		D	59	40	19	1		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example: GEMÜ 688 with T body

688		T	88	41	5M	1			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2

- 11 Surface
- 12 CONEXO

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
Sterilization temperature:	Max. 150 °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 T body Tank valve 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 FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

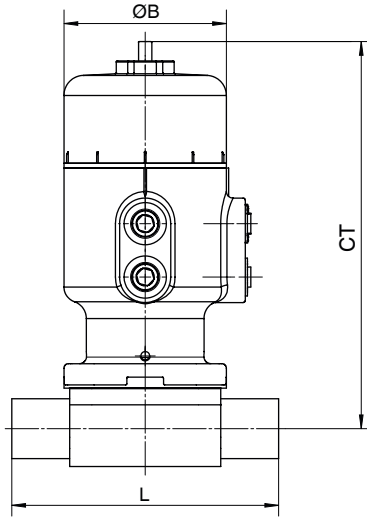
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GW-660



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 8	DN 8	61.0	117.5	72.0
	DN 10	61.0	117.5	72.0
	DN 15	61.0	117.5	72.0
MG 10	DN 10	98.0	151.5	108.0
	DN 15	98.0	151.5	108.0
	DN 20	98.0	151.5	108.0
MG 25	DN 20	168.0	202.0	120.0
	DN 25	168.0	202.0	120.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

660		D	59	40	19	1		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example of a T body

660		T	88	41	5M	1			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

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 8 bar
Nominal sizes:	DN 4 to 100
Body configurations:	2/2-way body i-body Multi-port body T body Tank valve 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
Conformities:	BSE/TSE CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 SIL TA Luft (German Clean Air Act) USP

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GW-605



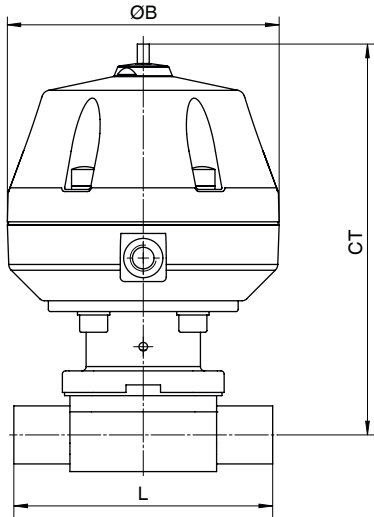
GW-625



GW-687



Installation dimensions (extract)



Type	Diaphragm size	Nominal size	ØB	CT	L
605	MG 8	DN 8	57.0	108.5	72.0
		DN 10	57.0	108.5	72.0
		DN 15	57.0	108.5	72.0
625	MG 10	DN 10	57.0	112.5	108.0
		DN 15	57.0	112.5	108.0
		DN 20	57.0	112.5	108.0
687	MG 25	DN 20	128.0	183.0	120.0
		DN 25	128.0	183.0	120.0
	MG 40	DN 40	158.0	230.0	153.0
		DN 50	213.0	276.0	173.0
	MG 50	DN 65	213.0	278.0	173.0
		DN 80	259.0	430.0	216.0
MG 80	DN 80	259.0	430.0	254.0	
MG 100	DN 100	259.0	448.0	305.0	

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example: GEMÜ 687 with 2/2-way body

687		D	59	40	19	1		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example: GEMÜ 687 with T body

687		T	88	41	5M	1			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

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 50
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 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
Conformities:	BSE/TSE EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

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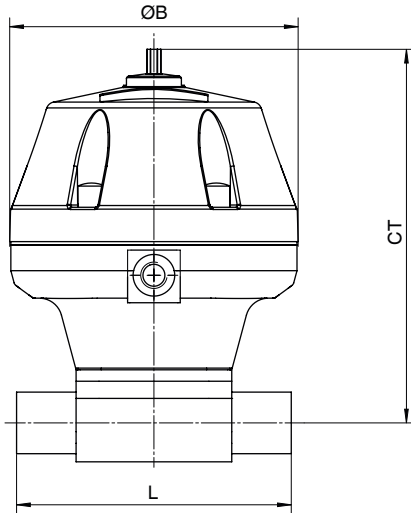
GW-615



GW-695



Installation dimensions (extract)



Type	Diaphragm size	Nominal size	ØB	CT	L
615	MG 10	DN 10	57.0	102.5	108.0
		DN 15	57.0	102.5	108.0
		DN 20	57.0	102.5	108.0
695	MG 25	DN 20	125.0	164.0	120.0
		DN 25	125.0	164.0	120.0
	MG 40	DN 40	155.0	220.0	153.0
	MG 50	DN 50	210.0	272.0	173.0
		DN 65	210.0	274.0	173.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example: GEMÜ 695 with 2/2-way body

695		D	59	40	19	1		SF4	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Surface
- 10 CONEXO

Order example: GEMÜ 695 with T body

695		T	88	41	5M	1			59	1537	C
1	2	3	4	5	6	7	8	9	10	11	12




- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 DN-2
- 10 Connection type spigot 2
- 11 Surface
- 12 CONEXO

Order data for pneumatically operated metal diaphragm valves

Order example: GEMÜ 650 BioStar with 2/2-way body

650	25	D	59	40	19	1	2T1	SF4	
1	2	3	4	5	6	7	8	9	10



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1 Type

2 DN

3 Body configuration

4 Connection type

5 Valve body material

6 Diaphragm material

7 Control function

8 Actuator version

9 Surface

10 CONEXO

Order codes

1 Type	Code
Diaphragm valve, pneumatically operated, plastic piston actuator, stainless steel distance piece, optical position indicator	605
Diaphragm valve, pneumatically operated, plastic piston actuator, optical position indicator	615
Diaphragm valve, pneumatically operated, plastic piston actuator, stainless steel distance piece, optical position indicator	625
Diaphragm valve, pneumatically operated, stainless steel piston actuator electropolished, optical position indicator	650
Diaphragm valve with integrated automation module	651
Diaphragm valve, pneumatically operated, stainless steel two-stage actuator	658
Diaphragm valve, pneumatically operated, stainless steel piston actuator, stroke limiter and seal adjuster	660
Diaphragm valve, pneumatically operated, plastic actuator, stainless steel distance piece	687
Diaphragm valve, pneumatically operated, stainless steel two-stage actuator	688
Diaphragm valve, pneumatically operated, plastic membrane actuator	695
2 DN	Code
DN 4	4
DN 6	6
DN 8	8
DN 10	10
DN 12	12
DN 15	15
DN 20	20
DN 25	25

2 Continuation of DN	Code
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
3 Body configuration	Code
2/2-way body	D
T body	T
Tank bottom valve body	B
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot DIN 11850 series 3	18
Spigot JIS-G 3447	35
Spigot JIS-G 3459 schedule 10s	36
Spigot SMS 3008	37
Spigot BS 4825, part 1	55
Spigot ASME BPE / DIN 11866 series C	59
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
Spigot ANSI/ASME B36.19M schedule 10s	63
Spigot ANSI/ASME B36.19M schedule 40s	65
Spigot ASME BPE, long design	94
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D	80

4 Continuation of Connection type	Code
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	82
Clamp ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	88
Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D	8A
Clamp ISO 2852/SMS 3017, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8E
Clamp ASME BPE for pipe ASME BPE	8U
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	8
Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D	38
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Thread	
Threaded socket DIN ISO 228	1
Threaded spigot DIN 11851	6
Threaded spigot on one side, DIN 11851, cone spigot and union nut, DIN 11851 on the other side	62
5 Valve body material	Code
1.4408, investment casting	37
1.4408, PFA lined	39
1.4435, investment casting	C3
1.4435 (F316L), forged body	40
1.4435 (316L), block material	41
1.4435 (BN2), forged body, $\Delta Fe < 0.5\%$	42
1.4435 (BN2), block material, $\Delta Fe < 0.5\%$	43
1.4539, forged body	F4
EN-GJL-250 (GG 25)	8
EN-GJS-400-18-LT (GGG 40.3), PFA lined	17
EN-GJS-400-18-LT (GGG 40.3), PP lined	18

5 Continuation of Valve body material	Code
EN-GJS-400-18-LT (GGG 40.3), hard rubber lined	83
CW614N, CW617N (brass)	12
6 Diaphragm material	Code
EPDM	13
EPDM	14
EPDM	17
EPDM	19
EPDM	36
EPDM	3A
FPM	4
FPM	4A
PTFE/EPDM two-piece	5M
PTFE/EPDM one-piece	54
NBR	2
7 Control function	Code
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3
8 Actuator version	Code
For GEMÜ 605	
Actuator size 0/N	0/N
For GEMÜ 615 and 625	
Actuator size 1/N	1/N
For GEMÜ 650	
With diaphragm size 8	
Control air connector in flow direction (standard), piston diameter 32 mm (standard)	OT1
Control air connector in flow direction, piston diameter 40mm,	OTA
Control air connector 90° offset to flow direction, piston diameter 40 mm	ORA
Control air connector 90° offset to flow direction, piston diameter 32 mm (standard)	OR1
With diaphragm size 10	
Actuator size 1D1, for 2/2-way bodies	1D1
Actuator size 1R1	1R1
Actuator size 1T1	1T1
With diaphragm size 25	
Actuator size 2D1, for 2/2-way bodies	2D1

Order data for pneumatically operated metal diaphragm valves

8 Continuation of Actuator version	Code
Actuator size 2R1	2R1
Actuator size 2T1	2T1
With diaphragm size 40	
Actuator size 3D1, for 2/2-way bodies	3D1
Actuator size 3R1	3R1
Actuator size 3RA	3RA
Actuator size 3T1	3T1
Actuator size 3TA	3TA
With diaphragm size 50	
Actuator size 4D1, for 2/2-way bodies	4D1
Actuator size 4R1	4R1
Actuator size 4T1	4T1
With diaphragm size 80	
Actuator size 5R1	5R1
Actuator size 5RA	5RA
Actuator size 5T1	5T1
Actuator size 5TA	5TA
With diaphragm size 100	
Actuator size 6R1	6R1
Actuator size 6RA	6RA
Actuator size 6T1	6T1
Actuator size 6TA	6TA
For GEMÜ 651	
With diaphragm size 8	
Control air connector in flow direction (standard), piston diameter 32 mm (standard)	0T1
Control air connector in flow direction, piston diameter 40mm,	0TA
Control air connector 90° offset to flow direction, piston diameter 40 mm	0RA
Control air connector 90° offset to flow direction, piston diameter 32 mm (standard)	0R1
With diaphragm size 10	
Actuator size 1R1	1R1
Actuator size 1T1	1T1
With diaphragm size 25	
Actuator size 2R1	2R1
Actuator size 2T1	2T1
For GEMÜ 658	
Actuator size 1T1	1T1



8 Continuation of Actuator version	Code
For GEMÜ 660	
With diaphragm size 8	
Control air connector 90° offset to flow direction, piston diameter 32 mm (standard)	0R1
Control air connector in flow direction (standard), piston diameter 32 mm (standard)	0T1
With diaphragm size 10	
Actuator size 1R1	1R1
Actuator size 1T1	1T1
With diaphragm size 25	
Actuator size 2R1	2R1
Actuator size 2T1	2T1
For GEMÜ 687	
With diaphragm size 10	
Actuator size B/N	B/N
With diaphragm size 25	
Actuator size 1/N	1/N
Actuator version 1RN	1RN
With diaphragm size 40	
Actuator size 2/N	2/N
Actuator size 2RN	2RN
With diaphragm size 50	
Actuator size 3/N	3/N
Actuator size 3RN	3RN
With diaphragm size 80	
Actuator size 4/N	4/N
Actuator size 4RN	4RN
Actuator size 6A	6A
Actuator size 6A2	6A2
With diaphragm size 100	
Actuator size 5RN	5RN
Actuator size 5/N	5/N
Actuator size 7A	7A
Actuator size 7A3	7A3
For GEMÜ 688	
With diaphragm size 25	
Actuator size 1V1	1V1
With diaphragm size 40 and 50	
Actuator size 2V1	2V1
For GEMÜ 695	
With diaphragm size 25	
Actuator size 1/N	1/N
With diaphragm size 40	
Actuator size 2/N	2/N
With diaphragm size 50	
Actuator size 3/N	3/N

9 Automation module	Code
Only for GEMÜ 651	
Combi switchbox, AS-Interface, Spec. 3.0, 62 slaves with integrated pilot valves, position feedback and teach-in	B2
Combi switchbox, discrete (24 V DC) with integrated pilot valve and status LED	E0
Positioner with Speed-AP function, set value input 4 - 20 mA	F0
Positioner with Speed-AP function, set value input 4 - 20 mA, actual value output 4 - 20 mA	F1
10 DN-2	Code
For configurations with T bodies (body configuration code T), please enter the nominal size of the through flow at this point. Options can be found under "2 DN".	
11 Connection type spigot 2	Code
For configurations with T bodies (body configuration code T), please enter the connection type of the through flow at this point. Options can be found under "4 Connection type".	
12 Surface	Code
Ra ≤ 6.3 µm (250 µin.) for media wetted surfaces, mechanically polished internal	1500
Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1502
Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1503
Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, mechanically polished internal	1507
Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, electropolished internal/external	1508
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 HE5, electropolished internal/external, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1516
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1527

12 Continuation of Surface	Code
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal	1536
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically polished internal	SF1
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF2, mechanically polished internal	SF2
Ra max. 0.76 µm (30 µin.) for media wetted surfaces, in accordance with ASME BPE SF3, mechanically polished internal	SF3
Ra max. 0.38 µm (15 µin.) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF5, electropolished internal/external	SF5
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	SF6
13 Special version	Code
Special version for 3A	M
Special version for oxygen, maximum medium temperature: 60 °C	S
Without	
14 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C
Without	

Motorized diaphragm valves made of metal

Overview

GEMÜ type	639 eSyStep	649 eSyDrive
		
Special feature	Universal actuator, optionally with integrated positioner	Premium actuator with integrated positioner and process controller
Nominal sizes	DN 4 to 25	DN 10 to 65
Media temperature	-10 to 100 °C	-10 to 100 °C
Sterilization temperature	max. 150 °C	max. 150 °C
Operating pressure	0 to 10 bar	0 to 10 bar
Supply voltage	24 V DC	24 V DC
Actuating speed	max. 3 mm/s	max. 6 mm/s
Connection types		
Clamp	•	•
Flange	•	•
Spigot	•	•
Threaded connection	•	•
Body materials		
1.4408	•	•
1.4408, lined	•	•
1.4435	•	•
1.4435 (316L)	•	•
1.4435 (BN2)	•	•
1.4539	•	•
EN-GJL-250	-	•
EN-GJS-400-18-LT, lined	-	•
Conformities		
BSE/TSE	•	•
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 639 eSyStep

Motorized diaphragm valve

The GEMÜ 639 diaphragm valve is actuated by a compact motorized spindle actuator with step motor. Depending on the version, the valve is available for OPEN/CLOSE or simple control applications. The actuator has an integrated IO-Link interface for parameterization and diagnosis purposes. 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 100 °C
Sterilization temperature:	max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 25
Body configurations:	2/2-way body i-body Multi-port body T body Tank valve 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:	CR EPDM FKM NBR PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	BSE/TSE FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

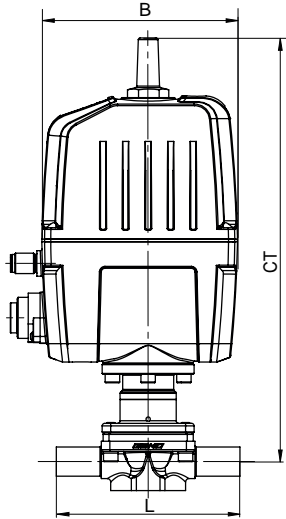
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GW-639



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 10	DN 10	115.0	210.2	108.0
	DN 15	115.0	210.2	108.0
	DN 20	115.0	210.2	108.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

639		D	59	40	19	C1	L0	SF4		
1	2	3	4	5	6	7	8	9	10	11



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Voltage/Frequency
- 8 Control module
- 9 Surface
- 10 Actuator version

- 11 CONEXO

Order example of a T body

639		T	88	41	5M	C1	L0		59	1537		C
1	2	3	4	5	6	7	8	9	10	11	12	13



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Voltage/Frequency
- 8 Control module
- 9 DN-2
- 10 Connection type spigot 2

- 11 Surface
- 12 Actuator version
- 13 CONEXO

GEMÜ 649 eSyDrive

Motorized diaphragm valve

The GEMÜ 649 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 diagnosis purposes.

Features

- CIP/SIP capable
- 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
Sterilization temperature:	max. 150 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 10 to 65
Body configurations:	2/2-way body i-body Multi-port body T body Tank valve 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-GJL-250, cast iron material EN-GJS-400-18-LT, SG iron material
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:	BSE/TSE FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 TA Luft (German Clean Air Act) USP

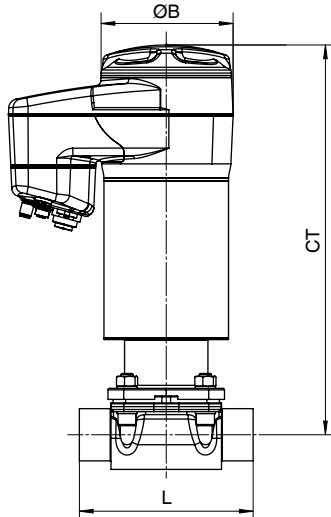
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GW-649



Installation dimensions (extract)



Diaphragm size	Nominal size	Actuator version	ØB	CT	L
MG 10	DN 10	0A	68.0	242.5	108.0
	DN 15	0A	68.0	242.5	108.0
	DN 20	0A	68.0	242.5	108.0
MG 25	DN 20	1A	82.0	324.0	120.0
	DN 25	1A	82.0	324.0	120.0
MG 40	DN 40	1A	82.0	329.0	153.0
MG 50	DN 50	2 A	134.0	392.0	173.0
	DN 65	2 A	134.0	394.0	173.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example of a 2/2-way body

649		D	59	40	19	C1	L0	SF4		
1	2	3	4	5	6	7	8	9	10	11



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Voltage/Frequency
- 8 Control module
- 9 Surface
- 10 Actuator version

- 11 CONEXO

Order example of a T body

649		T	88	41	5M	C1	L0		59	1537		C
1	2	3	4	5	6	7	8	9	10	11	12	13



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material


- 6 Diaphragm material
- 7 Voltage/Frequency
- 8 Control module
- 9 DN-2
- 10 Connection type spigot 2

- 11 Surface
- 12 Actuator version
- 13 CONEXO

Order data for motorized metal diaphragm valves

Order example: GEMÜ 649 eSyDrive with 2/2-way body

649	25	D	59	40	19	C1	L0	SF4	1A	
1	2	3	4	5	6	7	8	9	10	11

	1 Type	6 Diaphragm material	11 CONEXO
	2 DN	7 Voltage/Frequency	
	3 Body configuration	8 Control module	
	4 Connection type	9 Surface	
	5 Valve body material	10 Actuator version	

Order codes

1 Type	Code
Diaphragm valve, motorized, eSyStep	639
Diaphragm valve, electrically operated, electro-mechanical hollow shaft actuator, eSyDrive	649

2 DN	Code
DN 10	10
DN 12	12
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65

3 Body configuration	Code
2/2-way body	D
T body	T
Tank bottom valve body	B

4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot DIN 11850 series 3	18
Spigot JIS-G 3447	35
Spigot JIS-G 3459 schedule 10s	36
Spigot SMS 3008	37
Spigot BS 4825, part 1	55
Spigot ASME BPE / DIN 11866 series C	59

4 Continuation of Connection type	Code
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
Spigot ANSI/ASME B36.19M schedule 10s	63
Spigot ANSI/ASME B36.19M schedule 40s	65
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D	80
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	82
Clamp ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	88
Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D	8A
Clamp ISO 2852/SMS 3017, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8E
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	8
Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D	38
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Thread	
Threaded socket DIN ISO 228	1
Threaded spigot DIN 11851	6

4 Continuation of Connection type	Code
Threaded spigot on one side, DIN 11851, cone spigot and union nut, DIN 11851 on the other side	62

5 Valve body material	Code
1.4408, investment casting	37
1.4408, PFA lined	39
1.4435, investment casting	C3
1.4435 (F316L), forged body	40
1.4435 (316L), block material	41
1.4435 (BN2), forged body, Δ Fe < 0.5%	42
1.4435 (BN2), block material, Δ Fe < 0.5%	43
1.4539, forged body	F4
EN-GJL-250 (GG 25)	8
EN-GJS-400-18-LT (GGG 40.3), PFA lined	17
EN-GJS-400-18-LT (GGG 40.3), PP lined	18
EN-GJS-400-18-LT (GGG 40.3), hard rubber lined	83
CW614N, CW617N (brass)	12

6 Diaphragm material	Code
EPDM	13
EPDM	14
EPDM	17
EPDM	19
EPDM	36
EPDM	3A
FPM	4
FPM	4A
PTFE/EPDM two-piece	5M
PTFE/EPDM one-piece	54
NBR	2

7 Voltage/Frequency	Code
24 V DC	C1

8 Control module	Code
Open/Close control, with potentiometer output	AP
ON/OFF, positioner and process controller	L0

9 DN-2	Code
For configurations with T bodies (body configuration code T), please enter the nominal size of the through flow at this point. Options can be found under "2 DN".	

10 Connection type spigot 2	Code
For configurations with T bodies (body configuration code T), please enter the connection type of the through flow at this point. Options can be found under "4 Connection type".	

11 Surface	Code
$R_a \leq 6.3 \mu\text{m}$ (250 $\mu\text{in.}$) for media wetted surfaces, mechanically polished internal	1500
$R_a \leq 0.8 \mu\text{m}$ (30 $\mu\text{in.}$) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1502
$R_a \leq 0.8 \mu\text{m}$ (30 $\mu\text{in.}$) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1503
$R_a \leq 0.6 \mu\text{m}$ (25 $\mu\text{in.}$) for media wetted surfaces, mechanically polished internal	1507
$R_a \leq 0.6 \mu\text{m}$ (25 $\mu\text{in.}$) for media wetted surfaces, electropolished internal/external	1508
$R_a \leq 0.25 \mu\text{m}$ (10 $\mu\text{in.}$) for media wetted surfaces *), in accordance with DIN 11866 HE5, electropolished internal/external, *) for inner pipe diameters < 6 mm, in the spigot $R_a \leq 0.38 \mu\text{m}$	1516
$R_a \leq 0.25 \mu\text{m}$ (10 $\mu\text{in.}$) for media wetted surfaces *), in accordance with DIN 11866 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot $R_a \leq 0.38 \mu\text{m}$	1527
$R_a \leq 0.4 \mu\text{m}$ (15 $\mu\text{in.}$) for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal	1536
$R_a \leq 0.4 \mu\text{m}$ (15 $\mu\text{in.}$) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
R_a max. $0.51 \mu\text{m}$ (20 $\mu\text{in.}$) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically polished internal	SF1
R_a max. $0.64 \mu\text{m}$ (25 $\mu\text{in.}$) for media wetted surfaces, in accordance with ASME BPE SF2, mechanically polished internal	SF2

Order data for motorized metal diaphragm valves

11 Continuation of Surface	Code
Ra max. 0.76 µm (30 µin.) for media wetted surfaces, in accordance with ASME BPE SF3, mechanically polished internal	SF3
Ra max. 0.38 µm (15 µin.) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF5, electropolished internal/external	SF5
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	SF6
12 Actuator version	Code
For GEMÜ 639	
Actuator size 0 diaphragm size 8	0B
For GEMÜ 649	
With diaphragm size 40 and 50	
Actuator size 2	2 A
For GEMÜ 639 and 649	
With diaphragm size 10	
Actuator size 0	0A
With diaphragm size 25 and 40	
Actuator size 1	1A
13 Special version	Code
Special version for 3A	M
Special version for oxygen, maximum medium temperature: 60 °C	S
Without	
14 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C
Without	

M-block diaphragm valves made of metal

GEMÜ P600M

M-block stainless steel diaphragm valve

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

Features

- Compact design saves space
- Individual, customized and flexible design
- Reduced deadleg
- Fewer connection points and weld seams
- Huge variety of functions combined in the smallest of spaces
- Hermetic separation between medium and actuator
- Wide range of adaptation options from measurement and control systems, in addition to accessories



Technical specifications

Media temperature:	-10 to 100 °C
Sterilization temperature:	150 °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

Specification sheet for GEMÜ P600M M-block in stainless steel

Operating pressure: bar

Medium temperature: ° C

M-block material:

1.4435

1.4435 BN 2 ($\Delta Fe < 0,5\%$)

1.4539

Other

Diaphragm material:

EPDM Code

PTFE Code

Other

Surface finish of multi-port valve block:

1502 (Ra) ≤ 0.8 μm

1503 (Ra) ≤ 0.8 μm electropolished

1507 (Ra) ≤ 0.6 μm

1508 (Ra) ≤ 0.6 μm electropolished

1536 (Ra) ≤ 0.4 μm

1537 (Ra) ≤ 0.4 μm electropolished

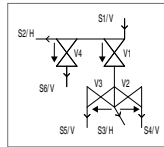
1527 (Ra) ≤ 0.25 μm

1516 (Ra) ≤ 0.25 μm electropolished

Other

Quantity:

Example:



Please draw functional diagram.

Important: Bitte Übereinstimmung von Tabelle und Funktionsschema beachten.

Please specify design (e. g. M600 06-04.P1) if possible:

Spigot/Valve seat: S1, S2, ... / V1, V2, ... Flow direction (medium): →

Preferred installation position: Horizontal/Vertikal Draining direction: →

Valve seat:



Spigot	Pipe connection				Operator			Other	
	Spigot no.	DN	Code	ød(a)[mm]	s[mm]	Operator type	Control function	Operator size	Comment/accessories
S1						V1			
S2						V2			
S3						V3			
S4						V4			
S5						V5			
S6						V6			
S7						V7			
S8						V8			
S9						V9			
S10						V10			
S11						V11			
S12						V12			

The technical details of each enquiry must be checked by GEMÜ.



Manually operated diaphragm valves made of plastic

Overview

GEMÜ type	617	R677
		
Special feature		High-Flow valve body
Nominal sizes	DN 12 to 20	DN 15 to 100
Media temperature	-10 to 80 °C	-10 to 80 °C
Ambient temperature	-10 to 50 °C	-10 to 50 °C
Operating pressure	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		
EAC	•	•
FDA	•	•
NSF	•	•

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

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 rates
- Integral optical position indicator
- Choice of various body materials and connection types



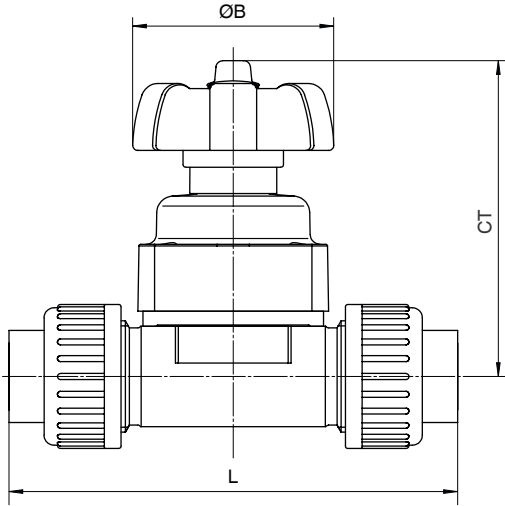
Technical specifications

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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Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 10	DN 15	60.0	95.0	128.0

Dimensions in mm

Dimensions for DIN insert (code 7) connection type and PVC-U body material (code 1)

Order example

617		D	7	N5	14	0	M
1	2	3	4	5	6	7	8



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Mounting plate

GEMÜ R677

Manually operated diaphragm valve

The GEMÜ R677 2/2-way diaphragm valve has a low maintenance plastic bonnet and is manually operated. An integral 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



EAC

FDA

NSF

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

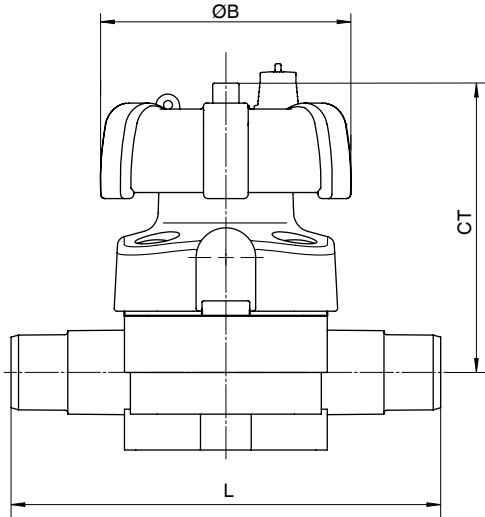
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GW-R677



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 20	DN 15	90.0	85.0	124.0
	DN 20	90.0	87.0	144.0
	DN 25	90.0	88.0	154.0
MG 25	DN 32	90.0	94.0	174.0
MG 40	DN 40	114.0	122.2	194.0
	DN 50	114.0	122.2	224.0
MG 50	DN 65	140.0	157.8	284.0
MG 80	DN 80	214.0	229.0	300.0
MG 100	DN 100	214.0	291.0	340.0

Dimensions in mm

Dimensions for DIN spigot connection type (code 0) and PVC-U body material (code 1)

Order example

R677		D	7	1	14	0
1	2	3	4	5	6	7



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function

Order data for manually operated plastic diaphragm valves

Order example for GEMÜ 617

617	15	D	7	N5	14	0	M
1	2	3	4	5	6	7	8



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Mounting plate

Order codes



1 Type	Code
Diaphragm valve, manually operated, plastic handwheel, optical position indicator	617
Diaphragm valve, manually operated, plastic handwheel, optical position indicator	R677
2 DN	Code
DN 12	12
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot for IR butt welding	20
Spigot for IR butt welding, BCF	28
Imperial butt weld spigot	30
Flange	
Flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	4
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39

4 Continuation of Connection type	Code
Thread	
Threaded socket DIN ISO 228	1
Solvent cement socket	
Solvent cement socket DIN	2
Union end	
Union end with insert (socket) - DIN	7
Union end with inch insert - BS (socket)	33
Union end with insert (for IR butt welding) - DIN	78
Union end with insert (Rp threaded socket) - DIN	7R
Union end with inch insert - ASTM (socket)	3M
Union end with JIS insert (socket)	3T
Flare	
Flare connection with PVDF union nut	75
5 Valve body material	Code
ABS	4
PP, reinforced	5
PP-H, natural	N5
PVC-U, grey	1
PVDF	20
Inliner PP-H, grey, outliner PP, reinforced	71
Inliner PVDF/outliner PP, reinforced	75
6 Diaphragm material	Code
EPDM	14
NBR	2
FPM	4
PTFE/EPDM one-piece	54
7 Control function	Code
Manually operated (MO)	0
Only for GEMÜ R677	
Manually operated, with lockable handwheel	L

8 Actuator version	Code
For GEMÜ R677	
Actuator size ED (diaphragm size 20)	ED
Actuator size EDZ (diaphragm size 20)	EDZ
Actuator size FD (diaphragm size 25)	FD
Actuator size FDZ (diaphragm size 25)	FDZ
Actuator size HD (diaphragm size 40)	HD
Actuator size HDZ (diaphragm size 40)	HDZ
Actuator size KDZ (diaphragm size 50)	KDZ
Actuator size MDZ (diaphragm size 80)	MDZ
Actuator size NDZ (diaphragm size 100)	NDZ
9 Mounting plate	Code
With mounting plate	M
Without mounting plate	O
10 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C
Without	

Pneumatically operated diaphragm valves made of plastic

Overview

GEMÜ type	610	R690
		
Special feature		High-Flow valve body
Nominal sizes	DN 12 to 20	DN 15 to 100
Media temperature	-10 to 80 °C	-10 to 80 °C
Ambient temperature	-10 to 50 °C	-10 to 50 °C
Operating pressure	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		
EAC	•	•
FDA	•	•
NSF	•	•

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 rates
- 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

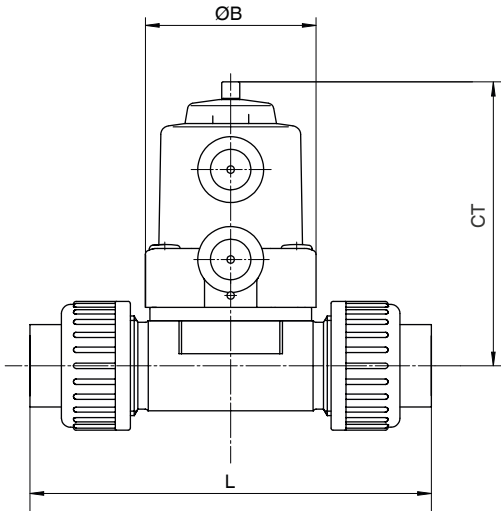
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GW-610



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 10	DN 15	57.0	97.0	128.0

Dimensions in mm

Dimensions for DIN insert (code 7) connection type and PVC-U body material (code 1)

Order example

610		D	7	N5	14	1		M
1	2	3	4	5	6	7	8	9



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Mounting plate

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 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

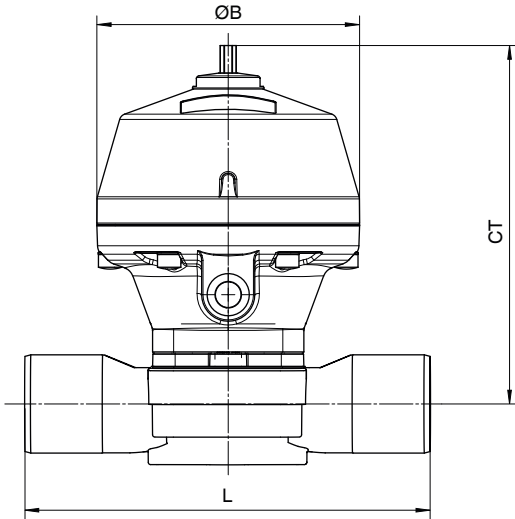
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GW-R690



Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG 20	DN 15	100.0	155.0	124.0
	DN 20	100.0	157.0	144.0
	DN 25	100.0	158.0	154.0
MG 25	DN 32	130.0	186.0	174.0
MG 40	DN 40	170.0	261.2	194.0
	DN 50	170.0	261.2	224.0
MG 50	DN 65	210.0	318.8	284.0
MG 80	DN 80	260.0	434.0	300.0
MG 100	DN 100	260.0	489.0	340.0

Dimensions in mm

Dimensions for DIN spigot connection type (code 0) and PVC-U body material (code 1)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version

Order data for pneumatically operated plastic diaphragm valves

Order example for GEMÜ 610

610	15	D	7	N5	14	1	1/N	M
1	2	3	4	5	6	7	8	9



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Control function
- 8 Actuator version
- 9 Mounting plate

Order codes




1 Type	Code
Diaphragm valve, pneumatically operated, plastic piston actuator, optical position indicator	610
Diaphragm valve, pneumatically operated, plastic membrane actuator	R690
2 DN	Code
DN 12	12
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot for IR butt welding	20
Spigot for IR butt welding, BCF	28
Imperial butt weld spigot	30
Flange	
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	4

4 Continuation of Connection type	Code
Thread	
Threaded socket DIN ISO 228	1
Union end	
Union end with inch insert - BS (socket)	33
Union end with inch insert – ASTM (socket)	3M
Union end with JIS insert (socket)	3T
Union end with insert (socket) - DIN	7
Union end with insert (for IR butt welding) - DIN	78
Union end with insert (Rp threaded socket) - DIN	7R
Solvent cement socket	
Solvent cement socket DIN	2
Flare	
Flare connection with PVDF union nut	75
5 Valve body material	Code
ABS	4
PP, reinforced	5
PP-H, natural	N5
PVC-U, grey	1
PVDF	20
Inliner PP-H, grey, outliner PP, reinforced	71
Inliner PVDF/outliner PP, reinforced	75
6 Diaphragm material	Code
EPDM	14
NBR	2
FPM	4
7 Control function	Code
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3

8 Actuator version	Code
For GEMÜ 610	
Actuator size 1/N	1/N
Actuator version 1RN	1RN
For GEMÜ R690	
Actuator size EDL (diaphragm size 20)	EDL
Actuator size EDM (diaphragm size 20)	EDM
Actuator size EDN (diaphragm size 20)	EDN
Actuator size FDL (diaphragm size 25)	FDL
Actuator size FDM (diaphragm size 25)	FDM
Actuator size FDN (diaphragm size 25)	FDN
Actuator size HDL (diaphragm size 40)	HDL
Actuator size HDM (diaphragm size 40)	HDM
Actuator size HDN (diaphragm size 40)	HDN
Actuator size KDL (diaphragm size 50)	KDL
Actuator size KDM (diaphragm size 50)	KDM
Actuator size KDN (diaphragm size 50)	KDN
Actuator size MDL (diaphragm size 80)	MDL
Actuator size MDM (diaphragm size 80)	MDM
Actuator size MDN (diaphragm size 80)	MDN
Actuator size NDL (diaphragm size 100)	NDL
Actuator size NDM (diaphragm size 100)	NDM
Actuator size NDN (diaphragm size 100)	NDN
9 Mounting plate	
With mounting plate	M
Without mounting plate	O
10 CONEXO	
Integrated RFID chip for electronic identification and traceability	C
Without	

Motorized diaphragm valves made of plastic

Overview

GEMÜ type	R629 eSyLite	R639 eSyStep	R649 eSyDrive
			
Nominal sizes	DN 12 to 50	DN 12 to 32	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 6 bar	0 to 10 bar
Supply voltage	24 V DC	24 V DC	24 V DC
Actuating speed	Max. 2 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			
EHEDG	•	-	-
FDA	•	•	•
NSF	-	-	•
Reg. (EU) No. 10/2011	-	-	•
Regulation (EC) No. 1935/2004	•	-	•
USP	-	•	-

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 as an OPEN/CLOSE version. An integral optical position indicator is standard.

Features

- Optional flow direction and installation position
- Low space requirement due to compact design
- Motorized alternative for applications without compressed air supply
- Standard integral optical position indicator
- Insensitive to particulate media
- Integrated emergency power supply module (optional)
- Simple diaphragm replacement
- Hermetic separation between medium and actuator
- Installation for optimized draining is possible
- Open/close function
- Electric linear actuator



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 50
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 PP-H, natural / 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. 2 mm/s
Protection class:	IP 65

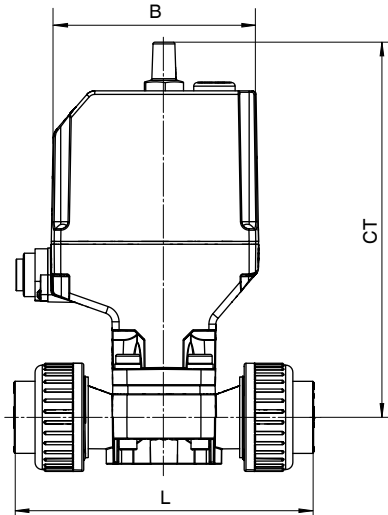
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GW-R629



Installation dimensions (extract)



Diaphragm size	Nominal size	B	CT	L
MG 10	DN 15	115.0	207.0	128.0
	DN 20	115.0	205.0	146.0
MG 20	DN 20	115.0	207.0	152.0
	DN 25	115.0	208.0	166.0

Dimensions in mm

Dimensions for DIN insert (code 7) connection type and PVC-U body material (code 1)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Voltage/Frequency
- 8 Control module
- 9 Actuator version
- 10 CONEXO

GEMÜ R639 eSyStep

Motorized diaphragm valve

The GEMÜ R639 is a motorized 2/2-way diaphragm valve. The eSyStep electric actuator is available as ON/OFF 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

- Hermetic separation between medium and actuator
- Installation for optimized draining is possible
- Open/close function or with integrated positioner
- Integral optical position indicator
- Parameterizable via IO-Link
- Extensive diagnostic facilities
- Actuating speed max. 3 mm/s



Technical specifications

Media temperature:	-10 to 80 °C
Ambient temperature:	0 to 50 °C
Operating pressure :	0 to 6 bar
Nominal sizes:	DN 12 to 32
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 NBR PTFE TFM™ / FKM PTFE/EPDM
Supply voltage:	24 V DC
Actuating speed:	max. 3 mm/s
Protection class:	IP 65
Conformities:	FDA USP

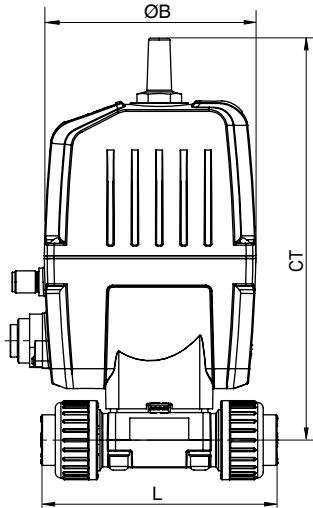
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GW-R639



Installation dimensions (extract)



Diaphragm size	Nominal size	$\varnothing B$	CT	L
MG 10	DN 15	115.0	216.5	128.0

Dimensions in mm

Dimensions for DIN insert (code 7) connection type and PVC-U body material (code 1)

Order example



- | | |
|-----------------------|----------------------|
| 1 Type | 6 Diaphragm material |
| 2 DN | 7 Voltage/Frequency |
| 3 Body configuration | 8 Control module |
| 4 Connection type | 9 Actuator version |
| 5 Valve body material | 10 CONEXO |

GEMÜ R649 eSyDrive

Motorized diaphragm valve

The GEMÜ 649 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 diagnosis purposes.



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 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 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:	FDA NSF Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004

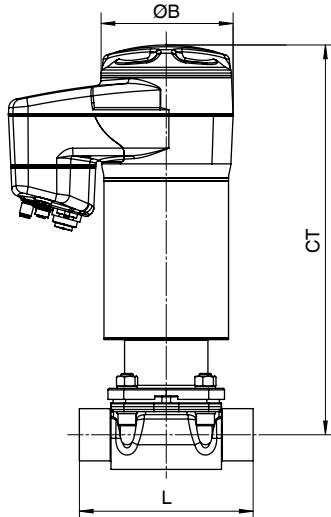
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GW-R649



Installation dimensions (excerpt)



Diaphragm size	Nominal size	Actuator size	$\varnothing B$	CT	L
MG 10	DN 15	0A	68.0	245.0	128.0
	DN 15	1A	82.0	309.0	146.0
MG 20	DN 20	1A	82.0	311.0	152.0
	DN 25	1A	82.0	312.0	166.0
MG 25	DN 32	1A	82.0	320.0	192.0
MG 40	DN 40	2 A	134.0	383.3	222.0
	DN 50	2 A	134.0	383.3	266.0

Dimensions in mm

Dimensions for DIN insert (code 7) connection type and PVC-U body material (code 1)

Order example

R649		D	0	1	14	C1	L0		
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Voltage/Frequency
- 8 Control module
- 9 Actuator version
- 10 CONEXO

Order data for motorized plastic diaphragm valves

Order example for GEMÜ R649 eSyDrive

R649	40	D	0	1	14	C1	L0	2 A	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7 Voltage/Frequency
- 8 Control module
- 9 Actuator version
- 10 CONEXO

Order codes

1 Type	Code
Diaphragm valve, motorized, plastic diaphragm valve	R629
Diaphragm valve, motorized, eSyStep	R639
Diaphragm valve, electrically operated, electro-mechanical hollow shaft actuator, eSyDrive	R649
2 DN	Code
DN 12	12
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot for IR butt welding	20
Imperial butt weld spigot	30
Union end	
Union end with inch insert – ASTM (socket)	3M
Union end with JIS insert (socket)	3T
Union end with insert (socket) - DIN	7
Union end with insert (for IR butt welding) - DIN	78
Union end with insert (Rp threaded socket) - DIN	7R
Union end with inch insert - BS (socket)	33

4 Continuation of Connection type	Code
Flange	
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	4
Thread	
Threaded socket DIN ISO 228	1
Solvent cement socket	
Solvent cement socket DIN	2
5 Valve body material	Code
ABS	4
PP, reinforced	5
PP-H, natural	N5
PVC-U, grey	1
PVDF	20
Inliner PP-H, grey, outliner PP, reinforced	71
Inliner PVDF/outliner PP, reinforced	75
6 Diaphragm material	Code
EPDM	14
NBR	2
FPM	4
PTFE/EPDM	52
PTFE/EPDM one-piece	54
PTFE/EPDM	5E
PTFE/EPDM two-piece	5M
7 Voltage/Frequency	Code
24 V DC	C1

8 Control module	Code
Open/Close control (economy)	A0
Open/Close control (economy) with emergency power supply module (NC)	A1
Open/Close control (economy) with emergency power supply module (NO)	A2
ON/OFF, positioner and process controller	L0
9 Actuator version	Code
For GEMÜ R629	
Actuator size 1 diaphragm size 20	1E
Actuator size 1 diaphragm size 10	1C
Actuator size 1 diaphragm size 25	1F
Actuator size 3 diaphragm size 40	3H
For GEMÜ R639	
Actuator size 0 diaphragm size 10	0C
Actuator size 1	1A
For GEMÜ R649	
Actuator size 0	0A
Actuator size 1	1A
Actuator size 2	2 A
10 Mounting plate	Code
With mounting plate	M
Without mounting plate	O
11 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C
Without	

M-block diaphragm valves made of plastic

GEMÜ P600M

M-block plastic diaphragm valve

The plastic M-block diaphragm valve, GEMÜ P600M, 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 at the valve seat.

Features

- Combining several valves and pipe sections in one compact unit
- Reduced installation space
- Combining several functions in one blockControl, 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

Specification sheet for GEMÜ P600M M-block in plastic

Customer:
 Contact:
 Application:
 Medium:
 Comment:

Medium oper. pressure: min: norm: max: bar
 Medium temperature: min: norm: max: ° C
 Ambient temperature: min: norm: max: ° C
 Max. operating pressure
 at max. medium temperature: bar

Multi-port valve block material:
 PVC-U, grey (Code 1)
 PP-H, grey (Code G5)
 PVDF (Code 20)
 Other

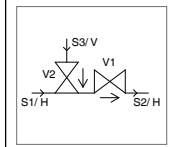
Seal material:
 EPDM (Code 14)
 NBR (Code 2)
 FPM (Code 4)
 PTFE (Code 52)
 Other

Special requirements (e.g. cleaning, packaging):
 Certificates
 Modular extendable solution
 Fixing
 Draining required
 Other

Connection + operation:

Spigot	Connection		Valve seat	Operator			Other	
	Spigot no.	DN		Code	Seat no.	Operation		Control function
S1			V1					
S2			V2					
S3			V3					
S4			V4					
S5			V5					
S6			V6					
S7			V7					
S8			V8					
S9			V9					
S10			V10					

Example:



Please draw functional diagram.
Important: Please observe correspondence of table and functional diagram.

Operator version: optional
 acc. to specification
 Valve seat: V1, V2, ...
 Spigot: S1, S2, ...
 Preferred installation position: Horizontal/Vertical
 Flow direction (medium):
 Valve seat:

Quantity / batch sizes:
 Price:

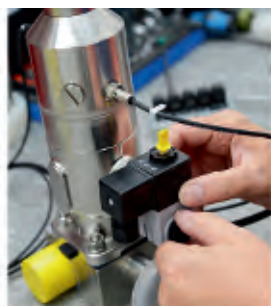
The technical details of each enquiry must be checked by GEMÜ.



Add-on components for diaphragm valves

GEMÜ type	605	610	615	617	625	650	651	653	654
Measurement and control technology									
Electrical position indicator									
GEMÜ 1205 ▶ page 416						•			
GEMÜ 1201 / 1211 / 1214 ▶ page 414						•			
GEMÜ 1215 ▶ page 410	•	•	•		•	•			
GEMÜ 1230 / 1231 / 1232 ▶ page 412	•	•	•		•	•			
GEMÜ 1234 ▶ page 418	•	•	•		•	•			
GEMÜ 1235 / 1236 ▶ page 420	•	•	•		•	•			
GEMÜ 1242 ▶ page 422	•	•	•		•	•			
Combi switchbox									
GEMÜ 4241 ▶ page 434		•	•		•	•			
GEMÜ 4242 ▶ page 436	•	•	•		•	•			
Pilot valve									
GEMÜ 0324 ▶ page 445	•	•	•		•	•	•		
Control systems									
Positioner									
GEMÜ 1434 µPos ▶ page 390	•	•	•		•	•			
GEMÜ 1435 ePos ▶ page 394	•	•	•		•	•			
Positioner and process controller									
GEMÜ 1436 cPos ▶ page 392	•	•	•		•	•			
Accessories									
Connection accessories ▶ page 489	•	•	•		•	•	•		
Clamping devices ▶ page 492						•			
Manual override ▶ page 495						•			
Stroke limiters ▶ page 494	•	•	•		•	•			
Sensor accessories ▶ page 496	•	•	•		•	•		•	•
Position indicators ▶ page 493	•	•	•		•	•			
Valve mounting accessories ▶ page 488		•		•					

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 also save on the time and effort required for logistics and installation of the plant on site, as well as for documentation.



GEMÜ type	658	660	671	687	688	695	698	R677	R690
Measurement and control technology									
Electrical position indicator									
GEMÜ 1205 ▶ page 416		•		•	•	•			•
GEMÜ 1201 / 1211 / 1214 ▶ page 414		•		•	•	•			•
GEMÜ 1215 ▶ page 410			•	•		•		•	•
GEMÜ 1230 / 1231 / 1232 ▶ page 412	•	•		•	•	•	•		•
GEMÜ 1234 ▶ page 418		•		•					
GEMÜ 1235 / 1236 ▶ page 420	•	•		•	•	•			•
GEMÜ 1242 ▶ page 422				•	•	•			•
Combi switchbox									
GEMÜ 4241 ▶ page 434				•					
GEMÜ 4242 ▶ page 436	•	•		•		•			•
Pilot valve									
GEMÜ 0324 ▶ page 445	•	•		•	•	•			•
Control systems									
Positioner									
GEMÜ 1434 µPos ▶ page 390		•		•		•			•
GEMÜ 1435 ePos ▶ page 394				•	•	•			•
Positioner and process controller									
GEMÜ 1436 cPos ▶ page 392		•		•	•	•			•
Accessories									
Connection accessories ▶ page 489	•	•		•	•	•			•
Clamping devices ▶ page 492									
Manual override ▶ page 495				•		•			•
Stroke limiters ▶ page 494	•			•	•	•			•
Sensor accessories ▶ page 496	•	•		•	•	•			•
Position indicators ▶ page 493	•			•	•	•			•
Valve mounting accessories ▶ page 488								•	•

Diaphragms

As a central sealing element in the piping system, the selection of a suitable diaphragm plays an important role in safe plant 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 purpose.

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 back and a PTFE TFM™ 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 3A/13	Code 17	Code 36
				
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C
Sterilization temperature¹⁾	max. 150 °C	max. 150 °C	max. 150 °C	max. 150 °C
Diaphragm material				
EPDM	●	●	●	●
FKM	-	-	-	-
PTFE/EPDM	-	-	-	-
Diaphragm sizes				
8	●	●	●	●
10	●	●	●	●
20	-	-	-	-
25	●	●	●	●
40	●	●	●	●
50	●	●	●	●
65	-	-	-	-
80	●	●	●	-
100	●	●	●	-
125	-	-	-	-
150	-	-	-	-
Conformities				
BSE/TSE	●	-	-	-
FDA	●	●	●	●
Oxygen	●	●	-	-
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 4A/4	Code 54	Code 5M
			
Media temperature	-10 to 90 °C	-10 to 100 °C	-10 to 100 °C
Sterilization temperature¹⁾	Not sterilizable	max. 150 °C	max. 150 °C
Diaphragm material			
EPDM	-	-	-
FKM	•	-	-
PTFE/EPDM	-	•	•
Diaphragm sizes			
8	•	•	-
10	•	•	•
20	•	-	-
25	•	•	•
40	•	•	•
50	•	•	•
65	•	-	-
80	•	•	•
100	•	•	•
125	•	-	-
150	•	-	-
Conformities			
BSE/TSE	-	•	-
FDA	-	•	•
Oxygen	-	•	•
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 improved material properties
- 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
Sterilization temperature:	max. 150 °C
Diaphragm material:	EPDM
Diaphragm sizes:	8 10 25 40 50 80 100
Conformities:	BSE/TSE FDA Oxygen Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

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 the 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
Sterilization temperature:	max. 150 °C
Diaphragm material:	EPDM
Diaphragm sizes:	8 10 25 40 50 80 100
Conformities:	FDA Oxygen Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

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 diaphragm 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

Sterilization temperature: max. 150 °C

Diaphragm material: EPDM

Diaphragm sizes: 8 | 10 | 25 | 40 | 50 | 80 | 100

Conformities: FDA | Regulation (EC) No. 1935/2004 | TA Luft (German Clean Air Act) | USP

GEMÜ Code 36 EPDM diaphragm

The GEMÜ code 36 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 has good mechanical stability thanks to its core material with Kevlar® fibres. The GEMÜ code 36 EPDM diaphragm is suitable for use with abrasive media. The diaphragm is specifically compounded for GEMÜ.

Features

- Core material with Kevlar® fibres
- Simple mounting thanks to the rubber pin that is vulcanized in place (diaphragm size 8)
- Simple and defined mounting thanks to the threaded pin which is vulcanized in place with integrated screw-in stop (diaphragm size 10 to diaphragm size 50)



Technical specifications

Media temperature: -10 to 100 °C

Sterilization temperature: max. 150 °C

Diaphragm material: EPDM

Diaphragm sizes: 8 | 10 | 25 | 40 | 50

Conformities: FDA | Regulation (EC) No. 1935/2004 | TA Luft (German Clean Air Act) | USP

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

- 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 the threaded pin which is vulcanized in place with an integrated screw-in stop (MS 10 to MS 150)



Technical specifications

Media temperature:	-10 to 90 °C
Sterilization temperature:	Not sterilizable
Diaphragm material:	FKM
Diaphragm sizes:	8 10 20 25 40 50 65 80 100 125 150

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 PTFE used is a chemically modified second generation PTFE - called PTFE TFM™. 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

Sterilization temperature: max. 150 °C

Diaphragm materials: PTFE/EPDM

Diaphragm sizes: 8 | 10 | 25 | 40 | 50 | 80 | 100

Conformities: BSE/TSE | FDA | Oxygen | Reg. (EU) No. 10/2011 | Regulation (EC) No. 1935/2004 | TA Luft (German Clean Air Act) | USP

GEMÜ Code 5M

PTFE/EPDM diaphragm

The GEMÜ code 5M diaphragm has a two-piece design and consists of a PTFE face and a peroxide-cured EPDM backing. An FKM backing is also available for highly permeating media (GEMÜ code 5F). The PTFE used is a chemically modified second generation PTFE - called PTFE TFM™. 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
Sterilization temperature:	max. 150 °C
Diaphragm materials:	PTFE/EPDM
Diaphragm sizes:	10 25 40 50 80 100
Conformities:	FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP



Single-use valves

Description

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.

Functional principle

The functional principle of the GEMÜ SUMONDO single-use valve generally complies with that of the diaphragm valves: A flexible seal, designated as a diaphragm, is deformed by a compressor and pressed onto the sealing weir of the valve body with a positive and non-positive fit during the closing movement. You can choose the flow direction.

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 actuator 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.



GEMÜ SUMONDO

Single-use diaphragm valve

The single-use GEMÜ SUMONDO valve comprises the GEMÜ SUB diaphragm valve body, which can be combined with the GEMÜ SUHK manual actuator or the GEMÜ SUPM pneumatic actuator. The single-use body has an internally welded diaphragm. For the purposes of assembly, it is secured to the respective actuator using a clamp. The valve body and the actuator are locked with a defined opening and closing procedure. After a single use, the valve body and its diaphragm are removed from the actuator and disposed of. The actuator remains in the system and can be used multiple times.

Features

- Impact resistant, corrosion resistant
- The valve body meets the purity requirements of the pharmaceutical industry (USP 85, 788, 790)
- Integral optical position indicator
- Validation Guide on request
- Mechanically stable and gamma-sterilizable body material
- Tried-and-tested, reliable actuator design (remains in system)
- Certificate of Conformity for purity, safety and physical and chemical tests



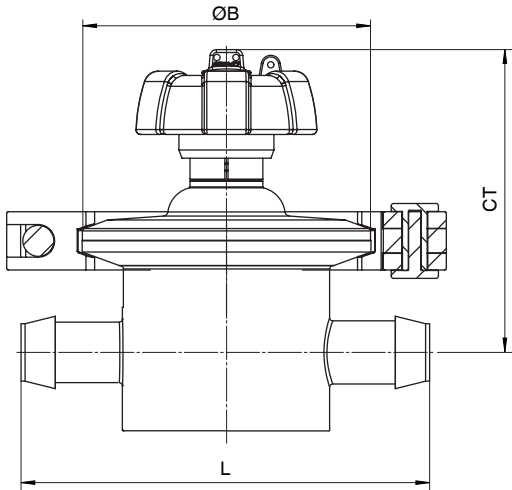
Technical specifications

Media temperature:	5 to 40 °C
Ambient temperature:	0 to 40 °C
Operating pressure :	0 to 4,9 bar
Nominal sizes:	1/4" (DN 8) to 1" (DN 25)
Body configurations:	2/2-way body Angle valve body T body
Connection types:	Clamp Hose barb
Body materials:	PP-R, natural
Diaphragm materials:	TPE
Conformities:	EAC

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Installation dimensions: manually operated GEMÜ SUMONDO (extract)

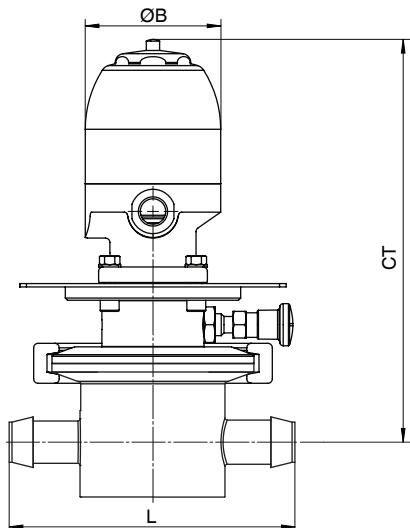


Diaphragm size	Nominal size	ØB	CT	L
MG B	DN 8	122.5	97.2	80.6
	DN 10	122.5	97.2	95.9
	DN 15	122.5	97.2	111.5
MG C	DN 15	148.8	95.7	126.0
	DN 20	148.8	95.7	128.0
	DN 25	148.8	95.7	140.0
MG D	DN 20	148.8	93.3	139.0
	DN 25	148.8	94.8	139.0

Dimensions in mm

Dimensions for hose barb connection type (code HB) and 2/2-way body configuration (code D)

Installation dimensions: pneumatically operated GEMÜ SUMONDO (extract)



Diaphragm size	Nominal size	ØB	CT	L
MG B	DN 8	120.0	120.0	80.6
	DN 15	120.0	120.0	111.5
MG C	DN 20	120.0	120.0	128.0
	DN 25	120.0	120.0	140.0
MG D	DN 20	120.0	120.0	139.0
	DN 25	120.0	120.0	139.0


Dimensions in mm

Dimensions for hose barb connection type (code HB) and 2/2-way body configuration (code D)

Order data for single-use bodies

Order example for GEMÜ SUB

SUB	C	15	D	HB	B8	K8	15	HB
1	2	3	4	5	6	7	8	9



1 Type
2 Diaphragm size
3 Connection size 1
4 Body configuration
5 Connection

6 Body material
7 Diaphragm material
8 Connection size 2
9 Connection of spigot 2

Order codes for GEMÜ SUB

1 Type	Code
Single-use body	SUB
2 Diaphragm size	Code
Diaphragm size B	B
Diaphragm size C	C
Diaphragm size D	D
3 Connection size 1	Code
3/8" (DN 10)	10
1/2" (DN 15)	15
3/4" (DN 20)	20
1" (DN 25)	25
1/4" (DN 8)	8
4 Body configuration	Code
2/2-way body	D
Angle valve body, right	R
T body	T
5 Connection	Code
Clamp connection similar to ASME-BPE type A	CA
Hose barb	HB
6 Body material	Code
PP-R, natural	B8
7 Diaphragm material	Code
TPE	K8
8 Connection size 2	Code
For configurations with T bodies (body configuration code T), please enter the nominal size of the through flow at this point. Options can be found under "3 Connection size 1".	

9 Connection of spigot 2	Code
For configurations with T bodies (body configuration code T), please enter the connection type of the through flow at this point. Options can be found under "5 Connection type".	

Order data for single-use actuators

Order example for GEMÜ SUPM

SUPM	C	G	1	1T1
1	2	3	4	5



- 1 Type
- 2 Diaphragm size
- 3 Diaphragm mounting
- 4 Control function
- 5 Actuator version

Order codes for GEMÜ SUHK/SUPM

1 Type	Code
Manual operator, plastic version	SUHK
Pneumatically operated actuator metal version	SUPM
2 Diaphragm size	Code
Diaphragm size B	B
Diaphragm size C	C
Diaphragm size D	D
3 Diaphragm mounting	Code
Pin	G
4 Control function	Code
Manually operated	0
Normally closed (NC)	1
Normally open (NO)	2
5 Actuator version	Code
For GEMÜ SUHK	
Actuator size 1WR	1WR
For GEMÜ SUPM	
Actuator size 1T1	1T1



Tank valves

Description

Tank valves are valves that have been welded into or installed on a tank bottom (tank bottom valve), tank wall or tank cover. Today, tank valves are available in a large number of versions. Their main functions are draining, filling and taking samples from the tank. Sometimes these functions are combined in one valve for reasons of process reliability, and sometimes extra-special features are even added, such as integrated CIP/SIP connections.

GEMÜ tank valves are diaphragm valves whose design has been optimally adapted to fit the geometry of the tanks. The design of the tank bottom valve body promotes optimum draining of the tank and improves cleanability and sterilization, whilst minimizing deadleg as much as possible. Only this design ensures optimized operation and draining of the tank.

Features

- Compact design for installation in tight spaces
- Minimal deadlegs and optimized draining capabilities
- CIP and SIP capable
- Valve body is made from a single block
- Simple welding into the tank bottom possible via integrated welding neck
- Special materials and customized test requirements are possible
- Customized designs can be implemented
- Different actuator versions can be fitted

Typical working media

- Inert and corrosive media
- Liquids and gases

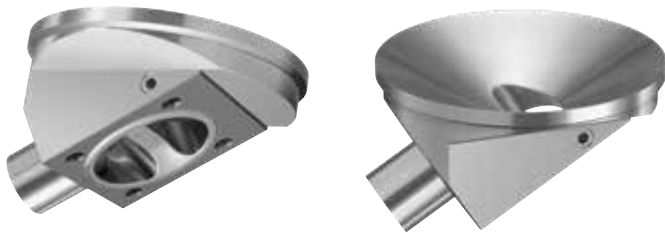
Applications

- CIP/SIP processes
- Outlet valve (tank bottom)
- Feeding conduct and venting valve
- Sterile sampling



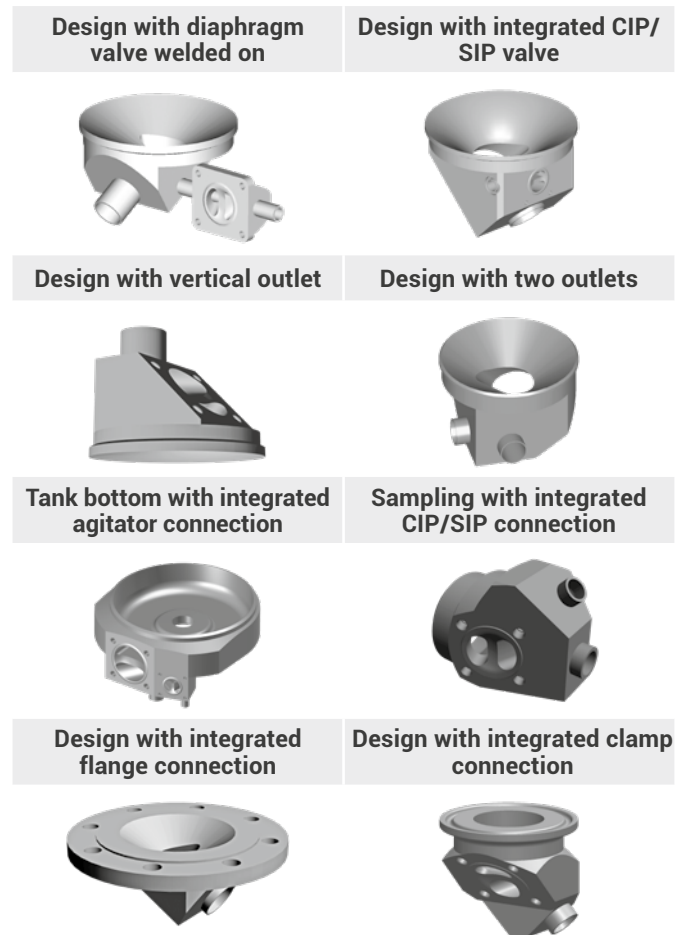
Tank valve bodies

We have a wide range of tank valve bodies for draining, ventilating, filling and taking samples from tanks, as well as cleaning and sterilizing them (CIP/SIP). In principle, they can be fitted to the tank bottom, tank wall or tank cover. The layout of the inlets and outlets, etc. can also be flexibly selected.



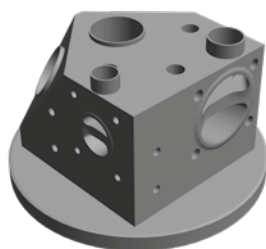
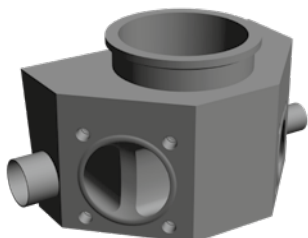
Standard version

The GEMÜ tank valve bodies can be grouped into different categories.



Do you have special requirements?

We will also be happy to design a valve completely in line with your specifications.



Ordering options

Standard version:

Standard versions of tank valve bodies, like 2/2-way and T bodies, can be ordered using our order code system. In the third position, under body configuration, enter a "B" to select the standard version of the tank valve body.

More detailed information can be found in the order data in the chapter on diaphragm valves.

Special versions and individual configurations:

We manufacture all other listed tank valve bodies customized for you in line with your requirements. Contact us for a private consultation on designing your valve or use our specification sheet.

1. Enter the operating conditions and desired materials.
2. Please state what functions the tank valve should fulfil.
Draw a pictogram or functional diagram and insert it in the specification.
3. Label all connection spigots starting with S1, all valve seats starting with V1.
4. Assign the necessary features to every connection in the table and add explanatory remarks where necessary.
5. Specify the necessary actuator and type as well as the control function for every connection.

GEMÜ 643

Manually operated tank valve

The GEMÜ 643 2/2-way tank bottom valve has a manual side mounted gear operator with a plastic handwheel. An integral optical position indicator is standard. The stainless steel valve body is machined from a single block (monoblock, no welded components). The metal distance piece and the operator housing are made of stainless steel.

Features

- The temperature resistant plastic handwheel prevents burns injuries at high operating temperatures
- Compact design
- Operator rotatable 360°
- A shaft extension for the handwheel can be mounted by the user



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 15 to 40
Body configurations:	Tank valve body
Connection types:	Clamp Flange Spigot Threaded connection
Connection standards:	ANSI ASME DIN EN ISO SMS
Body materials:	1.4435 (316L), forged material 1.4435 (BN2), forged material
Diaphragm materials:	EPDM PTFE/EPDM
Conformities:	3A BSE/TSE CRN EAC FDA Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act) USP

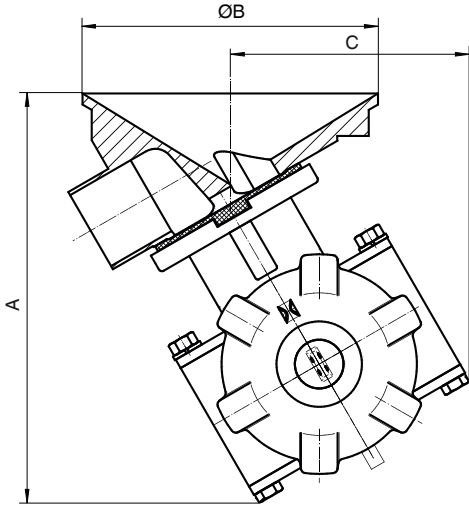
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GW-643



Installation dimensions (extract)



Diaphragm size	Nominal size	A	ØB	C
MG 25	DN 20	166.0	120.0	104.0
	DN 25	166.0	120.0	104.0
MG 40	DN 40	190.0	160.0	110.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order data for GEMÜ 643

Order example

643	25	B	59	40	5M		2AT	1503	C
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Diaphragm material
- 7
- 8 Actuator version
- 9 Ausführungsart
- 10 CONEXO

Order codes

1 Type	Code
Tank bottom diaphragm valve, manually operated, side-mounted gear actuator, plastic handwheel, stainless steel distance piece, stainless steel actuator housing, optical position indicator	643
2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
3 Body configuration	Code
Tank bottom valve body	B
4 Connection type	Code
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot DIN 11850 series 3	18
Spigot JIS-G 3459 schedule 5s	32
Spigot JIS-G 3447	35
Spigot JIS-G 3459 schedule 10s	36
Spigot SMS 3008	37
Spigot ASME BPE / DIN 11866 series C	59
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
5 Valve body material	Code
1.4435 (F316L), forged body	40
1.4435 (BN2), forged body, Δ Fe < 0.5%	42
6 Diaphragm material	Code
EPDM	13

6 Continuation of Diaphragm material	Code
EPDM	17
EPDM	19
EPDM	36
EPDM	3A
FPM	4
FPM	4A
PTFE/EPDM	52
PTFE/EPDM	5A
PTFE/EPDM	5E
PTFE/EPDM zweiteilig	5M
PTFE/EPDM one-piece	54
7 Control function	Code
Manually operated (MO)	0
8 Actuator version	Code
Actuator size 2AT, actuator type 643 MG 25 for ATEX	2AT
Actuator size 3AT, actuator type 643 MG 40 for ATEX	3AT
9 Surface	Code
Ra ≤ 0.8 μm (30 μin.) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1502
Ra ≤ 0.8 μm (30 μin.) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1503
Ra ≤ 0.6 μm (25 μin.) for media wetted surfaces, mechanically polished internal	1507
Ra ≤ 0.6 μm (25 μin.) for media wetted surfaces, electropolished internal/external	1508
Ra ≤ 0.25 μm (10 μin.) for media wetted surfaces *), in accordance with DIN 11866 HE5, electropolished internal/external, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 μm	1516

9 Continuation of Surface	Code
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1527
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal	1536
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically polished internal	SF1
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF2, mechanically polished internal	SF2
Ra max. 0.76 µm (30 µin.) for media wetted surfaces, in accordance with ASME BPE SF3, mechanically polished internal	SF3
Ra max. 0.38 µm (15 µin.) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF5, electropolished internal/external	SF5
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	SF6
10 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C
Without	

GEMÜ P600B

M-block stainless steel tank valve

The M-block tank valve in stainless steel, GEMÜ P600B, comprises one or more diaphragm valve seats. It is possible to choose between manual, pneumatic and motorized actuator variants. The downstream media is isolated using a diaphragm at the valve seat.

Features

- Compact design saves space
- Individual, customized and flexible design
- Reduced deadleg
- Fewer connection points and weld seams
- Huge variety of functions combined in the smallest of spaces
- Hermetic separation between medium and actuator
- Wide range of adaptation options from measurement and control systems, in addition to 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 150
Body configurations:	Multi-port body Tank valve 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 CRN EAC FDA Regulation (EC) No. 1935/2004 USP

Specification sheet for tank valves

Operating pressure: bar

Medium temperature: °C

Material of tank valve body:

1.4435

1.4435 BN 2 ($\Delta Fe < 0,5\%$)

1.4539

Other

Tests/Certificates:

AD 2000 W2 (Standard)

Other

Diaphragm material:

EPDM Code

PTFE Code

Other

Surface of tank valve body:

1502 (Ra) $\leq 0.8 \mu m$

1503 (Ra) $\leq 0.8 \mu m$ electropolished

1507 (Ra) $\leq 0.6 \mu m$

1508 (Ra) $\leq 0.6 \mu m$ electropolished

1536 (Ra) $\leq 0.4 \mu m$

1537 (Ra) $\leq 0.4 \mu m$ electropolished

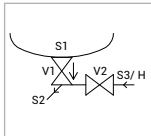
1527 (Ra) $\leq 0.25 \mu m$

1516 (Ra) $\leq 0.25 \mu m$ electropolished

Other

Quantity:

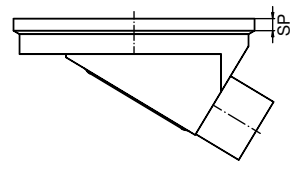
Example: B600 03-02.A



Please draw functional diagram.
Important: Please observe correspondence of table and functional diagram.
 Please specify design (e.g. B600 03-02.A):

Tank radius R= mm

Welding neck thickness SP = mm
 (Standard 6 mm)



Draining direction: Spigot: S1, S2, ...

Valve seat: Preferred installation position: Horizontal/Vertical

Intersection: Flow direction (medium):

Spigot	Pipe connection				Operator			Other	
	Spigot no.	DN	Code	$\phi d(a)[mm]$	s[mm]	Operator type	Control function	Operator size	Comment/accessories
S1	Welding diameter dependent on type and diaphragm size								
S2					V1				
S3					V2				
S4					V3				
S5					V4				

The technical details of each enquiry must be checked by GEMÜ.





Sampling systems

Description

GEMÜ sampling systems are suitable for contamination-free sampling. The entire sampling unit can be easily sterilized and is also autoclavable.

Depending on the requirements, you can choose between manual and pneumatic actuators.

Features

- Compact design for installation in tight spaces
- Minimal deadlegs and optimized draining capabilities
- CIP and SIP capable
- Special materials and customized test requirements are possible
- Customers can choose between different types

Typical working media

- Inert and corrosive media
- Liquids and gases

Applications

- Sterile sampling for laboratory analyses
- Quality assurance



GEMÜ P600M

M-block sampling system

The GEMÜ P600M M-block sampling system is suitable for contamination-free sampling as well as for the safe transport of samples to the laboratory or quality assurance station.

Features

- Microbiologically flawless sampling via a closed system
- Compact and versatile thanks to multi-port valve block solutions with various functionalities
- Tried-and-tested GEMÜ seal system
- The complete sampling path can be sterilized easily before sampling
- Connection to existing lines can be easily implemented
- Available in different bottle sizes as glass or stainless steel bottles



Technical specifications

Media temperature:	0 to 150 °C
Sterilization temperature:	max. 150 °C
Ambient temperature:	0 to 60 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 4 to 15
Body configurations:	Multi-port body
Connection types:	Clamp Hose barb Spigot
Connection standards:	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

Specification sheet for GEMÜ P600M sampling system

Operating pressure (plant-side): bar

Medium temperature: °C

Valve block material:

1.4435

1.4435 BN 2 ($\Delta Fe < 0,5\%$)

1.4539

Other

Surface finish of valve block:

1537 (Ra) $\leq 0,4\mu m$ electropolished

Other

Diaphragm material:

EPDM Code

PTFE Code

Other

Sampling bottle:

Without

With Schott Duran Pressure plus glass bottle (clear)
(operating pressure: -1 bar to max. 1.5 bar rel.)

1000 ml

500 ml

250 ml

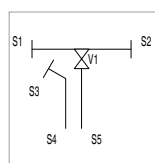
With stainless steel bottle 1.4404 (WAZ 3.1)
(operating pressure: -1 bar to max. 10 bar rel.)

1000 ml

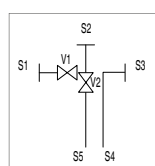
Other

Quantity:

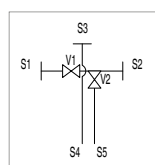
Standard:



P600M 05-01.AP



P600M 05-02.AP



P600M 05-02.BP

If you require a customer-specific version of the valve block, please also fill out specification sheet M600 for the block.

Spigot	Pipe connection				Actuator			Other
					GEMÜ 601, GEMÜ 602 manual	GEMÜ 650 pneumatic		
Spigot no.	DN	Code	ød(a)[mm]	s[mm]	Actuator type	Control function	Actuator size	Comment/accessories
S1					V1			
S2					V2			
S3					V3			
S4	6	0	8.0	1.0				Vent hole
S5	6	0	8.0	1.0				Filling pipe

The technical details of each enquiry must be checked by GEMÜ.



GEMÜ 650 1010

Sampling system

The GEMÜ 650 1010 sampling system comprises the GEMÜ 650 BioStar pneumatically operated diaphragm valve and the GEMÜ 1010 hand lever. Two different versions are available. With the "dead man's version", the valve closes as soon as you let go of the lever. The fast-switching facility with locking device has a "hold-open" function for autoclaving the entire valve, preventing accidental lever operation by means of the spring cotter pin.

Features

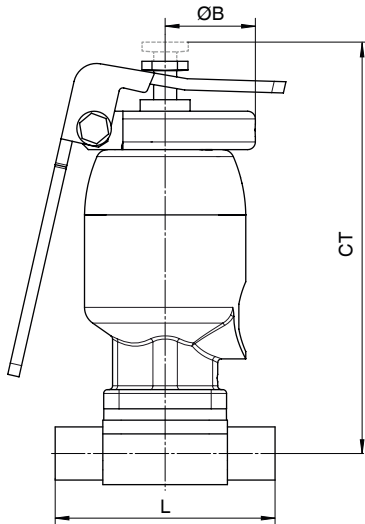
- Fast and uncomplicated sampling
- Defined closing force via the spring, which significantly increases diaphragm service life
- Tried-and-tested GEMÜ seal system



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 15
Body configurations:	2/2-way body
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), block material 1.4539 (904L), forged material
Diaphragm materials:	EPDM PTFE/EPDM
Conformities:	3A BSE/TSE CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 SIL TA Luft (German Clean Air Act) USP

Installation dimensions (extract)



Diaphragm size	Nominal size	ØB	L	CT
MG 8	DN 8	23.5	72.0	104.5
	DN 10	23.5	72.0	104.5
	DN 15	23.5	72.0	104.5

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 40)

Order example: Fast-switching facility with locking device

1010	000Z	05	01	070	SA
1	2	3	4	5	6



- 1 Type
- 2 Accessory code
- 3 Actuator mounting
- 4 Version
- 5 Length of hand lever

6 Function

Order example: Dead man's version

1010	000Z	05	01	070	TM
1	2	3	4	5	6



- 1 Type
- 2 Accessory code
- 3 Actuator mounting
- 4 Version
- 5 Length of hand lever

6 Function

In addition to one of the versions mentioned above, the GEMÜ 650 BioStar diaphragm valve ▶ page 70 must be ordered.



Globe valves

Description

Globe valves are suitable for 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 well-suited to fast cycle duties and high switching frequencies. In conjunction with the relevant positioners and regulating cones, they are the best possible control valves. In addition, globe valves are best suited to high pressures and temperatures.

Further information can be found in the control systems section.

Features

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

Typical working media

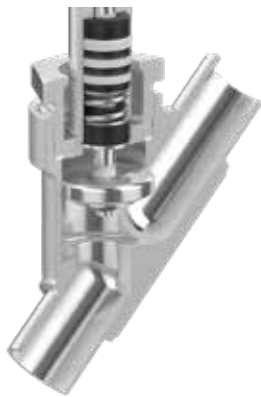
- Liquids: E.g. water, glycol, cooling lubricant, sodium hydroxide
- Steam: E.g. black steam, saturated steam, sterile steam
- Gases: E.g. air, nitrogen, oxygen

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 angle seat and straight seat 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 seal on the valve seat.

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.

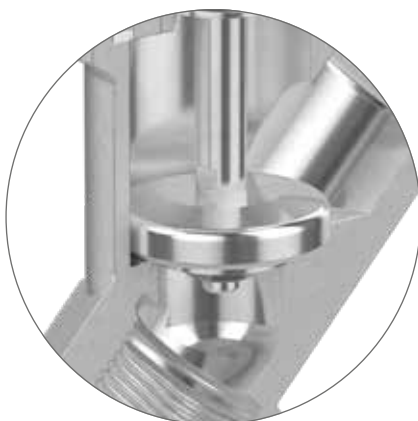
Gland packing

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 that require NBR seals or other special versions are readily available on request.

Advantages of GEMÜ:

- Suitable for use in a vacuum of up to 20 mbar (absolute pressure)
- Designed for fast cycle duties and high numbers of switching cycles
- Gland packing replaceable
- Special versions with bellows up to 300 °C or for hygienic applications

The stainless steel bellows take on the function of the gland packing. It is preferably used for sterile steam applications, e.g. ultra pure steam.



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 | Movable



Bodies

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



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

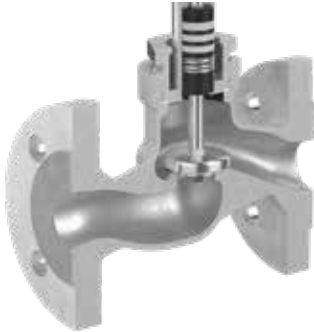
Globe valve bodies

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 packings 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.

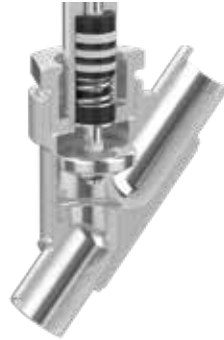


Globe valve



- DN 15 to 150
- Ideally suited to 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
			
Special feature	Bellows valve		
Nominal sizes	DN 8 to 80	DN 6 to 80	DN 15 to 50
Media temperature	-10 to 185 °C	-10 to 180 °C	-10 to 180 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C
Operating pressure	0 to 10 bar	0 to 25 bar	0 to 40 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	•	•	•
USP	•	•	•

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

GEMÜ 505

Manually operated angle seat globe valve

The GEMÜ 505 2/2-way angle seat globe valve has a temperature resistant plastic handwheel and is manually operated. The valve is suitable for pure steam and gaseous media. The seat seal 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

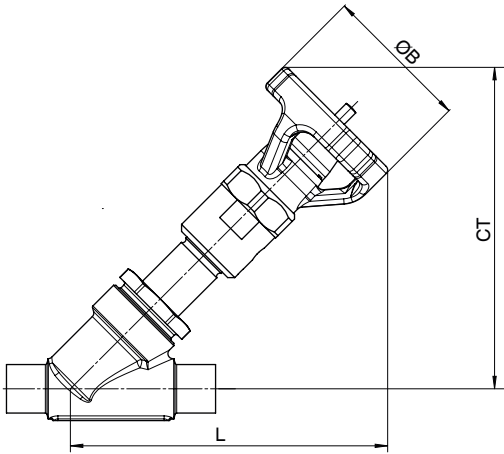
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GW-505



Installation dimensions (extract)



Nominal size	ØB	CT / L
DN 8	161.0	63.0
DN 10	161.0	63.0
DN 15	161.0	63.0
DN 20	161.0	63.0
DN 25	196.0	92.0
DN 32	197.0	92.0
DN 40	265.0	114.0
DN 50	268.0	114.0
DN 65	268.0	114.0
DN 80	273.0	114.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 1.4435 body material investment casting (code C2)

Order example

505		D	60	C2	5P	0		1904	F	C
1	2	3	4	5	6	7	8	9	10	11



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 Special version

11 CONEXO

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. 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
- 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 consistent flow rate



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:	PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

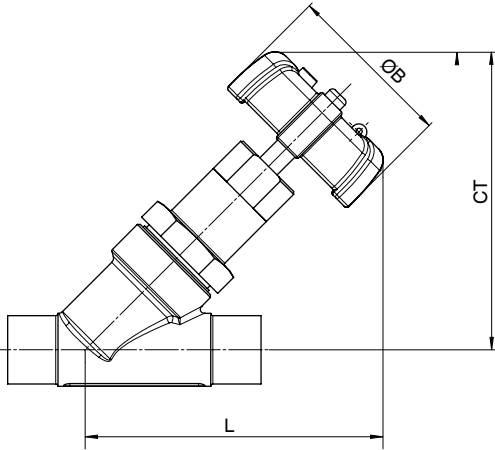
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GW-507



Installation dimensions (extract)



Nominal size	Actuator size	ØB	CT / L
DN 6	0	32.0	82.0
DN 8	0	32.0	82.0
DN 10	0	32.0	82.0
DN 15	0	32.0	82.0
DN 25	1	90.0	158.0
DN 32	1	90.0	167.0
DN 40	1	90.0	177.0
DN 50	1	90.0	187.0
DN 65	2	140.0	248.0
DN 80	2	140.0	265.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 1.4435 body material investment casting (code C2)

Order example

507		D	60	34	5	0				C
1	2	3	4	5	6	7	8	9	10	11



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 Special version

11 CONEXO

GEMÜ 537

Manually operated globe valve

The GEMÜ 537 2/2-way globe valve has an ergonomically designed plastic handwheel and is manually 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. 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/fibreglass
- Suitable for vacuum up to 20 mbar (a)



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 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 USP

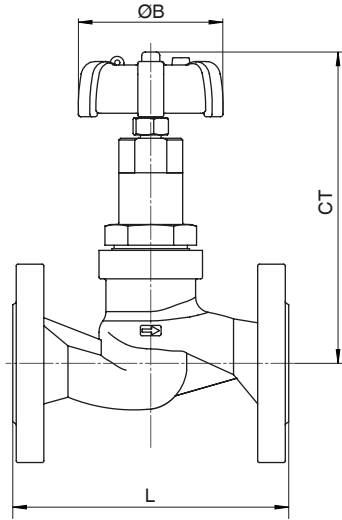
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GW-537



Installation dimensions (extract)

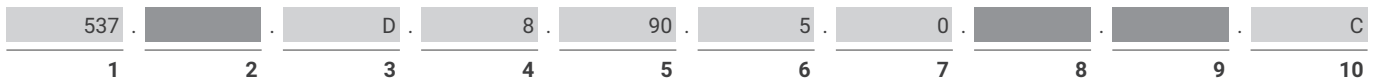


Nominal size	$\varnothing B$	CT	L
DN 15	90.0	156.0	130.0
DN 20	90.0	165.0	150.0
DN 25	90.0	181.0	160.0
DN 32	90.0	188.0	180.0
DN 40	90.0	205.0	200.0
DN 50	90.0	217.0	230.0

Dimensions in mm

Dimensions for EN 1092 / PN16 / form B flange (code 8) connection type and 1.4408 body material, investment casting (code 37)

Order example




- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Special version
- 10 CONEXO

Order data for manually operated globe valves

Order example for GEMÜ 505

505	25	D	60	C2	5P	0	2GP	1904	F	C
1	2	3	4	5	6	7	8	9	10	11



configure online

1 Type
2 DN
3 Body configuration
4 Connection type
5 Valve body material

6 Seat seal
7 Control function
8 Actuator version
9 Type of design
10 Special version
11 CONEXO

Order codes

1 Type	Code
Pharmaceutical angle seat globe valve, manually operated with plastic handwheel	505
Angle seat globe valve, manually operated, plastic handwheel	507
Globe valve, manually operated, plastic handwheel	537
2 DN	Code
DN 6	6
DN 8	8
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
3 Body configuration	Code
2/2-way body	D
Angle valve body	E
4 Connection type	Code
Spigot	
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot DIN 11850 series 3	18
Spigot SMS 3008	37
Spigot ASME BPE	59
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
Spigot ANSI/ASME B36.19M schedule 10s	63

4 Continuation of Connection type	Code
Spigot ANSI/ASME B36.19M schedule 40s	65
Thread	
Threaded socket DIN ISO 228	1
Threaded socket BS 21 Rc, end-to-end dimension ETE DIN 3202-4 series M8	3C
Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8	3D
Threaded spigot DIN ISO 228	9
Flange	
Flange EN 1092, PN 25, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	10
Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	11
Flange EN 1092, PN 25, form B	13
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	39
Flange ANSI Class 150 RF	47
Flange JIS 20K, face-to-face dimension FTF EN 558 series 10, ASME/ANSI B16.10 table 1, column 16, DN 50 drilled to JIS 10K	48
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 1	82
Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 1	86
Clamp ASME BPE, face-to-face dimension FTF EN 558 series 1	88

5 Valve body material	Code
1.4408, investment casting	37
1.4435, investment casting	34
1.4435, investment casting	C2
1.4435 (F316L), forged body	40
EN-GJS-400-18-LT (GGG 40.3)	90

6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
PTFE	5P
Peek	PK

7 Control function	Code
Manually operated	0
Manually operated, with handwheel clamp	L

8 Actuator version	Code
For GEMÜ 505	
Actuator size 1GP	1GP
Actuator size 1MP	1MP
Actuator size 2G1	2G1
Actuator size 2MP	2MP
Actuator size 3GP	3GP
Actuator size 3MP	3MP
Actuator size 1KP	1KP
Actuator size 2KP	2KP

For GEMÜ 507	
Actuator size 0	0
Actuator size 1	1
Actuator size 1 Extended valve spindle	1E
Actuator size 2	2
Actuator size 2 Extended valve spindle	2E

For GEMÜ 537	
Actuator size 1	1
Actuator size 1 Extended valve spindle	1E

9 Surface	Code
Ra ≤ 0.6 µm (25 µinch) for media wetted surfaces, in accordance with ASME BPE SF2 + SF3 mechanically polished internal	1903
Ra ≤ 0.8 µm (30 µinch) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1904





9 Continuation of Surface	Code
Ra ≤ 0.4 µm (15 µinch) for media wetted surfaces, in accordance with DIN 11866 H4, ASME BPE SF1 mechanically polished internal	1909
Ra ≤ 0.6 µm for media-wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	1953
Ra ≤ 0.8 µm for media-wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1954
Ra ≤ 0.4 µm for media-wetted surfaces, in accordance with DIN 11866 HE4/ASME BPE SF5, electropolished internal/external	1959

10 Special version	Code
Rigid plug fixing, special version for oxygen, maximum medium temperature: 60 °C, media-wetted seal materials and auxiliary materials with BAM testing	B
Special version with bellows	F

11 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C

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
Nominal sizes	DN 8 to 80	DN 6 to 80	DN 6 to 80	DN 8 to 80
Media temperature	-10 to 180 °C	-10 to 180 °C	-10 to 180 °C	-10 to 185 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-10 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	•	•	•	-
Multi-port body	-	•	-	•
Body materials				
1.4408	•	•	•	-
1.4435	•	•	•	•
1.4435 (316L)	-	•	•	•
CC499K	•	-	•	-
Conformities				
ATEX	-	•	•	•
CRN	•	•	•	•
EAC	•	•	•	•
FDA	•	•	•	•
Oxygen	•	•	•	•
Reg. (EU) No. 10/2011	•	•	•	•
Regulation (EC) No. 1935/2004	•	•	•	•
Regulation (EC) No. 2023/2006	-	•	-	•
SIL	•	•	•	•
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 180 °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:	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:	1.4404 PTFE PTFE, reinforced
Conformities:	CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 SIL

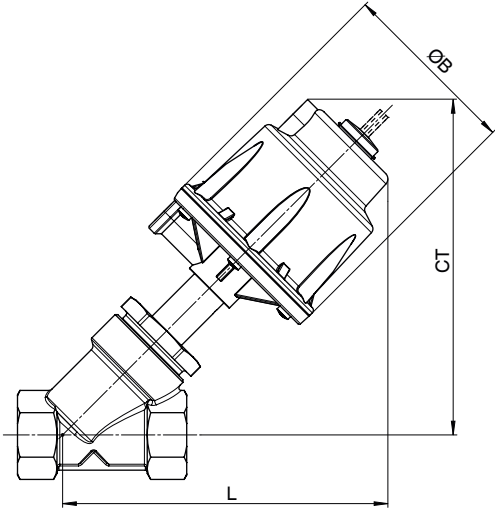
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GW-514



Installation dimensions (extract)

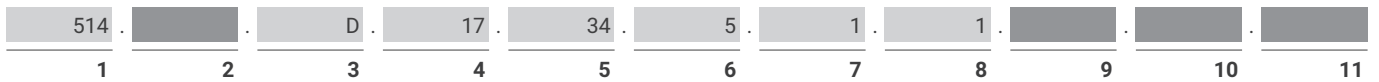


Nominal size	Actuator size	ØB	CT / L
DN 8	1	96.0	161.0
DN 10	1	96.0	161.0
DN 15	1	96.0	164.0
DN 20	2	164.0	241.0
DN 25	2	164.0	241.0
DN 32	2	164.0	249.0
DN 40	2	164.0	254.0
DN 50	2	164.0	262.0
DN 65	2	164.0	275.0
DN 80	2	164.0	292.0

Dimensions in mm

Dimensions for DIN threaded socket (code 1) connection type and 1.4408 (code 37) body material

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 Special version

11 CONEXO

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 isolating and control functions with gaseous and liquid 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 0



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 Multi-port 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:	PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 SIL USP

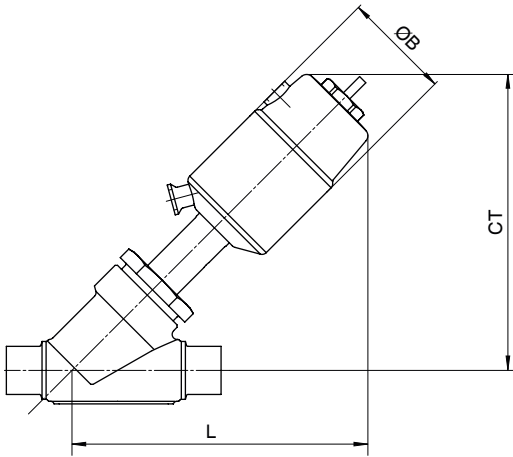
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GW-550



Installation dimensions (extract)

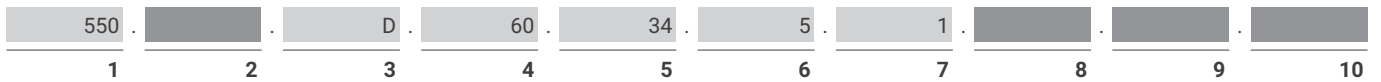


Nominal size	Actuator size	ØB	CT / L
DN 6	0	32.0	91.0
DN 8	2	63.0	171.0
DN 10	2	63.0	171.0
DN 15	2	63.0	174.0
DN 20	3	84.0	198.0
DN 25	4	104.0	235.0
DN 32	5	135.0	269.0
DN 40	5	135.0	274.0
DN 50	5	135.0	282.0
DN 65	5	135.0	295.0
DN 80	5	135.0	312.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 1.4435 body material investment casting (code C2)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

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, dependent 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 0



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), forged material 1.4435, investment casting material CC499K, cast bronze material
Seat seal materials:	NBR PFA PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 SIL USP

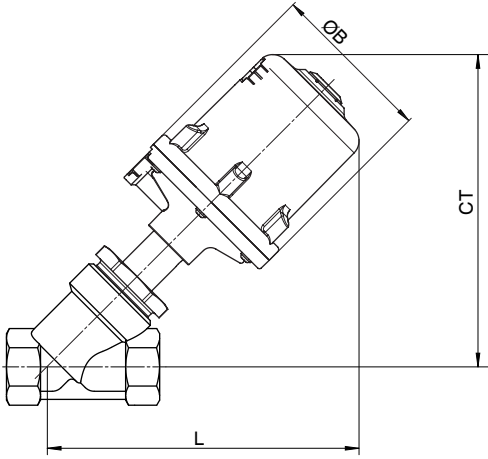
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GW-554



Installation dimensions (extract)

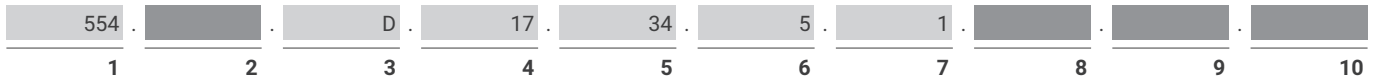


Nominal size	Actuator size	ØB	CT / L
DN 6	B	43.0	83.0
DN 8	B	43.0	83.0
DN 10	1	96.0	181.0
DN 15	1	96.0	184.0
DN 20	2	168.0	281.0
DN 25	2	168.0	281.0
DN 32	2	168.0	289.0
DN 40	2	168.0	294.0
DN 50	2	168.0	302.0
DN 65	2	168.0	315.0
DN 80	2	168.0	332.0

Dimensions in mm

Dimensions for DIN threaded socket (code 1) connection type and 1.4408 (code 37) body material

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

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 valve has a PTFE seat for tight shut off. The valve spindle is sealed by a stainless steel bellows. Valve plug and valve spindle are welded to prevent contamination areas.

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 Multi-port 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 SIL USP

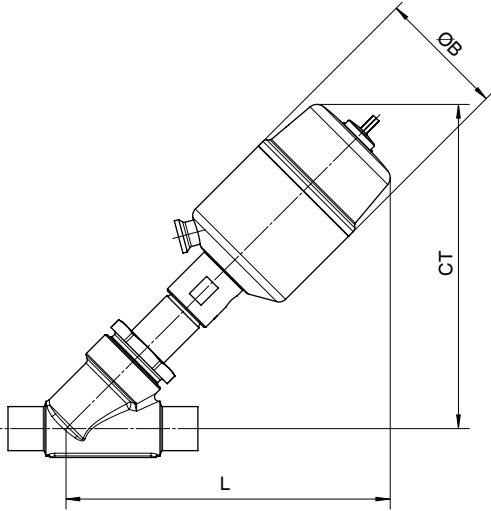
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GW-555



Installation dimensions (extract)



Nominal size	ØB	CT / L
DN 8	63.0	185.0
DN 10	63.0	185.0
DN 15	63.0	185.0
DN 20	63.0	185.0
DN 25	84.0	220.0
DN 32	84.0	221.0
DN 40	104.0	246.0
DN 50	135.0	312.0
DN 65	135.0	312.0
DN 80	135.0	317.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 1.4435 body material investment casting (code C2)

Order example

555		D	17	C2	5P	1		1904	F	C
1	2	3	4	5	6	7	8	9	10	11



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 Special version

11 CONEXO

Order data for pneumatically operated angle seat globe valves

Order example for GEMÜ 550

550	15	D	60	34	5	1			
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

Order codes

1 Type	Code
Angle seat globe valve, pneumatically operated, aluminium piston actuator	514
Angle seat globe valve, pneumatically operated, stainless steel piston actuator	550
Angle seat globe valve, pneumatically operated, plastic piston actuator	554
Pharmaceutical angle seat globe valve, pneumatically operated, stainless steel piston actuator, glass-bead-blasted	555
2 DN	Code
DN 6	6
DN 8	8
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
3 Body configuration	Code
2/2-way body	D
Angle valve body	E
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot DIN 11850 series 3	18





4 Continuation of Connection type	Code
Spigot DIN 11866 series A	1A
Spigot DIN 11866 series B	1B
Spigot SMS 3008	37
Spigot ASME BPE	59
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
Thread	
Threaded socket DIN ISO 228	1
Threaded socket BS 21 Rc, end-to-end dimension ETE DIN 3202-4 series M8	3C
Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8	3D
Threaded spigot DIN ISO 228	9
Flange	
Flange EN 1092, PN 25, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	10
Flange EN 1092, PN 25, form B	13
Flange ANSI Class 150 RF	47
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 1	82
Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 1	86
Clamp ASME BPE, face-to-face dimension FTF EN 558 series 1	88
5 Valve body material	Code
1.4408, investment casting	37
1.4435, investment casting	34
1.4435, investment casting	C2
1.4435 (F316L), forged body	40
1.4435 (316L), block material	41

5 Continuation of Valve body material	Code
CC499K, cast bronze	9
6 Seat seal	Code
NBR	2
PFA	30
PTFE	5
PTFE, glass fibre reinforced	5G
PTFE	5P
7 Control function	Code
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3
Double acting and normally open	8
8 Actuator version	Code
For GEMÜ 514	
Actuator size 0	0
Actuator size 1	1
Actuator size 2	2
Actuator size 3	3
Actuator size 4	4
For GEMÜ 550	
Actuator size 0G1	0G1
Actuator size 0M1	0M1
Actuator size 1G1	1G1
Actuator size 1M1	1M1
Actuator size 2G1	2G1
Actuator size 2M1	2M1
Actuator size 3G1	3G1
Actuator size 3M1	3M1
Actuator size 4G1	4G1
Actuator size 5G1	5G1
For GEMÜ 554	
Actuator size 0K	0K
Actuator size 1K	1K
Actuator size 2K	2K
Actuator size 3L	3L
Actuator size 4L	4L
Actuator size B	B
For GEMÜ 555	
Actuator size 2G1	2G1
Actuator size 2M1	2M1
Actuator size 3G1	3G1
Actuator size 3M1	3M1

8 Continuation of Actuator version	Code
Actuator size 4G1	4G1
Actuator size 5G1	5G1
9 Surface	Code
Ra ≤ 0.6 µm (25 µinch) for media wetted surfaces, in accordance with ASME BPE SF2 + SF3 mechanically polished internal	1903
Ra ≤ 0.8 µm (30 µinch) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1904
Ra ≤ 0.4 µm (15 µinch) for media wetted surfaces, in accordance with DIN 11866 H4, ASME BPE SF1 mechanically polished internal	1909
Ra ≤ 0.6 µm for media-wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	1953
Ra ≤ 0.8 µm for media-wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1954
Ra ≤ 0.4 µm for media-wetted surfaces, in accordance with DIN 11866 HE4/ASME BPE SF5, electropolished internal/external	1959
10 Special version	Code
Special version with bellows	F
11 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C

Pneumatically operated globe valves

Overview

GEMÜ type	530	532	534	536
				
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 50 to 150
Media temperature	-10 to 180 °C	-10 to 180 °C	-10 to 180 °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 40 bar	0 to 40 bar	0 to 40 bar	0 to 40 bar
Connection types				
Flange	•	•	•	•
Body configurations				
2/2-way body	•	•	•	•
Body materials				
1.4408	•	•	•	•
EN-GJS-400-18-LT	•	•	•	•
Conformities				
ATEX	•	-	•	•
CRN	•	•	•	•
EAC	•	•	•	•
FDA	•	•	•	-
Oxygen	•	•	•	•
Reg. (EU) No. 10/2011	•	•	•	-
Regulation (EC) No. 1935/2004	•	•	•	-
SIL	•	•	•	-

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 rugged 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:	-10 to 180 °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, cast stainless steel material EN-GJS-400-18-LT, SG iron material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	ATEX CRN EAC FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 SIL

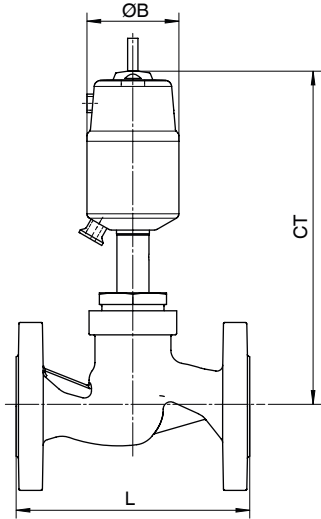
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GW-530



Installation dimensions (extract)

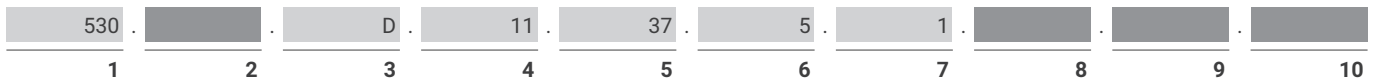


Nominal size	Actuator size	ØB	CT	L
DN 15	1	46.0	167.0	130.0
DN 20	1	46.0	174.0	150.0
DN 25	2	63.0	231.0	160.0
DN 32	2	63.0	236.0	180.0
DN 40	3	84.0	263.0	200.0
DN 50	3	84.0	271.0	230.0
DN 65	5	135.0	359.0	290.0
DN 80	5	135.0	379.0	310.0
DN 100	5	135.0	400.0	350.0

Dimensions in mm

Dimensions for ANSI Class 125/150 RF flange (code 39) connection type and 1.4408 body material, investment casting (code 37)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

GEMÜ 532

Pneumatically operated globe valve

The GEMÜ 532 2/2-way globe valve has a robust 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

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



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 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 Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 SIL

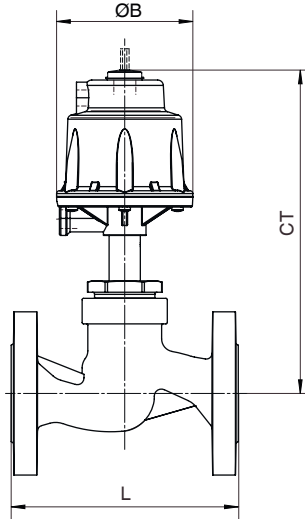
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GW-532



Installation dimensions (extract)

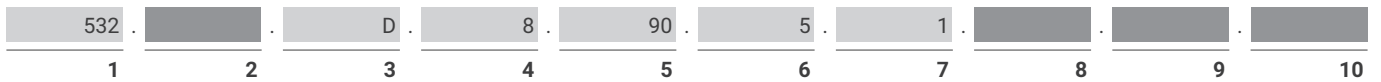


Nominal size	Actuator size	$\varnothing B$	CT	L
DN 15	1	96.0	207.0	130.0
DN 20	2	164.0	291.0	150.0
DN 25	2	164.0	302.0	160.0
DN 32	2	164.0	307.0	180.0
DN 40	2	164.0	318.0	200.0
DN 50	2	164.0	326.0	230.0
DN 65	2	164.0	349.0	290.0
DN 80	2	164.0	369.0	310.0
DN 100	2	164.0	390.0	350.0

Dimensions in mm

Dimensions for EN 1092 / PN16 / form B flange (code 8) connection type and 1.4408 body material, investment casting (code 37)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

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
- Standard actuator can be replaced with 530 or 532 on request
- Suitable for vacuum up to 20 mbar (a)



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 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 Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 SIL

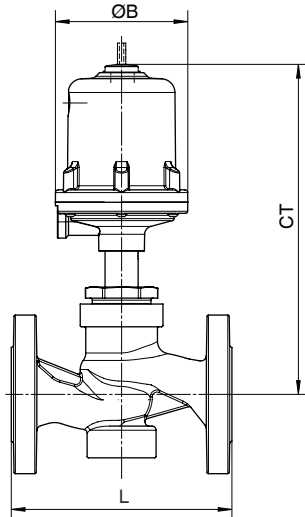
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GW-534



Installation dimensions (extract)



Nominal size	Actuator size	ØB	CT	L
DN 15	1	96.0	224.0	130.0
DN 20	2	168.0	328.0	150.0
DN 25	2	168.0	339.0	160.0
DN 32	2	168.0	344.0	180.0
DN 40	2	168.0	355.0	200.0
DN 50	2	168.0	363.0	230.0
DN 65	2	168.0	391.0	290.0
DN 80	2	168.0	406.0	310.0
DN 100	2	168.0	427.0	350.0

Dimensions in mm

Dimensions for EN 1092 / PN16 / form B flange (code 8) connection type and 1.4408 body material, investment casting (code 37)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 CONEXO

GEMÜ 536

Pneumatically operated globe valve

The GEMÜ 536 2/2-way globe valve has a rugged 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.

Features

- Available as shut-off or control valve
- Precise controllability with 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 180 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 40 bar
Nominal sizes:	DN 50 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 Oxygen

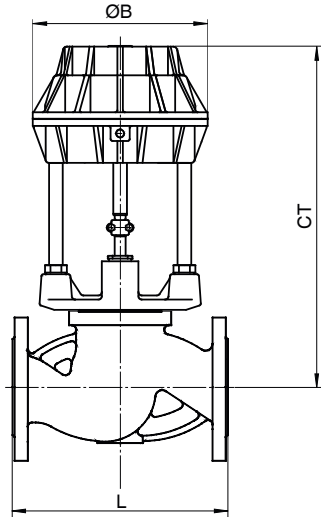
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GW-536



Installation dimensions (extract)

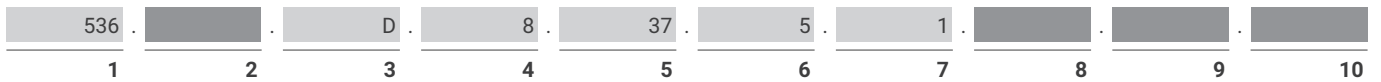


Nominal size	ØB	CT	L
DN 50	256.0	467.0	230.0
DN 65	256.0	484.0	290.0
DN 80	256.0	496.0	310.0
DN 100	256.0	517.0	350.0
DN 125	256.0	539.0	400.0
DN 150	256.0	559.0	480.0

Dimensions in mm

Dimensions for EN 1092 / PN16 / form B flange (code 8) connection type and 1.4408 body material, investment casting (code 37)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

Order data for pneumatically operated globe valves

Order example for GEMÜ 534

534		D	8	90	5	1		
1	2	3	4	5	6	7	8	9



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 CONEXO

Order codes





1 Type	Code
Globe valve, pneumatically operated, stainless steel piston actuator	530
Globe valve, pneumatically operated, aluminium piston actuator	532
Globe valve, pneumatically operated, plastic piston actuator	534
Globe valve, pneumatically operated, metal membrane actuator	536
2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Flange EN 1092, PN 25, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	10
Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	11
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	39
Flange JIS 20K, face-to-face dimension FTF EN 558 series 10, ASME/ANSI B16.10 table 1, column 16, DN 50 drilled to JIS 10K	48

4 Continuation of Connection type	Code
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8
5 Valve body material	Code
1.4408, investment casting	37
EN-GJS-400-18-LT (GGG 40.3)	90
6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
7 Control function	Code
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3
8 Actuator version	Code
For GEMÜ 530	
Actuator size 1G1	1G1
Actuator size 1M1	1M1
Actuator size 2G1	2G1
Actuator size 2M1	2M1
Actuator size 3G1	3G1
Actuator size 3M1	3M1
Actuator size 4G1	4G1
Actuator size 4M1	4M1
Actuator size 5G1	5G1
Actuator size 5M1	5M1
For GEMÜ 532	
Actuator size 0	0
Actuator size 1	1
Actuator size 2	2
Actuator size 3	3
Actuator size 4	4

8 Continuation of Actuator version	Code
For GEMÜ 534	
Actuator size 0	0
Actuator size 1	1
Actuator size 2	2
Actuator size 3	3
Actuator size 4	4
For GEMÜ 536	
Actuator size 3A1	3A1
Actuator size 3A2	3A2
Actuator size 3A3	3A3
Actuator size 3AN	3AN
Actuator size 4A1	4A1
Actuator size 4A2	4A2
Actuator size 4A3	4A3
Actuator size 4AN	4AN
9 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C

Motorized globe valves

Overview

GEMÜ type	533 eSyStep	543 eSyStep	539 eSyDrive	549 eSyDrive
				
Special feature	Universal actuator, option with integrated positioner	Universal actuator, option with integrated positioner	Premium actuator with integrated positioner and process controller	Premium actuator with integrated positioner and process controller
Nominal sizes	DN 15 to 50	DN 6 to 50	DN 15 to 100	DN 10 to 80
Media temperature	-10 to 180 °C	-10 to 180 °C	-10 to 180 °C	-10 to 180 °C
Ambient temperature	0 to 60 °C	0 to 60 °C	-10 to 60 °C	-10 to 60 °C
Operating pressure	0 to 40 bar	0 to 25 bar	0 to 40 bar	0 to 25 bar
Supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
Actuating speed	max. 3 mm/s	max. 3 mm/s	max. 6 mm/s	max. 6 mm/s
Connection types				
Clamp	-	•	-	•
Flange	•	•	•	•
Spigot	-	•	-	•
Threaded connection	-	•	-	•
Body materials				
1.4408	•	•	•	•
1.4435	-	•	-	•
1.4435 (316L)	-	•	-	•
CC499K	-	•	-	-
EN-GJS-400-18-LT	•	-	•	-
Conformities				
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 533 eSyStep

Motorized globe valve

The GEMÜ 533 is a motorized 2/2-way globe valve. The eSyStep electric actuator is available as ON/OFF 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)
- Actuating speed max. 3 mm/s
- 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:	FDA Regulation (EC) No. 1935/2004

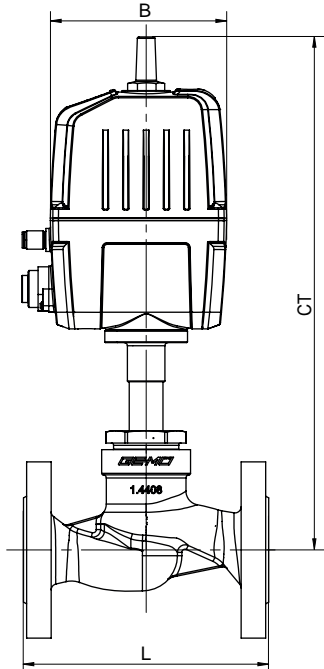
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GW-533



Installation dimensions (extract)

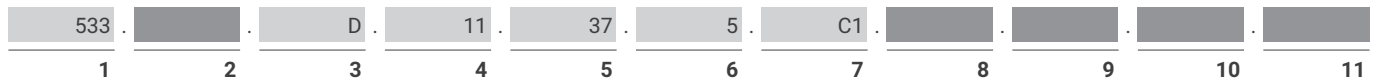


Nominal size	ØB	CT	L
DN 15	115.0	316.8	130.0
DN 20	115.0	324.3	150.0
DN 25	115.0	334.8	160.0

Dimensions in mm

Dimensions for EN 1092 / PN16 / form B flange (code 8) connection type and 1.4408 body material, investment casting (code 37)

Order example



configure online

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Voltage/frequency
- 8 Control module
- 9 Actuator version
- 10 Type of design

11 CONEXO

GEMÜ 543 eSyStep

Motorized angle seat globe valve

The GEMÜ 543 eSyStep is a motorized 2/2-way angle seat globe valve. The eSyStep electric actuator is available as ON/OFF 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)
- Linear or modified equal-percentage control characteristics
- 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 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:	FDA Regulation (EC) No. 1935/2004

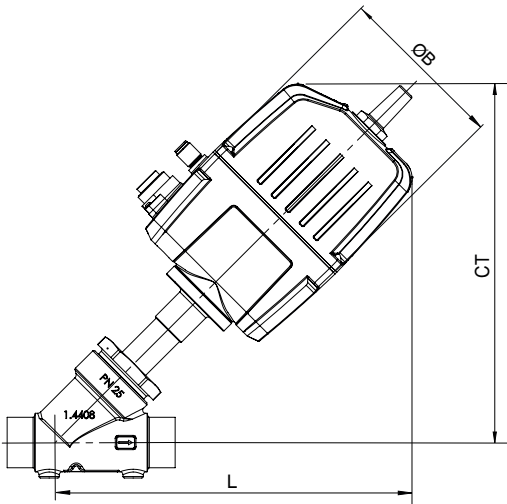
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Installation dimensions (extract)

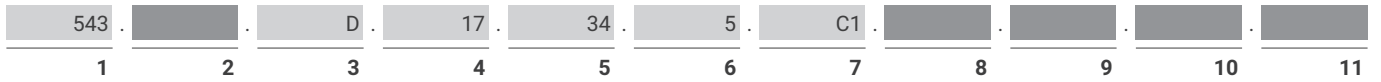


Nominal size	ØB	CT	L
DN 10	115.0	210.2	209.2
DN 15	115.0	228.8	227.8
DN 20	115.0	234.2	233.1
DN 25	115.0	239.1	238.1

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 1.4435 body material investment casting (code C2)

Order example



configure online

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Voltage/frequency
- 8 Control module
- 9 Actuator version
- 10 Type of design

11 CONEXO

GEMÜ 539 eSyDrive

Motorized globe valve

The GEMÜ 539 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 rates
- 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 180 °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, IP 61
Conformities:	FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004

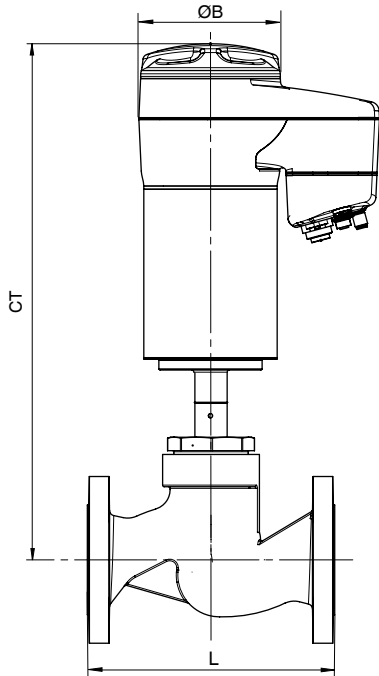
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Installation dimensions (abstract)

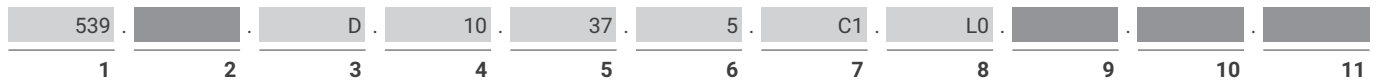


Nominal size	Actuator size	ØB	CT	L
DN 15	0A	68.0	311.0	130.0
DN 20	1A	82.0	375.0	150.0
DN 25	1A	82.0	386.0	160.0
DN 32	1A	82.0	391.0	180.0
DN 40	2 A	129.0	471.0	200.0
DN 50	2 A	129.0	479.0	230.0
DN 65	2 A	129.0	502.0	290.0
DN 80	2 A	129.0	522.0	310.0
DN 100	2 A	129.0	543.0	350.0

Dimensions in mm

Dimensions for EN 1092 / PN16 / form B flange (code 10) connection type and 1.4408 body material, investment casting (code 37)

Order example



configure online

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Voltage/frequency
- 8 Control module
- 9 Actuator version
- 10 Special version

11 CONEXO

GEMÜ 549 eSyDrive

Motorized angle seat globe valve

The GEMÜ 549 eSyDrive is a motorized 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 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

- 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:	FDA Oxygen Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004

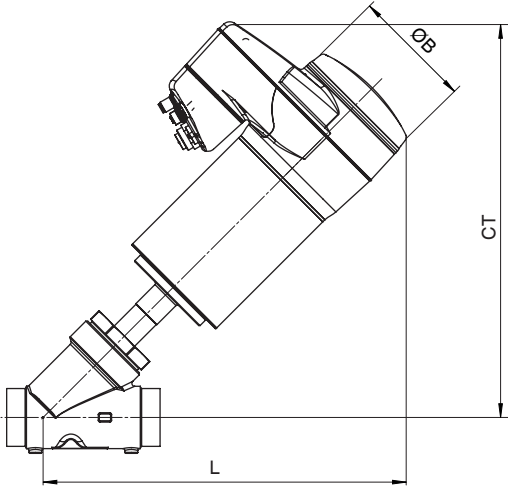
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Installation dimensions (abstract)

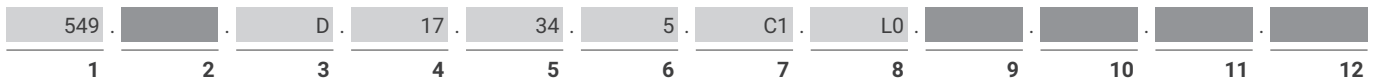


Nominal size	Actuator size	ØB	CT	L
DN 10	0A	68.0	287.0	242.0
DN 15	0A	68.0	290.0	245.0
DN 20	1A	82.0	341.0	299.0
DN 25	1A	82.0	341.0	299.0
DN 32	2 A	121.0	402.0	368.0
DN 40	2 A	121.0	407.0	373.0
DN 50	2 A	121.0	405.0	381.0
DN 65	2 A	121.0	428.0	394.0
DN 80	2 A	121.0	445.0	411.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 1.4435 body material investment casting (code C2)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material


- 6 Seat seal
- 7 Voltage/frequency
- 8 Control module
- 9 Actuator version
- 10 Type of design

- 11 Special version
- 12 CONEXO

Order data for motorized globe valves

Order example for GEMÜ 539 eSyStep

539	40	D	10	37	5	C1	L0	2 A	S	
1	2	3	4	5	6	7	8	9	10	11

	<p>1 Type 2 DN 3 Body configuration 4 Connection type 5 Valve body material</p>	<p>6 Seat seal 7 Voltage/frequency 8 Control module 9 Actuator version 10 Special version</p>	<p>11 CONEXO</p>
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Order codes

1 Type	Code
Globe valve, motorized, eSyStep	533
Globe valve, electrically operated, electro-mechanical hollow shaft actuator, eSyDrive	539
Angle seat globe valve, motorized, electro-mechanical hollow shaft actuator, eSyDrive	549
Angle seat globe valve, electrically operated, eSyStep	543

2 DN	Code
DN 6	6
DN 8	8
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80

3 Body configuration	Code
2/2-way body	D
Angle valve body	E

4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot DIN 11850 series 3	18

4 Continuation of Connection type	Code
Spigot SMS 3008	37
Spigot ASME BPE	59
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
Spigot ANSI/ASME B36.19M schedule 10s	63
Spigot ANSI/ASME B36.19M schedule 40s	65

Thread	Code
Threaded socket DIN ISO 228	1
Threaded socket BS 21 Rc, end-to-end dimension ETE DIN 3202-4 series M8	3C
Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8	3D
Threaded spigot DIN ISO 228	9

Flange	Code
Flange EN 1092, PN 25, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	10
Flange EN 1092, PN 25, form B	13
Flange ANSI Class 150 RF	47




Clamp	Code
Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 1	82
Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 1	86
Clamp ASME BPE, face-to-face dimension FTF EN 558 series 1	88

5 Valve body material	Code
1.4408, investment casting	37
1.4435, investment casting	34
1.4435, investment casting	C2
1.4435 (F316L), forged body	40
CC499K, cast bronze	9




6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
1.4404	10
7 Voltage/frequency	Code
24 V DC	C1
8 Control module	Code
For GEMÜ 539 and 549	
OPEN/CLOSE, positioner and process controller	L0
9 Type of design	Code
Ra ≤ 0.6 µm (25 µinch) for media wetted surfaces, in accordance with ASME BPE SF2 + SF3 mechanically polished internal	1903
Ra ≤ 0.8 µm (30 µinch) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1904
Ra ≤ 0.4 µm (15 µinch) for media wetted surfaces, in accordance with DIN 11866 H4, ASME BPE SF1 mechanically polished internal	1909
Spindle seal PTFE-PTFE	2013
10 Actuator version	Code
For GEMÜ 533	
Actuator size 0	0A
Actuator size 1	1A
For GEMÜ 539	
Actuator size 0	0A
Actuator size 1	1A
Actuator size 2	2 A
For GEMÜ 543	
Actuator size 0	0A
Actuator size 1	1A
For GEMÜ 549	
Actuator size 0	0A
Actuator size 1	1A
Actuator size 2	2 A
11 Special version	Code
Special version for oxygen, maximum medium temperature: 60 °C, media wetted seal materials and auxiliary materials with BAM testing	S
12 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C

Multi-port globe valves

Overview of multi-port globe valves

GEMÜ type	312	314	352
			
Special feature			Light piston actuator made of plastic
Nominal sizes	DN 15 to 100	DN 15 to 50	DN 15 to 100
Media temperature	-10 to 180 °C	-10 to 180 °C	-10 to 180 °C
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C
Operating pressure	0 to 16 bar	0 to 16 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	●	-	●
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		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	-10 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	•	-	-
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 rugged low maintenance aluminium piston actuator and is pneumatically operated. The double sided valve plug is connected to the actuator via a 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 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 DIN EN ISO
Body materials:	1.4408, investment casting material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	EAC Oxygen

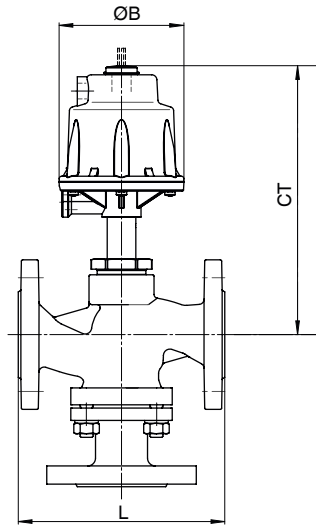
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GW-312



Installation dimensions (extract)

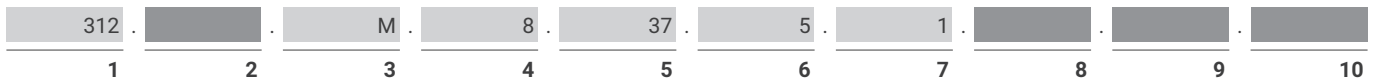


Nominal size	Actuator size	ØB	CT	L
DN 15	1	96.0	199.0	130.0
DN 20	1	96.0	204.0	150.0
DN 25	1	96.0	205.0	160.0
DN 32	2	164.0	292.0	180.0
DN 40	2	164.0	301.0	200.0
DN 50	2	164.0	308.0	230.0
DN 65	2	164.0	320.0	290.0
DN 80	2	164.0	332.0	310.0
DN 100	2	164.0	346.0	350.0

Dimensions in mm

Dimensions for EN 1092 / PN 16 / form B (code 8) flange connection type and EN-GJL-250 body material (code 8)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

GEMÜ 314

Pneumatically operated multi-port globe valve

The GEMÜ 314 3/2-way globe valve has a rugged low maintenance aluminium piston actuator and is pneumatically operated. The double sided valve plug is connected to the actuator via a 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 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:	ANSI DIN EN ISO
Body materials:	CC499K, cast bronze material
Seat seal materials:	PTFE PTFE, reinforced
Conformities:	EAC

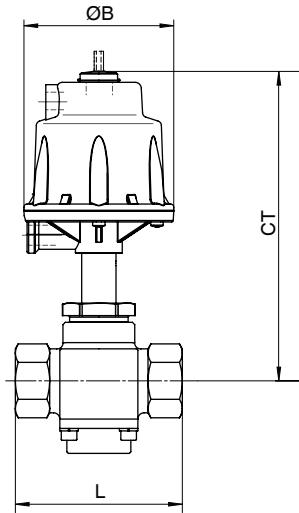
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GW-314



Installation dimensions (extract)



Nominal size	Actuator size	$\varnothing B$	CT	L
DN 15	1	96.0	192.0	75.0
DN 20	1	96.0	196.0	87.0
DN 25	1	96.0	196.0	107.0
DN 32	2	164.0	277.0	123.0
DN 40	2	164.0	277.0	147.0
DN 50	2	164.0	281.0	171.0

Dimensions in mm

Dimensions for DIN ISO 228 threaded socket (code 1) connection type and CC499K body material, cast bronze material (code 9)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 Type of design
- 10 CONEXO

GEMÜ 352

Pneumatically operated multi-port globe valve

The GEMÜ 352 3/2-way globe valve has a rugged 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. 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
- 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 Oxygen

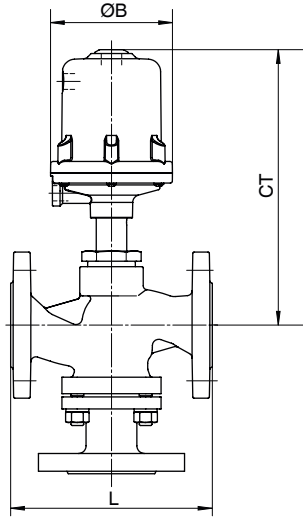
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GW-352



Installation dimensions (extract)



Nominal size	Actuator size	$\varnothing B$	CT	L
DN 15	1	96.0	199.0	130.0
DN 20	1	96.0	204.0	150.0
DN 25	1	96.0	205.0	160.0
DN 32	2	164.0	292.0	180.0
DN 40	2	164.0	301.0	200.0
DN 50	2	164.0	308.0	230.0
DN 65	2	164.0	320.0	290.0
DN 80	2	164.0	332.0	310.0
DN 100	2	164.0	346.0	350.0

Dimensions in mm

Dimensions for EN 1092 / PN 16 / form B (code 8) flange connection type and EN-GJL-250 body material (code 8)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 CONEXO

GEMÜ 354

Pneumatically operated multi-port globe valve

The GEMÜ 354 3/2-way globe valve has a rugged 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. 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

- Simple adaptation for use as a control valve
- Seat seal made of PTFE or PTFE/fibreglass
- 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

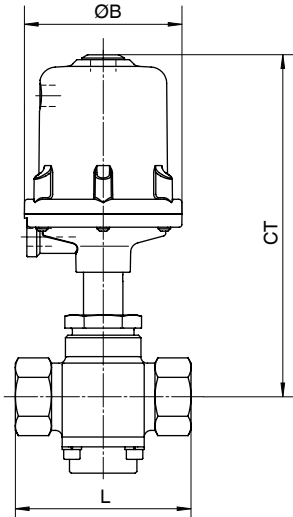
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GW-354



Installation dimensions (extract)



Nominal size	Actuator size	ØB	CT	L
DN 15	1	96.0	203.0	75.0
DN 20	1	96.0	207.0	87.0
DN 25	1	96.0	207.0	107.0
DN 32	2	168.0	306.0	123.0
DN 40	2	168.0	306.0	147.0
DN 50	2	168.0	310.0	171.0

Dimensions in mm

Dimensions for DIN ISO 228 threaded socket (code 1) connection type and CC499K body material, cast bronze material (code 9)

Order example




- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seat seal
- 7 Control function
- 8 Actuator version
- 9 CONEXO

Order data for GEMÜ 312, 314, 352 and 354

Order example for GEMÜ 354

354	15	M	1	9	5	1	1	
1	2	3	4	5	6	7	8	9



configure online

1 Type
2 DN
3 Body configuration
4 Connection type
5 Valve body material

6 Seat seal
7 Control function
8 Actuator version
9 CONEXO

Order codes

1 Type	Code
Multi-port globe valve, pneumatically operated, aluminium piston actuator, body with flange connection	312
Multi-port globe valve, pneumatically operated, aluminium piston actuator, body with threaded connection	314
Multi-port globe valve, pneumatically operated, plastic piston actuator	352
Multi-port globe valve, pneumatically operated, plastic piston actuator	354

2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100

3 Body configuration	Code
Multi-port version	M

4 Connection type	Code
Threaded socket DIN ISO 228	1
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	39
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8

5 Valve body material	Code
1.4408, investment casting	37
EN-GJL-250 (GG 25)	8

5 Continuation of Valve body material	Code
CC499K, cast bronze	9

6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
PTFE seat, EPDM O-ring	5E
PTFE seat seal, FPM O-ring	5F

7 Control function	Code
Manually operated	0
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3
Manually operated, with handwheel clamp	L

8 Actuator version	Code
For GEMÜ 312	
Actuator size 1	1
Actuator size 2	2
For GEMÜ 314	
Actuator size 1	1
Actuator size 2	2
For GEMÜ 352	
Actuator size 1	1
Actuator size 2	2
For GEMÜ 354	
Actuator size 1	1
Actuator size 2	2
For GEMÜ 553	
Actuator size 0, under the seat, manual, plastic handwheel	0GM
Actuator size 0, under the seat, pneumatic, stainless steel	0GS

8 Continuation of Actuator version	Code
Actuator size 0, over the seat, manual, plastic handwheel	0MM
Actuator size 0, over the seat, pneumatic, stainless steel	0MS
Actuator size 1, under the seat, manual, plastic handwheel	1GM
Actuator size 1, under the seat, pneumatic, plastic	1GP
Actuator size 1, under the seat, pneumatic, stainless steel	1GS
Actuator size 1, over the seat, manual, plastic handwheel	1MM
Actuator size 1, over the seat, pneumatic, plastic	1MP
Actuator size 1, over the seat, pneumatic, stainless steel	1MS
Actuator size 2, under the seat, pneumatic, stainless steel	2GS
9 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C

GEMÜ 553

Modular distribution valve

The modular GEMÜ 553 distribution valve comprises various globe valve modules. These can be equipped with manual or pneumatic 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:	-10 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:	ATEX

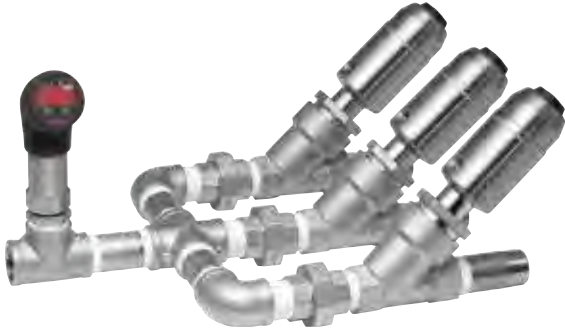
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GW-553



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

Order data for GEMÜ 553

Order example

553	15	M	1	37	5F	1	OGS	20	E	S	C
1	2	3	4	5	6	7	8	9	10	11	12



1 Type	6 Seat seal	11 Length
2 DN	7 Control function	12 CONEXO
3 Body configuration	8 Actuator version	
4 Connection type	9 DN 2	
5 Valve body material	10 Seat diameter	

Order codes

1 Type	Code
Modular multi-port globe valve	553
2 DN	Code
DN 20	20
DN 15	15
3 Body configuration	Code
Multi-port	M
4 Connection type	Code
Threaded socket DIN ISO 228	1
Threaded socket NPT	3D
5 Valve body material	Code
1.4408, investment casting	37
6 Seat seal	Code
PTFE seat seal, FPM O-ring	5F
7 Control function	Code
Normally Closed (NC)	1
Manually operated	0
Normally Open (NO)	2
Double Acting (DA)	3
Manually operated, with handwheel clamp	L
8 Actuator version	Code
Actuator size 0, under the seat, manual, plastic handwheel	0GM
Actuator size 0, under the seat, pneumatic, stainless steel	OGS
Actuator size 0, over the seat, manual, plastic handwheel	0MM

8 Continuation of Actuator version	Code
Actuator size 0, over the seat, pneumatic, stainless steel	0MS
Actuator size 1, under the seat, pneumatic, plastic	1GP
Actuator size 1, under the seat, pneumatic, stainless steel	1GS
Actuator size 1, over the seat, pneumatic, plastic	1MP
Actuator size 1, over the seat, pneumatic, stainless steel	1MS
9 DN 2	Code
DN 20	20
10 Seat diameter	Code
15 mm	G
10 mm	E
11 Length	Code
Long	L
Short	S
12 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

GEMÜ P500M

Stainless steel multi-port globe valve block

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/seat.

Features

- Compact design saves space
- 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

Add-on components for globe valves

GEMÜ type	312	314	352	354	514	530	532
Measurement and control systems							
Electrical position indicators							
GEMÜ 1201 / 1211 / 1214 ▶ page 414	•	•			•	•	•
GEMÜ 1205 ▶ page 416	•	•			•	•	
GEMÜ 1215 ▶ page 410	•	•			•	•	•
GEMÜ 1230 / 1231 / 1232 ▶ page 412	•	•	•	•	•	•	•
GEMÜ 1234 ▶ page 418						•	•
GEMÜ 1235 / 1236 ▶ page 420	•	•	•	•	•	•	•
GEMÜ 1242 ▶ page 422					•	•	•
Combi switchboxes							
GEMÜ 4240 ▶ page 432						•	
GEMÜ 4241 ▶ page 434							
GEMÜ 4242 ▶ page 436	•	•			•	•	•
Pilot valves							
GEMÜ 0324 ▶ page 445	•	•	•	•	•	•	•
Control systems							
Positioners							
GEMÜ 1434 µPos ▶ page 390	•	•	•	•	•	•	•
GEMÜ 1435 ePos ▶ page 394	•	•	•		•	•	•
Positioner and process controller							
GEMÜ 1436 cPos ▶ page 396	•	•	•	•	•	•	•
Accessories							
Connection accessories ▶ page 489	•	•	•	•	•	•	•
Clamping devices ▶ page 492							
Manual overrides ▶ page 495	•	•			•	•	•
Stroke limiters ▶ page 494	•	•	•	•	•	•	•
Sensor accessories ▶ page 496	•	•	•	•	•	•	•
Position indicators ▶ page 493	•	•	•	•	•	•	•

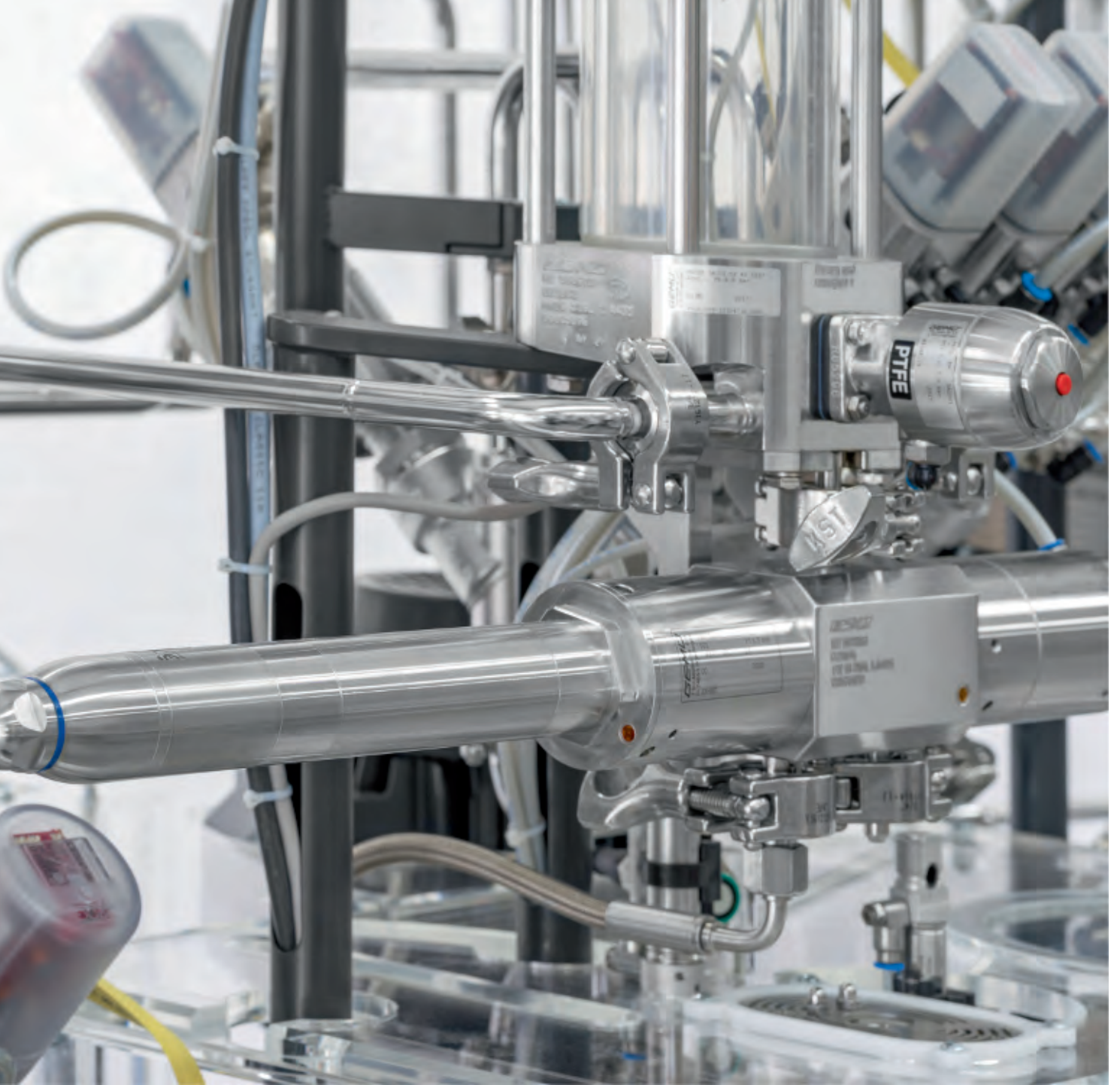
GEMÜ valves are fully assembled in our in-house Assembly department – with compatible accessories on request.



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



GEMÜ type	534	536	550	553	554	555
Measurement and control technology						
Electrical position indicators						
GEMÜ 1201 / 1211 / 1214 ▶ page 414	•	•	•		•	•
GEMÜ 1205 ▶ page 416	•	•	•		•	
GEMÜ 1215 ▶ page 410	•		•	•	•	•
GEMÜ 1230 / 1231 / 1232 ▶ page 412	•		•		•	•
GEMÜ 1234 ▶ page 418	•		•	•	•	
GEMÜ 1235 / 1236 ▶ page 420	•	•	•		•	•
GEMÜ 1242 ▶ page 422	•	•	•		•	
Combi switchboxes						
GEMÜ 4240 ▶ page 432	•		•		•	
GEMÜ 4241 ▶ page 434			•		•	
GEMÜ 4242 ▶ page 436	•	•	•		•	•
Pilot valves						
GEMÜ 0324 ▶ page 445	•	•	•		•	•
Control systems						
Positioners						
GEMÜ 1434 µPos ▶ page 390	•		•		•	•
GEMÜ 1435 ePos ▶ page 394	•	•	•		•	•
Positioner and process controller						
GEMÜ 1436 cPos ▶ page 396	•	•	•		•	•
Accessories						
Connection accessories ▶ page 489	•	•	•		•	•
Clamping devices ▶ page 492			•			
Manual overrides ▶ page 495	•	•	•		•	
Stroke limiters ▶ page 494	•	•	•		•	•
Sensor accessories ▶ page 496	•	•	•		•	•
Position indicators ▶ page 493	•	•	•	•	•	



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 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 M-block system.

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

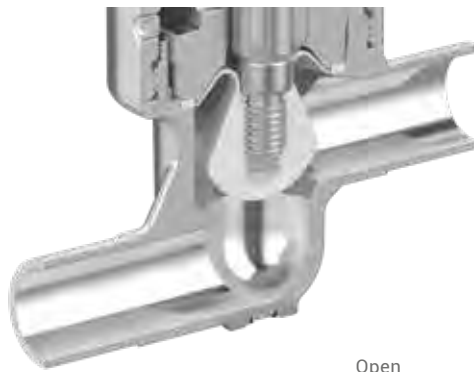
- Inert and corrosive media
- Liquids and gases

Applications

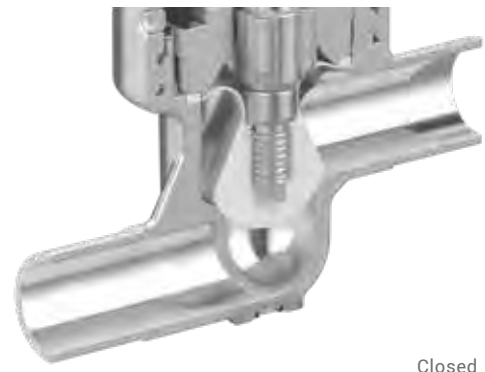
- Dosing at minimum quantities
- Suitable for media containing oil or grease
- Isolation of sensitive process media
- All types of media for filling machines (vacuum, liquid, gaseous)
- Filling processes in hygienic and aseptic plants in the pharmaceutical, biotechnology, food and beverage industries



Functional principle of diaphragm globe valves



Open



Closed

Diaphragm globe valves are based on an innovative seal system that GEMÜ has developed to combine the advantages of diaphragm valves with those of globe valves. Fast cycle duties and high switching frequencies can be achieved due to the basic design similar to that of a globe valve. Thanks to a cone-shaped diaphragm as a seal, the actuator is hermetically separated from the medium – as with diaphragm valves.

We also designate this patented seal as a PD (plug diaphragm). The flexible PD is compressed onto the valve seat for sealing. This allows the valve body to be perfectly adjusted to the PD. In addition to the traditional cone-shaped PD, various PDs with control geometry are also available, which also makes this product group ideal for precise control tasks.

Modular system for diaphragm 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



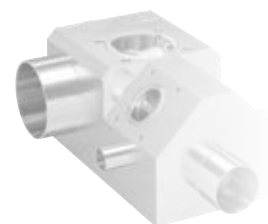
Plug diaphragm

PTFE/PFA/1.4435



Bodies



2/2-way body | Angle valve body | Multi-port body



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

Manually operated diaphragm globe valves

Overview

GEMÜ type	567 BioStar control	C57 iComLine
		
Nominal sizes	DN 8 to 25	DN 4 to 25
Media temperature	-10 to 160 °C	-10 to 150 °C
Sterilization temperature	Max. 160 °C	Not sterilizable
Operating pressure	0 to 10 bar	0 to 6 bar
Connection types		
Clamp	●	-
Flare	-	●
PrimeLock®	-	●
Spigot	●	-
Super 300 Type Pillar®	-	●
Body materials		
1.4435 (316L)	●	-
1.4435 (BN2)	●	-
PFA	-	●
PTFE	-	●
Conformities		
3A	●	-
ATEX	●	-
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 567 BioStar control

Manually operated control valve

The GEMÜ 567 BioStar Control 2/2-way diaphragm globe valve is designed for use in sterile applications. Flow rates range from 80 l/h to 12,500 l/h, depending on the version. The sealing concept of the valve is based on the GEMÜ PD design. All actuator parts (except the seals) are made from stainless steel.

Features

- Hermetic separation between medium and actuator due to PD sealing technology
- Easy, fast, and error-optimized maintenance
- Actuator can be replaced under operating pressure without contaminating the medium
- FDA compliant as standard and suitable for contact with food according to Regulation (EC) No. 1935/2004
- Highly suitable for precise control applications



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 25
Body configurations:	Angle valve body Multi-port body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435 (316L), block material 1.4435 (BN2), block material
Seal materials:	1.4435/FKM/PTFE PTFE
Conformities:	3A ATEX FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

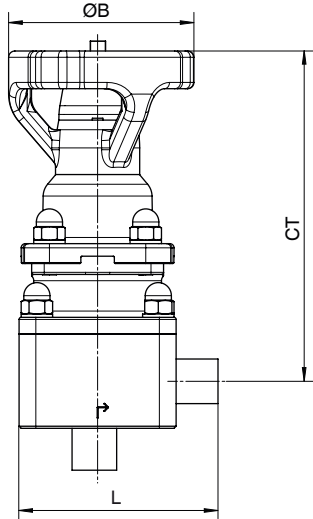
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GW-567



Installation dimensions (extract)



Nominal size	Seat size	ØB	CT	L
DN 15	A	90.0	153.2	95.0
	B	90.0	153.2	95.0
	C	90.0	153.2	95.0
	D	90.0	153.2	95.0
DN 20	A	90.0	156.4	100.0
	B	90.0	156.4	95.0
	C	90.0	156.4	95.0
	D	90.0	156.4	95.0
	E	90.0	156.4	95.0
DN 25	G	90.0	156.4	95.0
	H	114.0	214.4	120.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 41)

Order example without bypass

567		E	17	41	5	0		G	DH	1536	M	
1	2	3	4	5	6	7	8	9	10	11	12	13



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 Control characteristic
- 10 Kv value

- 11 Special specification
- 12 Special version
- 13 CONEXO

Order example with bypass

567		M	59	41	45	0		G	AA	S0	SF1		C
1	2	3	4	5	6	7	8	9	10	11	12	13	14



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 Control characteristic
- 10 Kv value

- 11 Bypass actuator version
- 12 Special specification
- 13 Special version
- 14 CONEXO

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 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
Nominal sizes:	1/4" (DN 4) to 1 1/4" (DN 25)
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

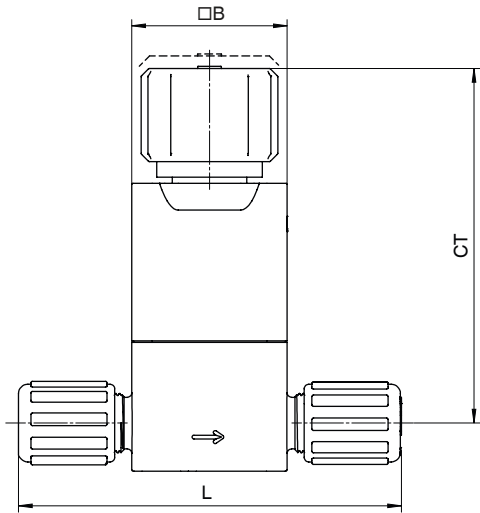
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GW-C57



Installation dimensions (extract)



Nominal size	Actuator version	B	CT	L
1/4"	1A1	37.0	106.0	98.0
3/8"	1A1	37.0	106.0	105.0
1/2"	2A1	50.0	130.0	122.0
3/4"	3A1	58.0	155.0	135.0
1"	4A1	85.0	178.5	184.0
1 1/4"	4A1	85.0	178.5	194.0

Dimensions in mm

Dimensions for Flare connection type (code 73) and PFA body material (code 30)

Order example



- 1 Type
- 2 Connection size
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 High Purity version

Pneumatically operated diaphragm globe valves

Overview

GEMÜ type	567 BioStar control	F40	C50 iComLine
			
Nominal sizes	DN 8 to 25	DN 8 to 25	DN 4 to 25
Media temperature	-10 to 160 °C	-10 to 140 °C	-10 to 150 °C
Sterilization temperature	Max. 160 °C	max. 140 °C	Not sterilizable
Operating pressure	0 to 10 bar	0 to 7 bar	0 to 6 bar
Connection types			
Clamp	•	•	-
Flare	-	-	•
PrimeLock®	-	-	•
Spigot	•	•	-
Super 300 Type Pillar®	-	-	•
Body materials			
1.4435	-	•	-
1.4435 (316L)	•	•	-
1.4435 (BN2)	•	-	-
PFA	-	-	•
PTFE	-	-	•
Conformities			
3A	•	•	-
ATEX	•	•	-
EAC	-	-	•
EHEDG	-	•	-
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 567 BioStar control

Pneumatically operated control valve

The GEMÜ 567 BioStar Control 2/2-way diaphragm globe valve is designed for use in sterile applications. Flow rates range from 80 l/h to 12,500 l/h, depending on the version. The sealing concept of the valve is based on the GEMÜ PD design. All actuator parts (except the seals) are made from stainless steel. Normally Closed, Normally Open and Double Acting control functions are available.

Features

- Hermetic separation between medium and actuator due to PD sealing technology
- Easy, fast, and error-optimized maintenance
- Actuator can be replaced under operating pressure without contaminating the medium
- FDA compliant as standard and suitable for contact with food according to Regulation (EC) No. 1935/2004
- Highly suitable for precise control applications



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 25
Body configurations:	Angle valve body Multi-port body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435 (316L), block material 1.4435 (BN2), block material
Seal materials:	1.4435/FKM/PTFE PTFE
Conformities:	3A ATEX FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

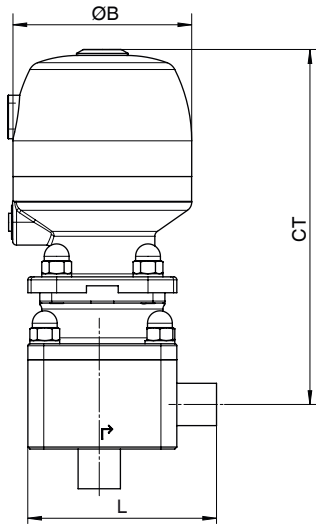
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GW-567



Installation dimensions (extract)



Nominal size	Seat size	ØB	CT	L
DN 15	A	90.0	188.2	95.0
	B	90.0	188.2	95.0
	C	90.0	188.2	95.0
	D	90.0	188.2	95.0
DN 20	A	90.0	191.4	100.0
	B	90.0	191.4	95.0
	C	90.0	191.4	95.0
	D	90.0	191.4	95.0
	E	90.0	191.4	95.0
DN 25	G	90.0	191.4	95.0
	H	114.0	220.4	120.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 41)

Order example without bypass

567		E	17	41	5	2		G	EJ	1537	M	
1	2	3	4	5	6	7	8	9	10	11	12	13



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 Control characteristic
- 10 Kv value

- 11 Special specification
- 12 Special version
- 13 CONEXO

Order example with bypass

567		M	59	41	43	2		G	BD	11	SF5		C
1	2	3	4	5	6	7	8	9	10	11	12	13	14



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 Control characteristic
- 10 Kv value

- 11 Bypass actuator version
- 12 Special specification
- 13 Special version
- 14 CONEXO

GEMÜ F40

Pneumatically operated filling valve

The GEMÜ F40 2/2-way filling valve is designed for filling processes in aseptic and hygienic applications. Flow rates up to 18.500 l/h are possible depending on the version. The sealing concept of the valve is based on the GEMÜ PD design, whereby the actuator is hermetically separated from the medium. All actuator parts (except the seals) are made from stainless steel. Normally Closed and Normally Open control functions are available.

Features

- Hermetic separation between medium and actuator due to PD sealing technology
- Long service life with over 10 million cycle duties
- Designed according to Hygienic Design guidelines and EHEDG certified
- FDA compliant as standard and suitable for contact with food according to Regulation (EC) No. 1935/2004
- Very fast and easy maintenance thanks to quick locking system and innovative cartridge spare parts system
- Suitable for vacuum up to 20 mbar (a)



Technical specifications

Media temperature:	-10 to 140 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 7 bar
Nominal sizes:	DN 8 to 25
Body configurations:	2/2-way body Multi-port body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN
Body materials:	1.4435 (316L), block material 1.4435, investment casting material
Seal materials:	PTFE
Conformities:	3A ATEX EHEDG FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

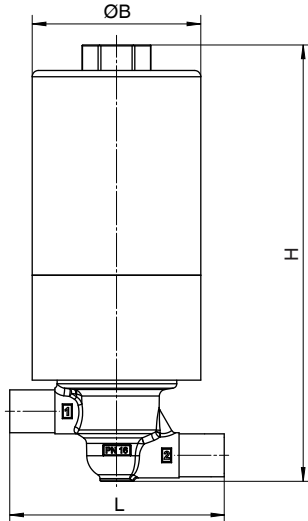
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GW-F40



Installation dimensions (extract)



Nominal size	ØB	H	L
DN 8	40.8	117.1	82.0
DN 15	53.0	131.2	95.0
DN 20	53.0	134.2	95.0
DN 25	76.0	200.5	131.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code C3)

Order example

F40		D	59	C3	5	3	1			1502	H	M
1	2	3	4	5	6	7	8	9	10	11	12	13



configure online

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Valve body adaptor
- 8 Control function
- 9 Actuator version
- 10 Bypass

- 11 Surface
- 12 Seat diameter
- 13 Special version

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 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
Nominal sizes:	1/4 " (DN 4) to 1 1/4 " (DN 25)
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

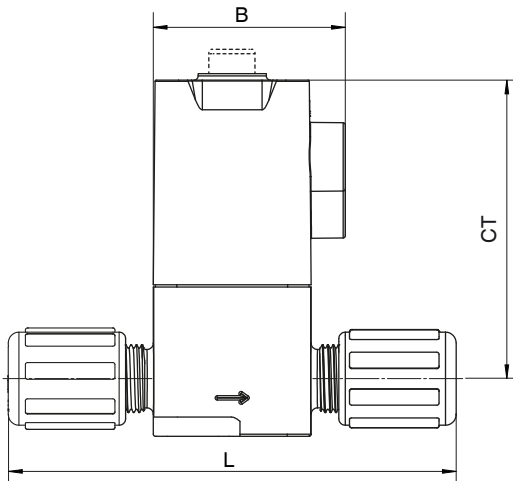
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GW-C50



Installation dimensions (extract)



Nominal size	Actuator version	B	CT	L
1/4"	0A1	26.6	46.0	84.0
3/8"	1A1	45.5	85.0	105.0
1/2"	1A1	45.5	85.0	110.0
3/4"	2A1	57.0	108.0	128.0
1"	3A1	62.0	143.5	155.0
1"	4A1	86.0	184.0	184.0
1 1/4"	4A1	86.0	184.0	194.0

Dimensions in mm

Dimensions for Flare connection type (code 73) and PFA body material (code 30)

Order example

C50		D	75	30	5	1		HPW
1	2	3	4	5	6	7	8	9






- 1 Type
- 2 Connection size
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 High Purity version

Motorized diaphragm globe valves

Overview

GEMÜ type	567 eSyDrive	567 servoDrive	F60 servoDrive
			
Nominal sizes	DN 8 to 20	DN 8 to 20	DN 8 to 25
Media temperature	-10 to 160 °C	-10 to 160 °C	-10 to 140 °C
Sterilization temperature	Max. 160 °C	Max. 160 °C	max. 140 °C
Operating pressure	0 to 10 bar	0 to 7 bar	0 to 7 bar
Supply voltage	24 V DC	48 V DC	48 V DC
Actuating speed	max. 6 mm/s	Max. 280 mm/s	Max. 200 mm/s
Connection types			
Clamp	•	•	•
Spigot	•	•	•
Body materials			
1.4435	-	-	•
1.4435 (316L)	•	•	-
1.4435 (BN2)	•	•	-
Conformities			
3A	•	•	•
ATEX	•	-	-
EHEDG	-	-	•
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 567 eSyDrive

Aseptic control valve with motorized eSyDrive actuator

The GEMÜ 567 2/2-way diaphragm globe valve is motorized. It can be operated with two actuators (GEMÜ eSyDrive or servoDrive). The GEMÜ eSyDrive hollow shaft actuator can be operated as an ON/OFF actuator or as an actuator with an integrated positioner or process controller. An integral optical and electrical position indicator is standard.

Features

- Easy, fast, and error-optimized maintenance
- Actuator can be replaced under operating pressure without contaminating the medium
- Open/close function, positioner and process controller
- Force and speed are variably adjustable
- Diagnostic functions
- Operable via web interface eSy-Web or Modbus TCP
- Highly suitable for precise control applications
- 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 20
Body configurations:	Angle valve body Multi-port body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435 (316L), block material 1.4435 (BN2), block material
Seal materials:	1.4435/FKM/PTFE PTFE
Supply voltage:	24 V DC
Actuating speed:	max. 6 mm/s
Protection class:	IP 65
Conformities:	3A ATEX FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

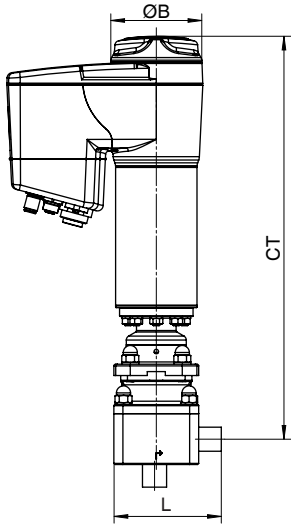
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GW-567



Installation dimensions (extract)



Nominal size	Seat size	ØB	CT	L
DN 15	A	82.0	215.2	95.0
	B	82.0	215.2	95.0
	C	82.0	215.2	95.0
	D	82.0	215.2	95.0
DN 20	A	82.0	218.4	100.0
	B	82.0	218.4	95.0
	C	82.0	218.4	95.0
	D	82.0	218.4	95.0
	E	82.0	218.4	95.0
	F	82.0	218.4	95.0
	G	82.0	218.4	95.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 41)

Order example

567		E	59	41	4		L0	L	BE	1536			C
1	2	3	4	5	6	7	8	9	10	11	12	13	14



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Voltage / Frequency
- 8 Control module
- 9 Control characteristic
- 10 Kv value

- 11 Type of design
- 12 Actuator+interface
- 13 Special version
- 14 CONEXO

GEMÜ 567 servoDrive

Aseptic control valve with motorized ServoDrive actuator

The GEMÜ 567 is a motorized 2/2-way diaphragm globe valve. It can be operated with two actuators (GEMÜ eSyDrive or servoDrive). The servoDrive actuator can be used for extremely precise and fast control and filling processes in aseptic and hygienic applications.

Features

- Precise quantity control
- Hermetic separation between medium and actuator due to PD design
- Easy, fast, and error-optimized maintenance
- Actuator can be replaced under operating pressure without contaminating the medium
- Flexible and fast program changes thanks to freely programmable filling curves
- Can be activated in real time



Technical specifications

Media temperature:	-10 to 160 °C
Ambient temperature:	0 to 40 °C
Operating pressure :	0 to 7 bar
Nominal sizes:	DN 8 to 20
Body configurations:	Angle valve body Multi-port body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN ISO
Body materials:	1.4435 (316L), block material 1.4435 (BN2), block material
Seal materials:	1.4435/FKM/PTFE PTFE
Supply voltage:	48 V DC
Actuating speed:	Max. 280 mm/s
Protection class:	IP 69K
Conformities:	3A FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

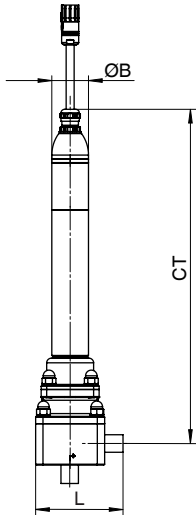
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GW-567



Installation dimensions (extract)



Nominal size	Seat size	ØB	CT	L
DN 15	A	40.0	163.2	95.0
	B	40.0	163.2	95.0
	C	40.0	163.2	95.0
	D	40.0	163.2	95.0
DN 20	A	40.0	166.4	100.0
	B	40.0	166.4	95.0
	C	40.0	166.4	95.0
	D	40.0	166.4	95.0
	E	40.0	166.4	95.0
	G	40.0	166.4	95.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code 41)

Order example

567		E	59	41	4		L0		L	BE	1536			C
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Voltage / Frequency
- 8 Control module
- 9 Cable length
- 10 Control characteristic

- 11 Kv value
- 12 Type of design
- 13 Actuator+interface
- 14 Special version
- 15 CONEXO

GEMÜ F60 servoDrive Motorized filling valve

The GEMÜ F60 motorized 2/2-way filling valve is designed for extremely precise and fast filling processes in aseptic and hygienic areas of application. GEMÜ F60 enables activation in real time, ultra-quick load cycles and high flow rates of up to 18.500 l/h. The sealing concept of the valve is based on the GEMÜ PD design, whereby the actuator is hermetically separated from the medium. All actuator parts (except the seals) are made from stainless steel.

Features

- Hermetic separation between medium and actuator due to PD sealing technology
- Long service life with over 10 million cycle duties
- Flexible and fast program changes thanks to freely programmable filling curves
- Fast filling cycles (less than 400 ms) possible
- Designed according to Hygienic Design guidelines and EHEDG certified
- FDA compliant as standard and suitable for contact with food according to Regulation (EC) No. 1935/2004
- Very fast and easy maintenance thanks to quick locking system and innovative cartridge spare parts system



Technical specifications

Media temperature:	-10 to 140 °C
Ambient temperature:	-10 to 60 °C
Operating pressure :	0 to 7 bar
Nominal sizes:	DN 8 to 25
Body configurations:	2/2-way body Multi-port body
Connection types:	Clamp Spigot
Connection standards:	ASME DIN EN
Body materials:	1.4435, investment casting material
Seal materials:	PTFE
Supply voltage:	48 V DC
Actuating speed:	Max. 200 mm/s
Protection class:	IP 69K
Conformities:	3A EHEDG FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

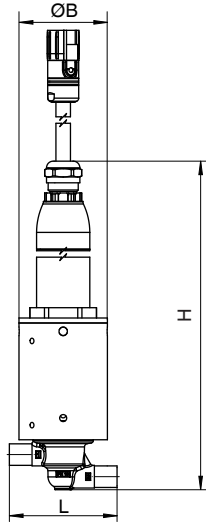
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GW-F60



Installation dimensions (extract)



Nominal size	ØB	H	L
DN 8	40.8	326.2	82.0
DN 15	53.0	352.1	95.0
DN 20	53.0	352.1	95.0
DN 25	76.0	444.0	131.0

Dimensions in mm

Dimensions for ASME BPE connection type (code 59) and 1.4435 body material (code C3)

Order example

F60		D	59	C3	5	3	3	D1	LN	3	1502	H	M
1	2	3	4	5	6	7	8	9	10	11	12	13	14



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material


- 6 Seal material
- 7 Valve body adaptor
- 8 Electric actuator size
- 9 Voltage/frequency
- 10 Control module

- 11 Cable length
- 12 Surface
- 13 Seat diameter
- 14 Special version

Order data for GEMÜ 567 BioStar control

Order example

567	15	M	17	41	55		L0	G	G1	S0		1536	M	C
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15



1 Type	6 Seal material	11 Bypass actuator version
2 DN	7 Voltage / Frequency	12 Actuator+interface
3 Body configuration	8 Control module	13 Surface
4 Connection type	9 Control characteristic	14 Special version
5 Valve body material	10 Kv value	15 CONEXO

Order codes

1 Type	Code
Control valve	567
2 DN	Code
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 8	8
3 Body configuration	Code
2-way angle body	E
2-way angle body with bypass	M
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot ASME BPE / DIN 11866 series C	59
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
Clamp	
Clamp DIN 32676 series B	82
Clamp DIN 32676 series A	86
Clamp ASME BPE	88
5 Valve body material	Code
1.4435 (316L), block material	41
1.4435 (BN2), block material, Δ Fe < 0.5%	43
6 Seal material	Code
Actuator seal PTFE / seat seal FKM	4
Actuator seal PTFE / seat seal FKM / bypass seal EPDM bypass diaphragm code 13	43

6 Continuation of Seal material	Code
Actuator seal PTFE / seat seal FKM / bypass seal PTFE bypass diaphragm code 54	45
Actuator seal PTFE / seat seal FKM / bypass seal EPDM bypass diaphragm code 17	47
Actuator seal PTFE / seat seal PTFE	5
Actuator seal PTFE / seat seal PTFE / bypass seal PTFE bypass diaphragm code 54	55
7 Control function	Code
For GEMÜ 567 with manual actuator	
Manually operated (MO)	0
For GEMÜ 567 with pneumatic actuator	
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3
8 Actuator version	Code
For GEMÜ 567 with manual actuator	
Actuator size 2, stainless steel handwheel, with seal adjuster and stroke limiter, locking device to prevent opening/closing, mounting for proximity switches M 8x1	2 MB
Actuator size 2, stainless steel handwheel, with seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M 8x1	2MF
Actuator size 2, stainless steel handwheel, with seal adjuster and stroke limiter	2MH

8 Continuation of Actuator version	Code
Actuator size 2, stainless steel handwheel, with seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M 8x1	2MK
Actuator size 2, stainless steel handwheel, without seal adjuster and stroke limiter	2MN
Actuator size 2, plastic handwheel, with seal adjuster and stroke limiter, locking device to prevent opening/closing, mounting for proximity switches M 8x1	2SB
Actuator size 2, plastic handwheel, with seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M 8x1	2SF
Actuator size 2, plastic handwheel, with seal adjuster and stroke limiter	2SH
Actuator size 2, plastic handwheel, with seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M 8x1	2SK
Actuator size 2, plastic handwheel, without seal adjuster and stroke limiter	2SN
For GEMÜ 567 with pneumatic actuator	
Actuator size 2, pneumatically operated	2T1
Actuator size 3, pneumatically operated	3T1
9 Voltage / Frequency	Code
For GEMÜ 567 with motorized actuator	
10 Control module	Code
For GEMÜ 567 with motorized actuator	
OPEN/CLOSE, positioner and process controller	L0
11 Control characteristic	Code
Modified equal-percentage	G
Linear	L
12 Kv value	Code
80 l/h	AA
100 l/h	AB
160 l/h	BC

12 Continuation of Kv value	Code
250 l/h	BD
400 l/h	BE
630 l/h	CF
1.0 m³/h	CG
1.6 m³/h	DH
2.6 m³/h	EJ
4.1 m³/h	G1
8.0 m³/h	H2
12.5 m³/h	J3

13 Bypass actuator version	Code
Pneumatically operated, normally closed, diaphragm size 8,	11
Manually operated, with seal adjuster, diaphragm size 8,	S0

14 Actuator+interface	Code
For GEMÜ 567 with motorized actuator	

15 Surface	Code
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 HE5, electropolished internal/external, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1516
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1527
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal	1536
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically polished internal	SF1
Ra max. 0.38 µm (15 µin.) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF5, electropolished internal/external	SF5

Order data for GEMÜ 567 BioStar control

16 Special version	Code
Special version for 3A	M

17 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C

Order data for GEMÜ C50 and C57 iComLine

Order example for GEMÜ C57 iComLine

C57	8	D	75	30	5	0	2A1	HPW
1	2	3	4	5	6	7	8	9



- 1 Type
- 2 Connection size
- 3 Body configuration
- 4 Connection type
- 5 Valve body material
- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 High Purity version

Order codes


1 Type	Code
Plastic globe valve	C50
Plastic globe valve	C57
2 Connection size	Code
1/4", international code: 4	4
3/8", international code: 6	6
1/2", international code: 8	8
3/4", international code: 12	12
1", international code: 16	16
1 1/4", international code: 20	20
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Flare connection with CPFA union nut	73
Flare connection with PVDF union nut	75
Flare connection with PFA union nut	77
Super 300 type Pillar connection	79
PrimeLock connection	PL
5 Valve body material	Code
PTFE, polytetrafluoroethylene	26
PFA, perfluoroalkoxy	30
6 Seal material	Code
PTFE	5
7 Control function	Code
For GEMÜ C57	
Manually operated	0
For GEMÜ C50	
Normally Closed (NC)	1
Normally Open (NO)	2

8 Actuator version	Code
For GEMÜ C50	
Actuator size 0, seat diameter 2.48 mm, with optical position indicator	0A1
For GEMÜ C50 and C57	
Actuator size 1, seat diameter 6.38 mm, with optical position indicator	1A1
Actuator size 2, seat diameter 9.55 mm, with optical position indicator	2A1
Actuator size 3, seat diameter 15.80 mm	3A1
Actuator size 4, seat diameter 22.25 mm	4A1
9 High Purity version	Code
High Purity white	HPW

Order data for GEMÜ F40 and F60

Order example for GEMÜ F40

F40	15	D	17	C3	5	3	1	0N	70	1502	H	M
1	2	3	4	5	6	7	8	9	10	11	12	13



1 Type	6 Seal material	11 Surface
2 DN	7 Valve body adaptor	12 Seat diameter
3 Body configuration	8 Control function	13 Special version
4 Connection type	9 Actuator version	
5 Valve body material	10 Bypass	

Order codes

1 Type	Code
Stainless steel PD valve, pneumatic	F40
Stainless steel PD valve, motorized	F60
2 DN	Code
DN 15	15
DN 20	20
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot ASME BPE / DIN 11866 series C	59
Clamp	
Clamp DIN 32676 series A	86
Clamp ASME BPE	88
5 Valve body material	Code
1.4435, investment casting	C3
6 Seal material	Code
PTFE	5
7 Valve body adaptor	Code
Adaptor for PD size 3	3
8 Control function	Code
For GEMÜ F40	
Normally closed (NC)	1
Normally open (NO)	2

9 Actuator version	Code
For GEMÜ F40	
Actuator without accessories, with standard spring set	0N
Actuator with M12x1 thread for accessories with standard spring set	1N
10 Electric actuator size	Code
For GEMÜ F60	
F60 with external dia. 32.0 mm	3
11 Voltage/frequency	Code
For GEMÜ F60	
48 V DC	D1
12 Control module	Code
For GEMÜ F60	
OPEN/CLOSE, positioner and process controller with CANopen, Profinet, Ethernet IP, EtherCAT interface	LN
13 Cable length	Code
For GEMÜ F60	
3.0 m	3
14 Bypass	Code
On request	
15 Surface	Code
Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1502
17 Special version	Code
Special version for 3A	M

M-block diaphragm globe valves

GEMÜ P500M

M-block diaphragm globe valve for filling processes

The GEMÜ P500M stainless steel M-block valve for filling processes, comprises one or more diaphragm globe valves. You can choose between manual, pneumatic and motorized versions. The downstream media is isolated at the valve seat of a diaphragm globe valve using a plug diaphragm (PD). This allows a hermetic separation between the actuator and the medium and ensures very good control accuracy.

Features

- Compact design saves space
- Individual, customized and flexible design
- Fewer connection points and weld seams
- Huge variety of functions combined in the smallest of spaces
- Resistant sealing from modified PTFE (TFM™) – no retightening required
- Quick and easy maintenance thanks to cartridge spare parts system
- Suitable for fast and high cycle duties
- Highly suitable for control applications
- Wide range of adaptation options from measurement and control systems, in addition to accessories



Technical specifications

Media temperature:	-10 to 140 °C
Ambient temperature:	-10 to 60 °C
Sterilization temperature:	max. 140 °C
Operating pressure :	0 to 7 bar
Nominal sizes:	DN 6 to 25
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
Seal materials:	PTFE TFM™
Conformities:	FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 Regulation (EC) No. 2023/2006 USP

GEMÜ PC50 iComLine

M-block diaphragm globe valve for ultra pure applications

The purity of the process media used in many high-tech areas is increasingly decisive for the quality and quantity of the products. In order to offer our customers from this sector a flexible and cost-effective solution that also saves space, we focus on our plastic M-block systems. Due to their individual design, they can combine a wide variety of functions in the smallest of spaces. The GEMÜ PC50 iComLine actuators are based on the GEMÜ C50, C51 and C57 iComLine valve types. These are suitable for many areas of application with selection of the appropriate plastic material.

Features

- Fully-integrated system solutions (valve functions, fittings, sensor system, check valves, tank/housing walls)
- Compact design, low space requirement, logistical advantage, reduction of installation time, few connection points, low-maintenance and cost-effective
- Materials are media-specific, matched to requirements and cost-effective
- Cleanroom manufacturing (HP version), complies with SEMI F 57



Technical specifications

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 PrimeLock® Super 300 Type Pillar® Threaded connection Threaded socket Union end Yodogawa Nano Link
Body materials:	PP PTFE TFM™ PVC PVDF Stainless steel
Seal materials:	PTFE
Conformities:	META-Daten fehlen

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GW-PC50



Add-on components for diaphragm globe valves

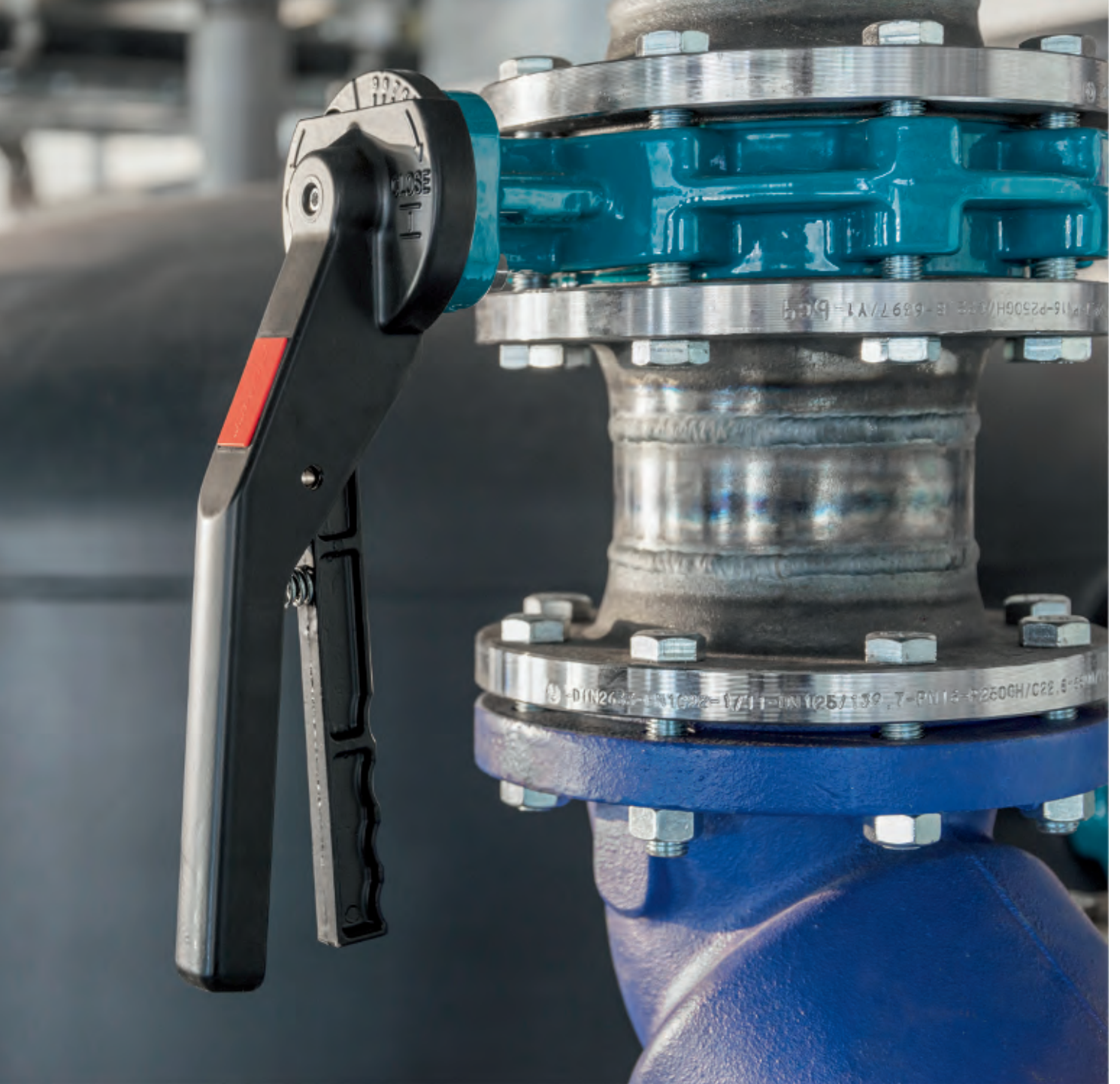
GEMÜ type	567	C50	F40
Measurement and control technology			
Electrical position indicators			
GEMÜ 1201 / 1211 / 1214 ▶ page 414			•
GEMÜ 1205 ▶ page 416			•
GEMÜ 1215 ▶ page 410		•	
GEMÜ 1230 / 1231 / 1232 ▶ page 412		•	•
GEMÜ 1234 ▶ page 418		•	•
GEMÜ 1235 / 1236 ▶ page 420		•	•
GEMÜ 1242 ▶ page 422			•
Combi switchboxes			
GEMÜ 4242 ▶ page 436			•
Pilot valve			
GEMÜ 0324 ▶ page 445		•	
Control systems			
Positioners			
GEMÜ 1434 µPos ▶ page 390	•	•	•
GEMÜ 1435 ePos ▶ page 394	•		
Positioner and process controller			
GEMÜ 1436 cPos ▶ page 396	•	•	•
Accessories			
Connection accessories ▶ page 489		•	
Stroke limiters ▶ page 494		•	•
Sensor accessories ▶ page 496			•

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 also save on the time and effort required for logistics and installation of the plant on site, as well as for documentation.





Butterfly valves

Description

Butterfly valves are required whenever pipes are large or simple isolation is needed. 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 sector.

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/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/woodpulp industry
- Steel works
- Mining



Functional principle of butterfly valves



Open



Closed

Butterfly valves comprise a ring-shaped body 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 liner, which closes the butterfly valve. The liner isolates the inner body 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 due 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 centring
- Simple installation
- Optional installation position

U section body configuration

- Flange-mounted design (can be used as end-of-line valve)
- Optimized centring
- Simple installation
- Short installation length



Wafer

Lug

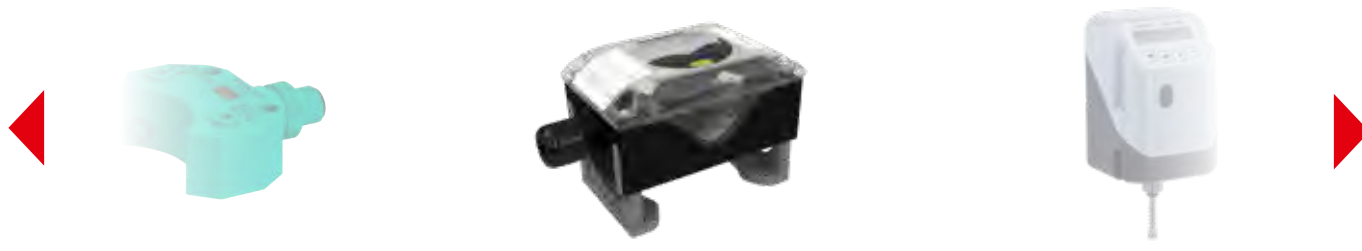
U section

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
Metal | Plastic



Bodies

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 480, 481, 487 and 488 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 seal butterfly valve
- Suitable for corrosive chemical applications due to selection of highly resistant materials

Butterfly valves with bare shaft

Overview

GEMÜ type	480 Victoria	D480 Victoria	490 Edessa
			
Media temperature	-10 to 150 °C	-60 to 210 °C	-20 to 200 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 10 bar
Nominal sizes	DN 25 to 600	DN 25 to 1600	DN 25 to 1050
Connection types (body configuration)			
Flange (lug)	•	•	•
Flange (U section)	•	•	-
Flange (wafer)	•	•	•
Body materials			
1.4408 (CF8M)	-	•	-
1.4435 (316L)	-	-	•
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 / silicone	-	-	•
PTFE TFM™ / FKM	-	-	•
PTFE TFM™/EPDM	-	-	•
PTFE TFM™/silicone	-	-	•
PTFE/EPDM	-	-	•
PTFE/FKM	-	-	•
SBR, abrasion resistant	•	•	-
Silicone	-	•	-

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

GEMÜ type	480 Victoria	D480 Victoria	490 Edessa
			
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	-	-	●
EN-GJS-400-15, coated	●	●	-
Conformities			
ACS	●	●	-
ATEX	●	●	●
Belgaqua	●	-	-
DNV GL	●	●	-
DVGW Drinking water	●	●	-
DVGW Gas	●	●	-
EAC	●	●	●
FDA	●	●	●
SIL	-	-	●
TA Luft (German Clean Air Act)	-	-	●
USP	-	-	●
WRAS	●	●	-

GEMÜ 480 Victoria

Butterfly valve with bare shaft

The GEMÜ 480 soft seated Victoria 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 25 to 600 and in standard 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

- Low torques thanks to special disc contour
- Improved sealing
- Extensive applications using a variety of materials
- Robust body coating in accordance with ISO 12944-6 C5-M
- Min. 250 µm layer thickness body coating
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



Technical specifications

Media temperature:	-10 to 150 °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:	AS ASME BS DIN EN ISO JIS
Body materials:	EN-GJS-400-15, SG iron material
Body coating:	Epoxy
Liner materials:	EPDM FKM NBR SBR, abrasion resistant
Disc materials:	1.4408, investment casting material 1.4408, polished investment casting material EN-GJS-400-15, SG iron material
Disc coating:	EPDM Epoxy Halar® Rilsan®
Conformities:	ACS ATEX Belgaqua DNV GL DVGW Drinking water DVGW Gas EAC FDA WRAS

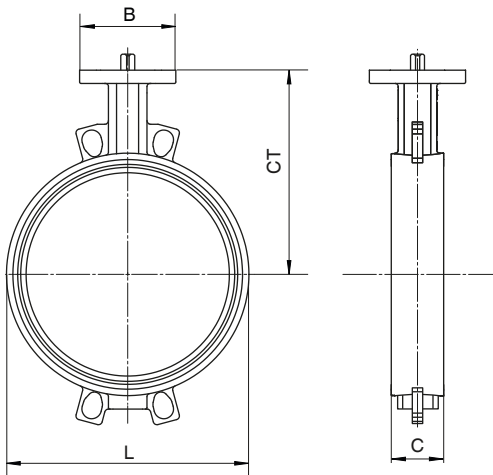
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GW-480



Installation dimensions (extract)



Nominal size	B	CT	C	L
DN 25	□50.0	100.0	25.0	59.5
DN 40	□50.0	120.0	33.0	75.8
DN 50	∅65.0	120.0	43.0	91.0
DN 65	∅65.0	140.0	46.0	111.0
DN 80	∅65.0	145.0	46.0	130.0
DN 100	∅65.0	166.0	52.0	150.0
DN 125	∅90.0	187.0	56.0	179.0
DN 150	∅90.0	200.0	56.0	210.0
DN 200	∅125.0	240.0	60.0	264.0
DN 250	∅125.0	265.0	68.0	314.0
DN 300	∅125.0	290.0	78.0	364.0
DN 350	□130.0	321.0	78.0	440.0
DN 400	□160.0	347.0	102.0	485.0
DN 450	□160.0	372.0	114.0	541.0
DN 500	□160.0	398.0	127.0	600.0
DN 600	□200.0	470.0	154.0	700.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example

480	.		.	W	.	3	.	3	.	2	.	E	.	1	.	E	.	L	.	F05	.		.		.	
1		2		3		4		5		6		7		8		9		10		11		12		13		14



configure online

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Body material
- 7 Disc material
- 8 Shaft material
- 9 Liner
- 10 Liner fixing

- 11
- 12 Shaft connection and size
- 13 Type of design
- 14 Special version

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 standard installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) and 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 1600
Body configurations:	Lug U section Wafer
Connection standards:	AS ASME AWWA BS DIN EN ISO JIS
Body materials:	1.4408, cast stainless steel material EN-AC-46100, aluminium casting material EN-AC-47100, aluminium casting material EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material S275JR, cast steel material
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

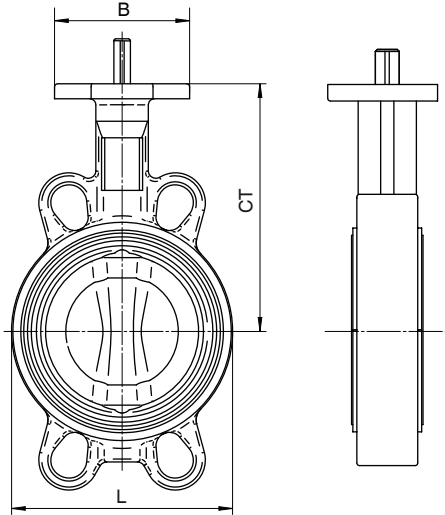
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GW-D480



Installation dimensions (extract)



Nominal size	B	CT	C	L
DN 25	□11.0	102.5	33.0	68.0
DN 32	□11.0	102.5	33.0	68.0
DN 40	□11.0	110.0	33.0	76.0
DN 50	□11.0	120.0	43.0	100.0
DN 65	□11.0	135.0	46.0	108.0
DN 80	□11.0	141.0	46.0	124.0
DN 100	□11.0	165.0	52.0	147.0
DN 125	□14.0	180.0	56.0	180.0
DN 150	□14.0	193.0	56.0	206.0
DN 200	□17.0	225.0	60.0	257.0
DN 250	□22.0	282.5	68.0	324.0
DN 300	□22.0	308.0	78.0	376.0
DN 350	□22.0	338.5	78.0	430.0
DN 400	□27.0	380.0	102.0	485.0
DN 450	□36.0	380.5	114.0	536.0
DN 500	□36.0	432.5	127.0	593.0
DN 600	□46.0	494.0	154.0	690.0
DN 700	Ø65.0	590.0	165.0	830.0
DN 750	Ø80.0	590.0	190.0	836.0
DN 800	Ø80.0	630.0	190.0	902.0
DN 900	Ø80.0	695.0	203.0	1010.0
DN 1000	Ø80.0	770.0	216.0	1116.0
DN 1200	Ø100.0	875.0	254.0	1334.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example

D480	.		.	W	.	3	.	3	.	2	.	A	.	1	.	N	.	L	.	F07	.		.		.	
1		2		3		4		5		6		7		8		9		10		11		12		13		14



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Housing material
- 7 Disc material
- 8 Shaft material
- 9 Liner
- 10 Liner fixing

- 11 Body connection
- 12 Shaft connection and size
- 13 Type of design
- 14 Special version

GEMÜ 490 Edessa

Butterfly valve with bare shaft

The GEMÜ 490 Edessa PTFE seal butterfly valve has a bare shaft. The disc and shaft are one piece; the body and liner are available in different designs. The butterfly valve is available in nominal sizes DN 25 to 1050 (1½"–36"), in the standard 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 1050
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 / silicone PTFE TFM™ / FKM PTFE TFM™/EPDM PTFE TFM™/silicone PTFE/EPDM PTFE/FKM
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 SIL TA Luft (German Clean Air Act) USP

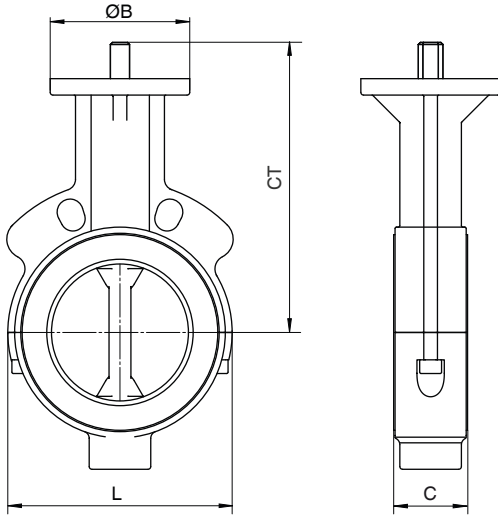
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GW-490



Installation dimensions (extract)

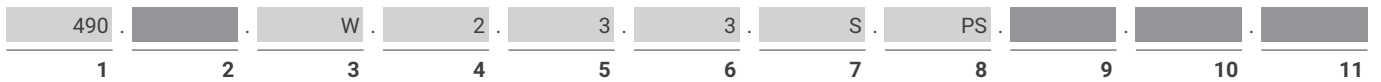


Nominal size	ØB	CT	C	L
DN 40	65.0	112.0	33.0	142.0
DN 50	90.0	147.0	43.0	104.0
DN 65	90.0	163.0	46.0	128.0
DN 80	90.0	182.0	46.0	144.0
DN 100	90.0	202.0	52.0	164.0
DN 125	90.0	219.0	56.0	194.0
DN 150	90.0	239.0	56.0	220.0
DN 200	125.0	271.0	60.0	274.0
DN 250	125.0	300.0	68.0	330.0
DN 300	125.0	338.0	78.0	380.0
DN 350	150.0	358.0	92.0	571.0
DN 400	150.0	393.0	102.0	643.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example






- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Housing material
- 7 Disc/shaft material
- 8 Liner
- 9 Actuator flange
- 10 Shaft connection and size




- 11 Type of design

Manually operated butterfly valves

Overview

GEMÜ type	487 Victoria	D487 Victoria	497 Edessa
			
Media temperature	-10 to 150 °C	-60 to 210 °C	-20 to 200 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 10 bar
Nominal sizes	DN 25 to 600	DN 25 to 1600	DN 25 to 1050
Connection types (body configuration)			
Flange (lug)	•	•	•
Flange (U section)	•	•	-
Flange (wafer)	•	•	•
Body materials			
1.4408 (CF8M)	-	•	-
1.4435 (316L)	-	-	•
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 / silicone	-	-	•
PTFE TFM™ / FKM	-	-	•
PTFE TFM™/EPDM	-	-	•
PTFE TFM™/silicone	-	-	•
PTFE/EPDM	-	-	•
PTFE/FKM	-	-	•
SBR, abrasion resistant	•	•	-
Silicone	-	•	-

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

GEMÜ type	487 Victoria	D487 Victoria	497 Edessa
			
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	-	-	•
EN-GJS-400-15, coated	•	•	-
Conformities			
ACS	•	•	-
ATEX	•	•	•
Belgaqua	•	-	-
DNV GL	•	•	-
DVGW Drinking water	•	•	-
DVGW Gas	•	•	-
EAC	•	•	•
FDA	•	•	•
SIL	-	-	•
TA Luft (German Clean Air Act)	-	-	•
USP	-	-	•
WRAS	•	•	-

GEMÜ 487 Victoria

Manually operated butterfly valve

The GEMÜ 487 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 600 and standard 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

- Low torques thanks to special disc contour
- Improved sealing
- Extensive applications using a variety of materials
- Robust body coating in accordance with ISO 12944-6 C5-M
- Lockable hand lever
- Optional end position control
- Min. 250 µm layer thickness body coating
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



Technical specifications

Media temperature:	-10 to 150 °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:	AS ASME BS DIN EN ISO JIS
Body materials:	EN-GJS-400-15, SG iron material
Body coating:	Epoxy
Liner materials:	EPDM FKM NBR SBR, abrasion resistant
Disc materials:	1.4408, investment casting material 1.4408, polished investment casting material EN-GJS-400-15, SG iron material
Disc coating:	EPDM Epoxy Halar® Rilsan®
Conformities:	ACS ATEX Belgaqua DNV GL DVGW Drinking water DVGW Gas EAC FDA WRAS

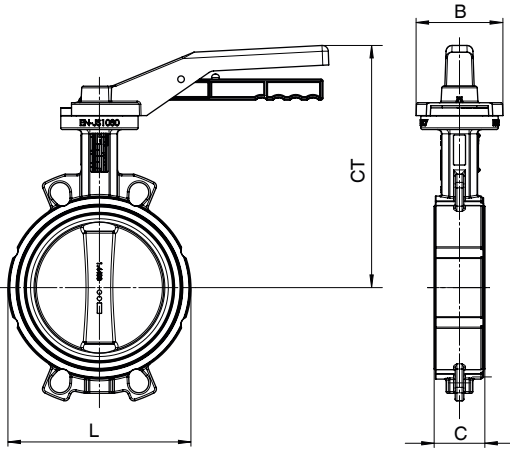
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GW-487



Installation dimensions (extract)



Nominal size	CT	C	L	B
DN 25	170.0	25.0	59.5	74.0
DN 40	190.0	33.0	75.8	74.0
DN 50	190.0	43.0	91.0	74.0
DN 65	210.0	46.0	111.0	74.0
DN 80	215.0	46.0	130.0	74.0
DN 100	236.0	52.0	150.0	74.0
DN 125	277.0	56.0	179.0	102.0
DN 150	290.0	56.0	210.0	102.0
DN 200	580.0	60.0	264.0	126.0
DN 250	605.0	68.0	314.0	126.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example



1 Type

2 DN

3 Body configuration

4 Operating pressure

5 Connection type

6 Body material

7 Disc material

8 Shaft material

9 Liner

10 Liner fixing

11 Control function

12 Actuator version

13 Type of design

14 Special version

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 standard installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) and 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 1600
Body configurations:	Lug U section Wafer
Connection standards:	AS ASME AWWA BS DIN EN ISO JIS
Body materials:	1.4408, cast stainless steel material EN-AC-46100, aluminium casting material EN-AC-47100, aluminium casting material EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material S275JR, cast steel material
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

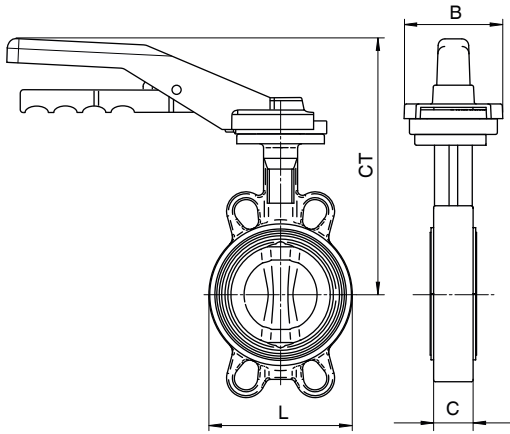
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GW-D487



Installation dimensions (extract)



Nominal size	C	CT	L	B
DN 25	33.0	181.5	68.0	74.0
DN 32	33.0	181.5	68.0	74.0
DN 40	33.0	189.0	76.0	74.0
DN 50	43.0	199.0	100.0	74.0
DN 65	46.0	214.0	108.0	74.0
DN 80	46.0	223.0	124.0	74.0
DN 100	52.0	247.0	147.0	74.0
DN 125	56.0	268.0	180.0	74.0
DN 150	56.0	281.0	206.0	74.0
DN 200	60.0	313.0	257.0	102.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example

D487		W	3	3	2	A	1	N	L	0		
1	2	3	4	5	6	7	8	9	10	11	12	13



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Housing material
- 7 Disc material
- 8 Shaft material
- 9 Liner
- 10 Liner fixing

- 11 Control function
- 12 Actuator version
- 13 Type of design

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. The disc and shaft are one piece; the body and liner are available in different designs. The butterfly valve is available in nominal sizes DN 25 to 1050 (1½"–36"), in the standard installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) and wafer and lug body versions available.

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 1050
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 / silicone PTFE TFM™ / FKM PTFE TFM™/EPDM PTFE TFM™/silicone PTFE/EPDM PTFE/FKM
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 SIL TA Luft (German Clean Air Act) USP

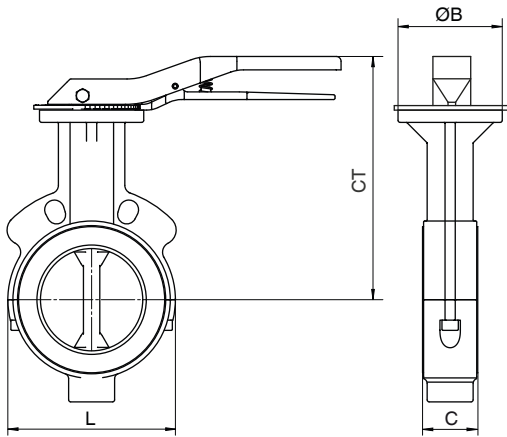
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GW-497



Installation dimensions (extract)

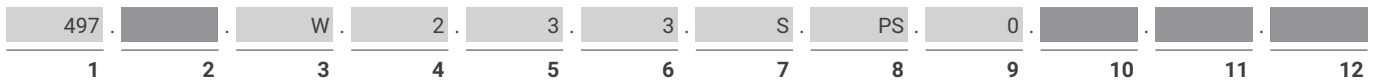


Nominal size	ØB	CT	C	L
DN 40	65.0	142.0	33.0	142.0
DN 50	90.0	176.0	43.0	104.0
DN 65	90.0	192.0	46.0	128.0
DN 80	90.0	211.0	46.0	144.0
DN 100	90.0	236.0	52.0	164.0
DN 125	90.0	253.0	56.0	194.0
DN 150	90.0	268.0	56.0	220.0
DN 200	125.0	301.0	60.0	274.0
DN 250	125.0	326.0	68.0	330.0
DN 300	125.0	364.0	78.0	380.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example






- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Housing material
- 7 Disc/shaft material
- 8 Liner
- 9 Control function
- 10 Actuator version




- 11 Type of design
- 12 Special version

Pneumatically operated butterfly valves

Overview

GEMÜ type	481 Victoria	D481 Victoria	491 Edessa
			
Media temperature	-10 to 150 °C	-60 to 210 °C	-20 to 200 °C
Operating pressure	0 to 16 bar	0 to 16 bar	0 to 10 bar
Nominal sizes	DN 25 to 600	DN 25 to 1600	DN 25 to 1050
Connection types (body configuration)			
Flange (lug)	•	•	•
Flange (U section)	•	•	-
Flange (wafer)	•	•	•
Body materials			
1.4408 (CF8M)	-	•	-
1.4435 (316L)	-	-	•
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 / silicone	-	-	•
PTFE TFM™ / FKM	-	-	•
PTFE TFM™/EPDM	-	-	•
PTFE TFM™/silicone	-	-	•
PTFE/EPDM	-	-	•
PTFE/FKM	-	-	•
SBR, abrasion resistant	•	•	-
Silicone	-	•	-

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

GEMÜ type	481 Victoria	D481 Victoria	491 Edessa
			
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	-	-	•
EN-GJS-400-15, coated	•	•	-
Conformities			
ACS	•	•	-
ATEX	•	•	•
Belgaqua	•	-	-
DNV GL	•	•	-
DVGW Drinking water	•	•	-
DVGW Gas	•	•	-
EAC	•	•	•
FDA	•	•	•
SIL	-	-	•
TA Luft (German Clean Air Act)	-	-	•
USP	-	-	•
WRAS	•	•	-

GEMÜ 481 Victoria

Pneumatically operated butterfly valve

The GEMÜ 481 Victoria soft seated butterfly valve has a metal actuator and is pneumatically operated. Normally Closed, Normally Open and Double Acting control functions are available. The butterfly valve is available in nominal sizes DN 25 to 600 and standard 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

- Low torques thanks to special disc contour
- Improved sealing
- Extensive applications using a variety of materials
- Robust body coating in accordance with ISO 12944-6 C5-M
- Fast operating times
- Optional accessories are installed, set and tested so they are ready for operation
- Min. 250 µm layer thickness body coating
- Bubble tight sealing, in accordance with EN 12266-1/P12, leak rate A



Technical specifications

Media temperature:	-10 to 150 °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:	AS ASME BS DIN EN ISO JIS
Body materials:	EN-GJS-400-15, SG iron material
Body coating:	Epoxy
Liner materials:	EPDM FKM NBR SBR, abrasion resistant
Disc materials:	1.4408, investment casting material 1.4408, polished investment casting material EN-GJS-400-15, SG iron material
Disc coating:	EPDM Epoxy Halar® Rilsan®
Conformities:	ACS ATEX Belgaqua DNV GL DVGW Drinking water DVGW Gas EAC FDA WRAS

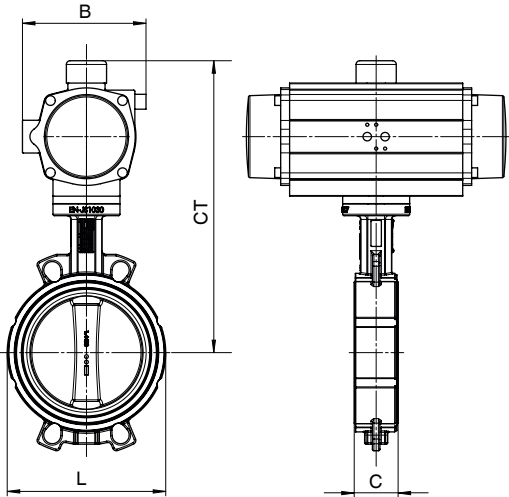
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GW-481



Installation dimensions (extract)



Nominal size	B	CT	C	L
DN 25	76.0	237.3	25.0	59.5
DN 40	76.0	269.8	33.0	75.8
DN 50	76.0	276.2	43.0	91.0
DN 65	76.0	303.6	46.0	111.0
DN 80	91.0	350.4	46.0	130.0
DN 100	111.0	408.1	52.0	150.0
DN 125	111.0	443.6	56.0	179.0
DN 150	122.0	478.5	56.0	210.0
DN 200	152.5	592.0	60.0	264.0
DN 250	173.0	659.3	68.0	314.0
DN 300	173.0	725.3	78.0	364.0
DN 350	191.5	808.0	78.0	440.0
DN 400	212.5	904.0	102.0	485.0
DN 450	242.5	985.0	114.0	541.0
DN 500	242.5	1036.0	127.0	600.0
DN 600	276.5	1225.0	154.0	700.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example

481		W	3	3	2	E	1	E	L	1		0		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Body material
- 7 Disc material
- 8 Shaft material
- 9 Liner
- 10 Liner fixing

- 11 Control function
- 12 Actuator version
- 13 Actuator particulars
- 14 Type of design
- 15 Special version

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 1600 and standard installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) and 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 1600
Body configurations:	Lug U section Wafer
Connection standards:	AS ASME AWWA BS DIN EN ISO JIS
Body materials:	1.4408, cast stainless steel material EN-AC-46100, aluminium casting material EN-AC-47100, aluminium casting material EN-GJS-400-15, SG iron material EN-GJS-400-18-LT, SG iron material S275JR, cast steel material
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

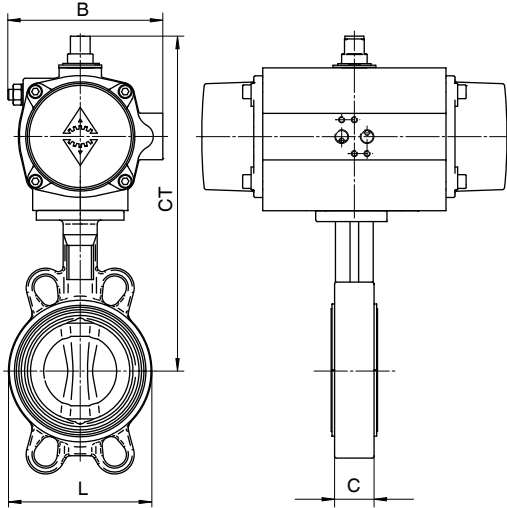
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GW-D481



Installation dimensions (extract)



Nominal size	B	CT	C	L
DN 25	76.0	198.5	68.0	33.0
DN 32	76.0	198.5	68.0	33.0
DN 40	76.0	206.0	76.0	33.0
DN 50	76.0	216.0	100.0	43.0
DN 65	76.0	231.0	108.0	46.0
DN 80	76.0	237.0	124.0	46.0
DN 100	111.0	302.0	147.0	52.0
DN 125	111.0	317.0	180.0	56.0
DN 150	111.0	330.0	206.0	56.0
DN 200	122.0	372.0	257.0	60.0
DN 250	152.2	464.5	324.0	68.0
DN 300	152.2	490.0	376.0	78.0
DN 350	152.2	520.5	430.0	78.0
DN 400	191.5	601.0	485.0	102.0
DN 450	212.5	629.5	536.0	114.0
DN 500	212.5	681.5	593.0	127.0
DN 600	212.5	743.0	690.0	154.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example

D481		W	3	3	2	A	1	N	L	1		0	
1	2	3	4	5	6	7	8	9	10	11	12	13	14



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Housing material
- 7 Disc material
- 8 Shaft material
- 9 Liner
- 10 Liner fixing

- 11 Control function
- 12 Actuator version
- 13 Actuator particulars
- 14 Type of design

GEMÜ 491 Edessa

Pneumatically operated butterfly valve

The GEMÜ 491 Edessa PTFE seal butterfly valve has a metal actuator and is pneumatically operated. Normally Closed, Normally Open and Double Acting control functions are available. The disc and shaft are one piece; the body and liner are available in different designs. The butterfly valve is available in nominal sizes DN 25 to 1050 (1½"–36"), in the standard installation lengths: ISO 5752/20 | EN 558-1/20 | API 609 category A (DIN 3202 K1) and wafer and lug body versions available.

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 1050
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 / silicone PTFE TFM™ / FKM PTFE TFM™/EPDM PTFE TFM™/silicone PTFE/EPDM PTFE/FKM
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 SIL TA Luft (German Clean Air Act) USP

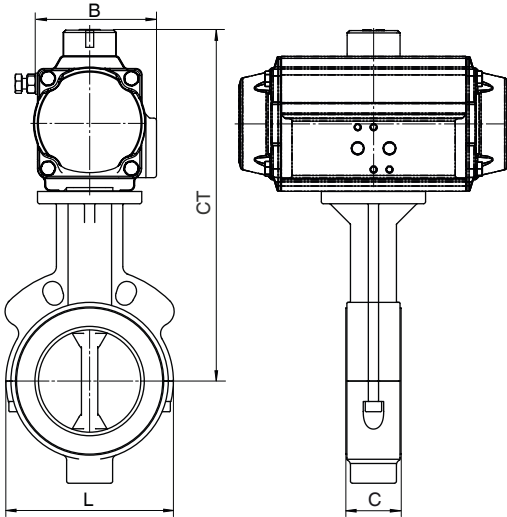
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GW-491



Installation dimensions (extract)



Nominal size	B	CT	C	L
DN 40	72.0	184.0	33.0	142.0
DN 50	84.5	235.0	43.0	104.0
DN 65	84.5	251.0	46.0	128.0
DN 80	93.0	287.0	46.0	144.0
DN 100	93.0	307.0	52.0	164.0
DN 125	106.0	337.0	56.0	194.0
DN 150	118.5	364.0	56.0	220.0
DN 200	136.0	421.0	60.0	274.0
DN 250	146.5	457.0	68.0	330.0
DN 300	166.0	515.0	78.0	380.0
DN 350	166.0	537.0	92.0	571.0
DN 400	166.0	572.0	102.0	643.0

Dimensions in mm

Dimensions for Wafer body configuration (code W)

Order example

491		W	2	3	3	S	PS	1		0	
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type


- 6 Housing material
- 7 Disc/shaft material
- 8 Liner
- 9 Control function
- 10 Actuator version

- 11 Actuator particulars
- 12 Type of design

Order data for GEMÜ 480, 481 and 487 Victoria

Order example for GEMÜ 481 Victoria

481	80	W	3	3	2	E	1	E	L	1		0		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

	1 Type	6 Body material	11 Control function
	2 DN	7 Disc material	12 Actuator version
	3 Body configuration	8 Shaft material	13 Actuator particulars
	4 Operating pressure	9 Liner	14 Type of design
	5 Connection type	10 Liner fixing	15 Special version

Order codes

1 Type	Code
Butterfly valve with bare shaft	480
Butterfly valve with manual operator	487
Butterfly valve with pneumatic quarter turn actuator	481
2 DN	Code
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
DN 125	125
DN 150	150
DN 200	200
DN 250	250
DN 300	300
DN 350	350
DN 400	400
DN 450	450
DN 500	500
DN 600	600
3 Body configuration	Code
Lug, face-to-face dimension FTF EN 558, series 20	L
U section, face-to-face dimension FTF EN 558, series 20	U
Wafer, face-to-face dimension FTF EN 558, series 20	W
4 Operating pressure	Code
3 bar	0
10 bar	2
16 bar	3

5 Connection type	Code
EN 1092 flange/PN 10, face-to-face dimension FTF EN 558, series 20	2
EN 1092 flange, PN 16, face-to-face dimension FTF EN 558, series 20	3
ANSI B16.5, class 150, face-to-face dimension FTF EN 558, series 20, For lug bodies/threaded holes with UNC thread	D
6 Body material	Code
EN-GJS-400-15 (GGG 40), epoxy-coated 250 µm	2
7 Disc material	Code
1.4408, investment casting	A
1.4408, investment casting, polished	B
1.4408, Halar coated	C
1.4469, super duplex	D
EN-GJS-400-15 (GGG 40), epoxy coated	E
EN-GJS-400-15 (GGG 40), Halar coated	P
EN-GJS-400-15 (GGG 40), Rilsan PA11-coated	R
8 Shaft material	Code
Shaft 1.4021	1
9 Liner	Code
EPDM	E
AB/P - SBR (abrasion-resistant)	F
NBR (DVGW gas approval)	J
EPDM (FDA-compliant), white	M
NBR	N
FPM	V
EPDM (ACS, WRAS, DVGW water, Belgaqua approval)	W
EPDM HT (FDA-compliant)	Z

10 Liner fixing	Code
Seat bonded into body	B
Seat loose	L

11 Body connection	Code
Only for butterfly valves with bare shaft	
Flange type DIN EN ISO 5211, F05	F05
Flange type DIN EN ISO 5211, F07	F07
Flange type DIN EN ISO 5211, F10	F10
Flange type DIN EN ISO 5211, F12	F12
Flange type DIN EN ISO 5211, F14	F14
Flange type DIN EN ISO 5211, F16	F16

12 Shaft connection and size	Code
Only for butterfly valves with bare shaft	
Diagonal square, WAF = 9 mm	D09
Diagonal square, WAF = 11 mm	D11
Diagonal square, WAF = 14 mm	D14
Diagonal square, WAF = 17 mm	D17
Diagonal square, WAF = 22 mm	D22
Diagonal square, WAF = 27 mm	D27
Diagonal square, WAF = 36 mm	D36
Diagonal square, WAF = 46 mm	D46

13 Control function	Code
Only for manually and pneumatically operated butterfly valves	
Manually operated (MO)	0
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3

14 Actuator version	Code
For GEMÜ 481	
Actuator GEMÜ ADA	
Double acting, clockwise rotation, ADA0020U F03F05YS09A	BU02AN
Double acting, clockwise rotation, ADA0040UF05YS14/S11A	BU04AB
Double acting, clockwise rotation, ADA0080UF05F07YS17/S14A	BU08AC
Double acting, clockwise rotation, ADA0130U F05F07YS17/S14A	BU13AC
Double acting, clockwise rotation, ADA0200UF07F10YS17/S14A	BU20AE
Double acting, clockwise rotation, ADA0300U F07F10YS22A	BU30AD

14 Continuation of Actuator version	Code
Double acting, clockwise rotation, ADA0500U F10YS22A	BU50AF
Double acting, clockwise rotation, ADA0850UF10F12YS27A	BU85AG
Double acting, clockwise rotation, ADA1200UF10F14YS36A	B12UAH
Double acting, clockwise rotation, ADA1750UF14YS36A	B17UAK
Double acting, clockwise rotation, ADA2100U F16Y S46A	B21UAL
Double acting, clockwise rotation, ADA2500UF16YS46A	B25UAL
Actuator GEMÜ ASR	
Single acting, ASR0020U S08 F03F05YS09A	AU02FN
Single acting, ASR0040US14 F05YS14/S11A	AU04KB
Single acting, ASR0080US14 F05F07YS17/S14A	AU08KC
Single acting, ASR0130US14 F05F07YS17/S14A	AU13KC
Single acting, ASR0200US14F07F10YS17/S14A	AU20KE
Single acting, ASR0300US14 F07F10YS22A	AU30KD
Single acting, ASR0500US14 F10YS22A	AU50KF
Single acting, ASR0850US14 F10F12YS27A	AU85KG
Single acting, ASR1200US14 F10F14YS36A	A12UKH
Single acting, ASR1750US14 F14YS36A	A17UKK
Single acting, ASR2100US14F14YS36A	A21UKK
Single acting, ASR2500US14 F14YS36A	A25UKK
Single acting, ASR4000US14 F16F25YS55A	A40UKM
Actuator GEMÜ DR	
Double acting, clockwise rotation, DR0015U F03F05NS11A	DU01AW
Double acting, clockwise rotation, DR0030U F05F07NS14A	DU03AP
Double acting, clockwise rotation, DR0060U F05F07NS14A	DU06AP
Double acting, clockwise rotation, DR0100U F05F07NS17A	DU10AC

Order data for GEMÜ 480, 481 and 487 Victoria

14 Continuation of Actuator version	Code
Double acting, clockwise rotation, DR0150UF07F10NS17A	DU15AE
Double acting, clockwise rotation, DR0220U F07F10NS22A	DU22AD
Double acting, clockwise rotation, DR0300U F07F10NS22A	DU30AD
Double acting, clockwise rotation, DR0450U F10F12NS27A	DU45AG
Double acting, clockwise rotation, DR0900UF14NS36A	DU90AK
Double acting, clockwise rotation, DR1200U F10F12NS27A	D12UAG
Double acting, clockwise rotation, DR2000U F16NS46A	D20UAL
Actuator GEMÜ SC	
Single acting, SC0015U S8F03F05NS11 A	SU01KW
Single acting, SC0030U 6 F05F07NS14A	SU03KP
Single acting, SC0060U 6 F05F07NS14A	SU06KP
Single acting, SC0100U 6 F05F07NS17A	SU10KC
Single acting, SC0150U 6 F05F07ND17A	SU15KC
Single acting, SC0220U 6 F07F10NS22A	SU22KD
Single acting, SC0300U 6 F07F10NS22A	SU30KD
Single acting, SC0450U 6 F10F12NS27A	SU45KG
Single acting, SC0600U 6 F10F12NS27A	SU60KG
Single acting, SC0900U 6 F10F12NS27A	SU90KG
Single acting, SC1200U 6 F10F12NS27A	S12UKG
Single acting, SC2000U 6 F14NS36A	S20UKK
Single acting, SC3000U 6 F14NS36A	S30UKK
Single acting, SC4000U 6 F16NS46A	S40UKL
Single acting, SC5000U 6 F16F25NS46A	S50UKS
For GEMÜ 487	
Aluminium hand lever	AHL09

14 Continuation of Actuator version	Code
Aluminium hand lever	AHL11
Aluminium hand lever	AHL14
Aluminium hand lever	AHL17
Aluminium hand lever	AHL22
Aluminium hand lever, continuous	SAHL09
Aluminium hand lever, continuous	SAHL11
Aluminium hand lever, continuous	SAHL14
Aluminium hand lever, continuous	SAHL17
Gearbox with die-cast aluminium casing	GB232
Cast iron gearbox	GB880N
Cast iron gearbox	GB1250N


15 Actuator particulars	Code
Anodized aluminium	0

16 Special version	Code
ACS approval	A
Belgaqua approval	B
DVGW water approval	D
ATEX version	X
DVGW gas approval is only valid in conjunction with a suitable manual, pneumatic or motorized actuator	G
DNV GL approval	S
WRAS approval	W

Order data for GEMÜ D480, D481 and D487 Victoria

Order example for GEMÜ D481 Victoria

D481	50	W	3	3	2	A	1	N	L	1		0	
1	2	3	4	5	6	7	8	9	10	11	12	13	14



1 Type	6 Housing material	11 Control function
2 DN	7 Disc material	12 Actuator version
3 Body configuration	8 Shaft material	13 Actuator particulars
4 Operating pressure	9 Liner	14 Type of design
5 Connection type	10 Liner fixing	

Order codes

1 Type	Code
Butterfly valve with pneumatic quarter turn actuator	D481
Butterfly valve with bare shaft	D480
Butterfly valve with manual operator	D487

2 DN	Code
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
DN 125	125
DN 150	150
DN 200	200
DN 250	250
DN 300	300
DN 350	350
DN 400	400
DN 450	450
DN 500	500
DN 600	600
DN 700	700
DN 800	800
DN 900	900
DN 1000	1T0
DN 1100	1T1
DN 1200	1T2
DN 1400	1T4
DN 1600	1T6

3 Body configuration	Code
Lug, face-to-face dimension FTF EN 558, series 20	L

3 Continuation of Body configuration	Code
U section, face-to-face dimension FTF EN 558, series 20	U
Wafer, face-to-face dimension FTF EN 558, series 20	W

4 Operating pressure	Code
3 bar	0
6 bar	1
10 bar	2
16 bar	3

5 Connection type	Code
EN 1092 flange/PN 10, face-to-face dimension FTF EN 558, series 20	2
EN 1092 flange, PN 16, face-to-face dimension FTF EN 558, series 20	3
ANSI B16.5, class 150, face-to-face dimension FTF EN 558, series 20, For lug bodies/threaded holes with UNC thread	D
ASME B16.47 A class 150, face-to-face dimension FTF EN 558, series 20	E
AS 2129 tab. "E" flange, face-to-face dimension FTF EN 558, series 20	U

6 Housing material	Code
Cast aluminium, EN AC 47100 with nominal sizes ≥ DN 125, cast aluminium, EN AC 46100 with nominal sizes < DN 125	0
EN-GJL-250 (GG 25) from DN 700	1
EN-GJS-400-15 (GGG 40), epoxy-coated 120 µm DN 25 - 600	2
ASTM A351, CF8M	4
ASTM A216 WCB, cast steel, epoxy-coated 120 µm	5
S 275 JR+epoxy laminated carbon	9

6 Continuation of Housing material	Code
EN-GJS-400-18-LT (GGG 40.3), epoxy coated 120 µm	3

7 Disc material	Code
1.4408, investment casting	A
1.4408, investment casting, polished	B
1.4408, Halar coated	C
1.4469, super duplex	D
EN-GJS-400-15 (GGG 40), epoxy coated	E
EN-GJS-400-15 (GGG 40), rubber-lined EPDM	F
DIN 1705 (Rg 10)/cast bronze, < DN 300	G
Uranus B6, 1.4539, (similar to 904L)	K
EN-GJS-400-15 (GGG 40), Rilsan PA11-coated	R
EN-GJS-400-15 (GGG 40), Halar coated	P
2.4602, Alloy 22 (NiCr21Mo14W)	H
EN-GJS-400-15 (GGG 40), rubber-lined Flucast AB/P	N

8 Shaft material	Code
AISI 420/1.4021	1
AISI 316/1.4401, operating pressure max. 10 bar	2
Duplex 1.4462	4

9 Liner	Code
HNBR	A
ECO	C
FPM - GF	D
EPDM	E
AB/P - SBR (abrasion-resistant)	F
AB/E - EPDM (abrasion-resistant)	G
CSM	H
AB/N - NBR (abrasion-resistant)	K
NBR	N
CR	P
MVQ S (steam)	R
MVQ	S
FPM	V
EPDM (ACS, WRAS, DVGW water approval)	W
EPDM HT (FDA-compliant)	Z
NBR (DVGW gas approval), NBR 003	J

9 Continuation of Liner	Code
EPDM (FDA-compliant), white	M
FPM - BIO	O
NBR (FDA-compliant), white	U

10 Liner fixing	Code
Seat bonded into body	B
Seat loose	L
Seat vulcanized into body	V

11 Body connection	Code
Only for butterfly valves with bare shaft	
Flange type DIN EN ISO 5211, F07	F07
Flange type DIN EN ISO 5211, F10	F10
Flange type DIN EN ISO 5211, F12	F12
Flange type DIN EN ISO 5211, F14	F14
Flange type DIN EN ISO 5211, F16	F16
Flange type DIN EN ISO 5211, F25	F25
Flange type DIN EN ISO 5211, F30	F30

12 Shaft connection and size	Code
Only for butterfly valves with bare shaft	
Diagonal square, WAF = 11 mm	D11
Diagonal square, WAF = 14 mm	D14
Diagonal square, WAF = 17 mm	D17
Diagonal square, WAF = 22 mm	D22
Diagonal square, WAF = 27 mm	D27
Diagonal square, WAF = 36 mm	D36
Diagonal square, WAF = 46 mm	D46
Shaft diameter = 100 mm, 1 keyway	V100
Shaft diameter = 65 mm, 1 keyway	V65
Shaft diameter = 80 mm, 1 keyway	V80

13 Control function	Code
Only for manually and pneumatically operated butterfly valves	
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3
Manually operated (MO)	0

Order data for GEMÜ D480, D481 and D487 Victoria

14 Actuator version	Code
For GEMÜ D481	
Actuator GEMÜ ADA	
Double acting, clockwise rotation, ADA0020 F05YS14/S11A	BU02AB
Double acting, clockwise rotation, ADA0080UF05F07YS17/S14A	BU08AC
Double acting, clockwise rotation, ADA0130U F05F07YS17/S14A	BU13AC
Double acting, clockwise rotation, ADA0300UF07F10YS22A	BU30AD
Double acting, clockwise rotation, ADA0500UF10YS22A	BU50AF
Double acting, clockwise rotation, ADA0850U F10F12YS27A	BU85AG
Double acting, clockwise rotation, ADA1200UF10F14YS36A	B12UAH
Double acting, clockwise rotation, ADA1750U F14YS36A	B17UAK
Double acting, clockwise rotation, ADA0200UF07F10YS17/S14A	BU20AE
Double acting, clockwise rotation, ADA2100U F14Y S46A	B21UA1
Double acting, clockwise rotation, ADA2500UF16YS46A	B25UAL
Actuator GEMÜ ASR	
Single acting, ASR0020US08 F05YS14/S11A	AU02FB
Single acting, ASR0040US14 F05YS14/S11A	AU04KB
Single acting, ASR0080US14 F05F07YS17/S14A	AU08KC
Single acting, ASR0130US14 F05F07YS17/S14A	AU13KC
Single acting, ASR0200US14F07F10YS17/S14A	AU20KE
Single acting, ASR0300US14 F07F10YS22A	AU30KD
Single acting, ASR0850US14 F10F12YS27A	AU85KG
Single acting, ASR1200US14 F10F14YS36A	A12UKH
Single acting, ASR1750US14 F14YS36A	A17UKK
Single acting, ASR2100US14 F16YS36A	A21UKK
Single acting, ASR2500US14 F14YS46A	A25UK1

14 Continuation of Actuator version	Code
Single acting, ASR2500US14 F14YS36A	A25UKK
Single acting, ASR4000US14F16F25YS55A	A40UKM
Actuator GEMÜ DR	
Double acting, clockwise rotation, DR0030U F05F07NS14A H	DU03AP
Double acting, clockwise rotation, DR0060U F05F07NS14A	DU06AP
Double acting, clockwise rotation, DR0100U F05F07NS17A	DU10AC
Double acting, clockwise rotation, DR0150U F07F10NS22A	DU15AD
Double acting, clockwise rotation, DR0220U F07F10NS22A	DU22AD
Double acting, clockwise rotation, DR0300U F07F10NS22A	DU30AD
Double acting, clockwise rotation, DR0450U F10F12NS27A	DU45AG
Double acting, clockwise rotation, DR0600U F10F12NS27A	DU60AG
Double acting, clockwise rotation, DR0900U F14NS36A	DU90AK
Double acting, clockwise rotation, DR1200U F14NS36A	D12UAK
Double acting, clockwise rotation, DR2000U F14NS36A	D20UAK
Double acting, clockwise rotation, DR3000U F16NS46A	D30UAL
Double acting, clockwise rotation, DR4000U F16NS46A	D40UAL
Actuator GEMÜ SC	
Single acting, SC0030U 6 F05F07NS14A	SU03KP
Single acting, SC0060U 6 F05F07NS14A	SU06KP
Single acting, SC0100U 6 F05F07NS17A	SU10KC
Single acting, SC0150U 6 F05F07NS17A	SU15KC
Single acting, SC0220U 6 F07F10NS22A	SU22KD
Single acting, SC0300U 6 F07F10NS22A	SU30KD
Single acting, SC0600U 6 F10F12NS27A	SU60KG
Single acting, SC0900U 6 F10F12NS27A	SU90KG

14 Continuation of Actuator version	Code
Single acting, SC2000U 6 F12ND27A	S20UKV
Single acting, SC2000U 6 F14NS36A	S20UKK
Single acting, SC3000U 6 F16NS46A	S30UKL
Single acting, SC3000U 6 F14NS36A	S30UKK
Single acting, SC4000U 6 F16NS46A	S40UKL
Single acting, SC5000U 6 F16F25NS46 A	S50UKS
For GEMÜ D487	
Aluminium hand lever	DAHL11
Aluminium hand lever	DAHL14
Aluminium hand lever	DAHL17
Gearbox with die-cast aluminium casing	GB232
Cast iron gearbox	GBMDV3
Cast iron gearbox	GBMDV4
Cast iron gearbox	GBMDV5
Cast iron gearbox	GBMDV6
Cast iron gearbox	GBMDV7
Cast iron gearbox	GBMDV8
Hand lever for DN 125–DN 150, MHL-F0714-315	MHL1431
Hand lever for DN 200, MHL-F0717-315	MHL1731
Hand lever for DN 250–DN 300, MHL-F1022-500	MHL2250
Hand lever for DN 32–DN 100, continuous, MHL-S-F0711-260	MHL-S26
Hand lever for DN 250–DN 300, continuous, MHL-S-F1022-500	MHL-S50
15 Actuator particulars	
Anodized aluminium	0
16 Special version	
ATEX version	X

Order data for GEMÜ 490, 491 and 497 Edessa

Order example for GEMÜ 491 Edessa

491	50	W	2	3	3	S	PS	1		0	
1	2	3	4	5	6	7	8	9	10	11	12



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Operating pressure
- 5 Connection type

- 6 Housing material
- 7 Disc/shaft material
- 8 Liner
- 9 Control function
- 10 Actuator version

- 11 Actuator particulars
- 12 Type of design

Order codes

1 Type	Code
Butterfly valve body with pneumatic actuator	491
Valve body assembly with bare shaft	490
Butterfly valve body with manual operator	497
2 DN	Code
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
DN 125	125
DN 150	150
DN 200	200
DN 250	250
DN 300	300
DN 350	350
DN 400	400
DN 450	450
DN 500	500
DN 600	600
DN 700	700
DN 800	800
DN 900	900
DN 1000	1T0
3 Body configuration	Code
Lug, face-to-face dimension FTF EN 558, series 20	L
Wafer, face-to-face dimension FTF EN 558, series 20	W
4 Operating pressure	Code
3 bar	0
6 bar	1
10 bar	2

5 Connection type	Code
EN 1092 flange/PN 10, face-to-face dimension FTF EN 558, series 20	2
EN 1092 flange, PN 16, face-to-face dimension FTF EN 558, series 20	3
ANSI B16.5, class 150, face-to-face dimension FTF EN 558, series 20, For lug bodies/threaded holes with UNC thread	D
JIS 10 K, face-to-face dimension FTF EN 558, series 20	G

6 Housing material	Code
EN-GJS-400-18-LT (GGG 40.3), epoxy coated 120 µm	3
316L	4
Duroplast (VE-CF)	6
S355J2+N, (temperature up to -20 °C)	8

7 Disc/shaft material	Code
DN 40 - DN 200 Duplex steel 1.4469, from DN 250 stainless steel 1.4404	S
DN 40 - DN 200 Duplex steel 1.4462 polished, Ra 0.8 µm	F
316L/1.4404, polished, Ra ≤ 0.8 µm	J
CF3M/316L/1.4404, polished, Ra ≤ 0.4 µm, electropolished	G
Stainless steel, PFA encapsulated	P
Stainless steel, PFA encapsulated, electrically conductive	C
3.7035, titanium	T
2.4602, Alloy 22 (NiCr21Mo14W)	H

8 Liner	Code
TFM/silicone (FDA-compliant)	5S
TFM/EPDM	5E
TFM/FPM (steam)	5D
TFM/FPM	5F

8 Continuation of Liner	Code
TFM/silicone (FDA-compliant), electrically conductive	LS
TFM/EPDM, electrically conductive	LE
TFM/FPM, electrically conductive	LF
PTFE/silicone (FDA-compliant)	PS
PTFE/EPDM	PE
PTFE/FPM	PF

9 Actuator flange	Code
Only for butterfly valves with bare shaft	
Flange type DIN EN ISO 5211, F05	F05
Flange type DIN EN ISO 5211, F07	F07
Flange type DIN EN ISO 5211, F10	F10
Flange type DIN EN ISO 5211, F12	F12
Flange type DIN EN ISO 5211, F14	F14
Flange type DIN EN ISO 5211, F16	F16

10 Shaft connection and size	Code
Only for butterfly valves with bare shaft	
Diagonal square, WAF = 9 mm	D09
Diagonal square, WAF = 11 mm	D11
Diagonal square, WAF = 14 mm	D14
Diagonal square, WAF = 17 mm	D17
Diagonal square, WAF = 19 mm	D19
Diagonal square, WAF = 22 mm	D22
Diagonal square, WAF = 27 mm	D27
Diagonal square, WAF = 36 mm	D36
Diagonal square, WAF = 46 mm	D46

11 Control function	Code
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3
Manually operated (MO)	0

12 Actuator version	Code
For GEMÜ 491	
Actuator GEMÜ ADA	
Pneumatic actuator, double acting, clockwise rotation, ADA0020U F03F05YS09A	BU02AN
Pneumatic actuator, double acting, clockwise rotation, ADA0130U F05F07YS17A	BU13AC
Pneumatic actuator, double acting, clockwise rotation, ADA0300U F07F10YS22A	BU30AD

12 Continuation of Actuator version	Code
Pneumatic actuator, double acting, clockwise rotation, ADA0500U F10YS22A	BU50AF
Pneumatic actuator, double acting, clockwise rotation, ADA0850U F10F12YS27A	BU85AG
Pneumatic actuator, double acting, clockwise rotation, ADA1200U F10F14YS36A	B12UAH

Actuator GEMÜ ASR	
Pneumatic actuator, single acting, spring closing, clockwise rotation, ASR0040U S14 F05YS14/S11A	AU04KB
Pneumatic actuator, single acting, spring closing, clockwise rotation, ASR0080U S14 F05F07YS17/S14A	AU08KC
Pneumatic actuator, single acting, spring closing, clockwise rotation, ASR0130U S14 F05F07YS17/S14A	AU13KC
Pneumatic actuator, single acting, spring closing, clockwise rotation, ASR0200U S14 F07F10YS17/S14A	AU20KE
Pneumatic actuator, single acting, spring closing, clockwise rotation, ASR0300U S14 F07F10YS22A	AU30KD
Pneumatic actuator, single acting, spring closing, clockwise rotation, ASR0850U S14 F10F12YS27A	AU85KG
Pneumatic actuator, double acting, clockwise rotation, ADA1750U F14YS36A	B17UAK
Pneumatic actuator, double acting, clockwise rotation, ADA2100U F16YS46A	B21UAL

Actuator GEMÜ DR	
Pneumatic actuator, double acting, clockwise rotation, DR0015U F03F05NS11A	DU01AW
Pneumatic actuator, double acting, clockwise rotation, DR0030U F05F07NS14A	DU03AP
Pneumatic actuator, double acting, clockwise rotation, DR0060U F05F07NS14A	DU06AP
Pneumatic actuator, double acting, clockwise rotation, DR0060U F05F07NS17A	DU06AC

Order data for GEMÜ 490, 491 and 497 Edessa

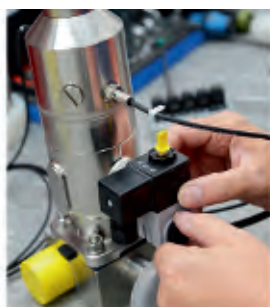
12 Continuation of Actuator version	Code
Pneumatic actuator, double acting, clockwise rotation, DR0100U F05F07NS17A	DU10AC
Pneumatic actuator, double acting, clockwise rotation, DR0150U F05F07NS22A	DU15AD
Pneumatic actuator, double acting, clockwise rotation, DR0220U F07F10NS22A	DU22AD
Pneumatic actuator, double acting, clockwise rotation, DR0300U F07F10NS22A	DU30AD
Pneumatic actuator, double acting, clockwise rotation, DR0450U F10F12NS27A	DU45AG
Pneumatic actuator, double acting, clockwise rotation, DR0900U F14NS36A	DU90AK
Actuator GEMÜ SC	
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC0060U 6 F05F07NS14A clockwise rotation	SU06KP
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC0100U 6 F05F07NS17A clockwise rotation	SU10KC
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC0150U 6 F05F07NS17A clockwise rotation	SU15KC
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC0220U 6 F07F10NS22A clockwise rotation	SU22KD
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC0300U 6 F07F10NS22A clockwise rotation	SU30KD
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC0450U 6 F10F12NS27A clockwise rotation	SU45KG
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC0900U 6 F10F12NS27A clockwise rotation	SU90KG

12 Continuation of Actuator version	Code
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC1200U 6 F10F12NS27A clockwise rotation	S12UKG
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC2000U 6 F14NS36A clockwise rotation	S20UKK
AIR TORQUE actuator, pneumatic, type SC, single acting, spring closing, SC2000U 6 F16NS46A clockwise rotation	S20UKL
For GEMÜ 497	
Aluminium hand lever	CAHL09
Aluminium hand lever	CAHL11
Aluminium hand lever	CAHL14
Aluminium hand lever	CAHL17
Hand lever, stainless steel	SHL09
Hand lever, stainless steel	SHL11
Hand lever, stainless steel	SHL14
Hand lever, stainless steel	SHL17
Hand lever, stainless steel	SHL19
Hand lever, stainless steel	SHL22
13 Actuator particulars	
Anodized aluminium	0
Version EC (Airtorque)/C5-M (Actreg), ALODUR-epoxy+stainless steel shaft	3
Stroke limiter	H
14 Special version	
ATEX version	X

Add-on components for butterfly valves

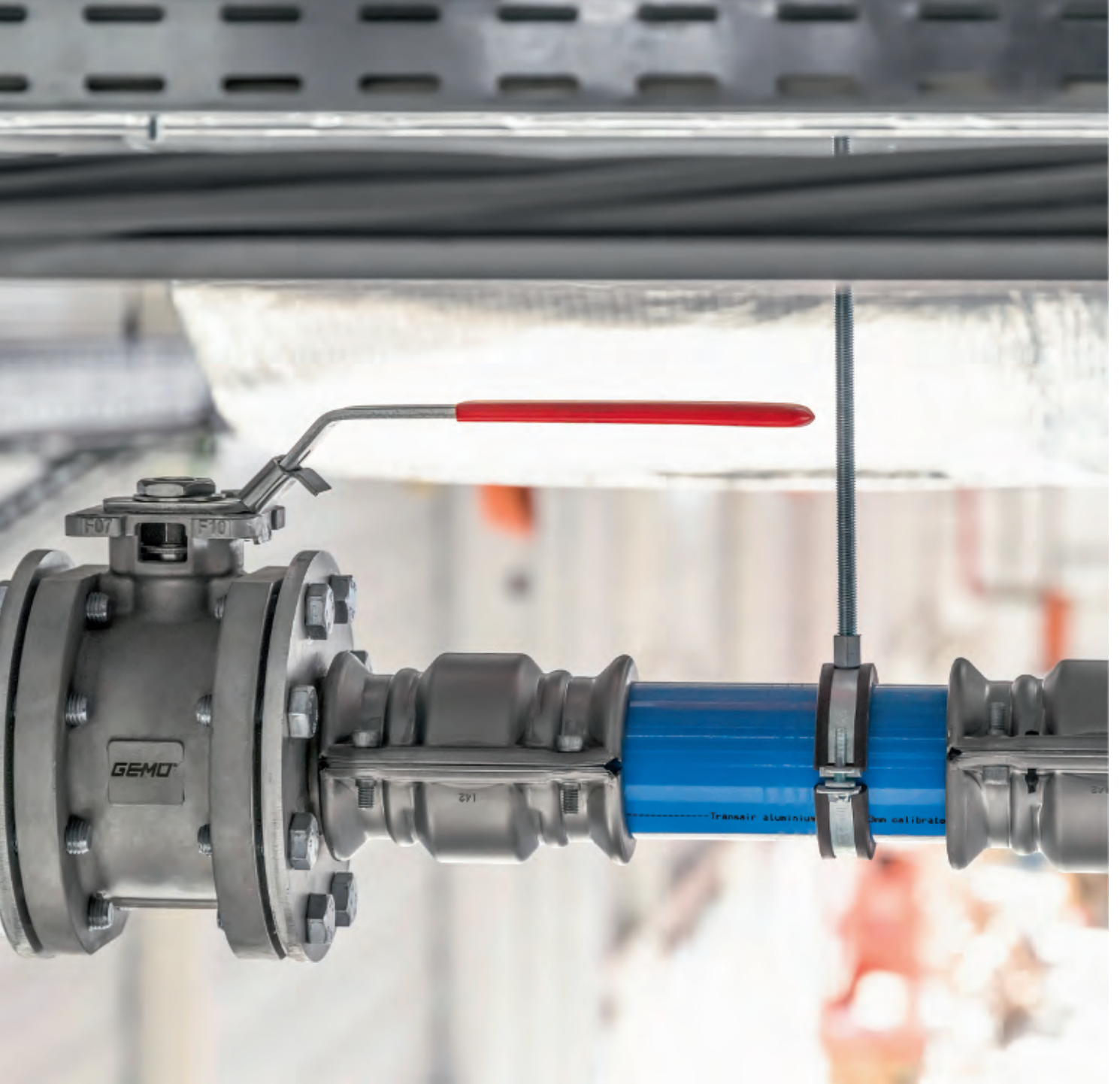
GEMÜ type	481	487	491	497	D481	D487
Measurement and control technology						
Electrical position indicators						
GEMÜ 1235 / 1236 ▶ page 420	•		•		•	
GEMÜ 1242 ▶ page 422	•		•		•	
GEMÜ LSC ▶ page 426	•	•	•	•	•	•
GEMÜ LSF ▶ page 428	•	•	•	•	•	•
Combi switchboxes						
GEMÜ 4242 ▶ page 436	•		•		•	
Control systems						
Positioner						
GEMÜ 1435 ePos ▶ page 394	•		•		•	
Positioner and process controller						
GEMÜ 1436 cPos ▶ page 396	•		•		•	

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 also save on the time and effort required for logistics and installation of the plant on site, as well as for documentation.





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 with a continuous hole, which generally sits in a body 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 deadleg 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 holes

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, various customers can also use ball valves to bypass the media flow.

Full and reduced flow bore

There is a difference between ball valves with full flow bore and reduced flow bore. With a full flow bore, the hole in the ball has the same inside diameter as the connected piping. A major advantage of the version with full flow 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 named valves that are also piggable.

In the design with reduced flow 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



Bodies





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	BB04	K740	K762	790
				
Special feature	Option with minimal deadleg and delta ferrite < 1 to 3 %	Option with cavity filled seat and high-grade surface finish	Compact length	High pressures
Media temperature	-10 to 220 °C	-20 to 180 °C	-20 to 180 °C	-20 to 180 °C
Ambient temperature	0 to 60 °C	0 to 60 °C	-20 to 60 °C	-20 to 60 °C
Operating pressure	0 to 63 bar	0 to 63 bar	0 to 40 bar	0 to 137 bar
Nominal sizes	DN 8 to 100	DN 8 to 100	DN 15 to 100	DN 8 to 100
Connection types				
Clamp	•	•	-	-
Flange	-	-	•	•
Spigot	•	•	-	•
Threaded connection	-	-	-	•
Connection standards				
ANSI	-	-	•	-
ASME	•	•	-	•
DIN	•	•	-	•
EN	-	•	•	•
ISO	•	•	-	•
NPT	-	-	-	•
SMS	-	•	-	•
Body configurations				
2/2-way body	•	•	•	•
Body materials				
1.4404 (CF3M)	-	•	-	-
1.4408	-	-	•	•
1.4435 (316L)	•	-	-	-
Conformities				
ATEX	•	•	-	•
FDA	•	•	•	•
FireSafe	-	-	-	•
Reg. (EU) No. 10/2011	•	-	-	-
Regulation (EC) No. 1935/2004	•	-	-	-
TA Luft (German Clean Air Act)	-	•	•	•
USP	•	-	-	-

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

GEMÜ BB04

Ball valve with bare shaft

The GEMÜ BB04 2/2-way metal ball valve with a 3-piece body, bare shaft and ISO top flange for simple automation is particularly suitable for requirements in the pharmaceutical, food processing and biotechnology industries, such as water treatment or sterile steam generation. Only those plastics that are compliant with FDA, USP Class VI and EC10/2011 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
- Option with cavity filled seat
- Suitable for vacuum applications
- Option: ATEX version



Technical specifications

Media temperature:	-10 to 220 °C
Ambient temperature:	0 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
Body materials:	1.4435 (316L), investment casting material
Seal materials:	PTFE TFM™
Conformities:	ATEX FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 USP

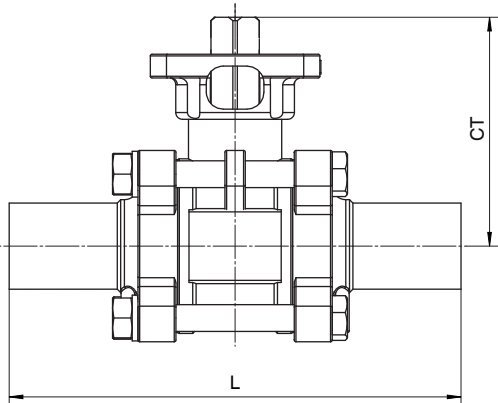
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GW-BB04



Installation dimensions (extract)



Nominal size	CT	L
DN 8	46	120.1
DN 10	46	120.1
DN 15	46	140.1
DN 20	50	140.1
DN 25	61	152.0
DN 32	66	165.0
DN 40	80	190.0
DN 50	89	203.0
DN 65	111	254.0
DN 80	121	280.0
DN 100	158	308.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 316L body material (code C3)

Order example



- 1 Type
- 2 DN
- 3 Body/ball configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 CONEXO

GEMÜ K740

Sanitary ball valve with bare shaft

The GEMÜ K740 metal 3-piece 2/2-way ball valve has a bare shaft. It is ideal for sanitary/hygienic applications. The seat seal is available either in PTFE or TFM™.

Features

- Suitable for vacuum applications
- Optionally available with cavity-filled seat
- CIP/SIP capable
- Low maintenance and reliable spindle sealing
- Reduced torque
- High-grade surface finish
- Standard interface (connection flange acc. to ISO 5211)



Technical specifications

Media temperature:	-20 to 180 °C
Ambient temperature:	0 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 EN ISO SMS
Body materials:	1.4404 (CF3M), investment casting material
Seal materials:	PTFE
Conformities:	ATEX FDA TA Luft (German Clean Air Act)

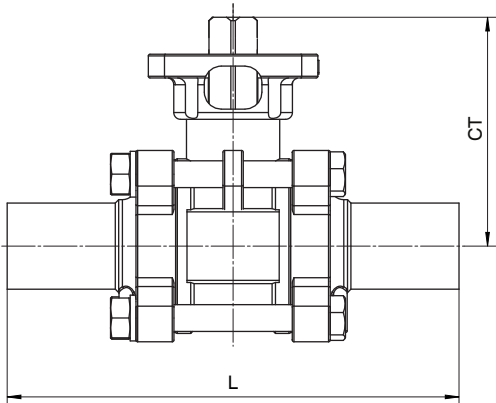
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GW-K740



Installation dimensions (extract)

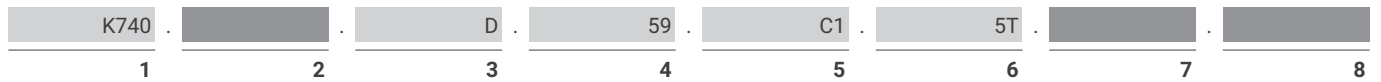


Nominal size	CT	L
DN 15	50.2	75.0
DN 20	55.5	81.7
DN 25	69.7	99.7
DN 32	73.0	116.5
DN 40	92.4	122.3
DN 50	101.1	145.1
DN 65	125.5	160.2
DN 80	135.5	197.4
DN 100	150.5	233.0

Dimensions in mm

Dimensions for DIN threaded socket (code 1) connection type and 1.4408 (code 37) body material

Order example



configure online

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Ball config./port position
- 8 CONEXO

GEMÜ K762

Compact flanged ball valve

The GEMÜ K762 metal one-piece 2/2-way ball valve has a bare shaft. The seat seal is made of PTFE.

Features

- High flow rates
- Full-flow bore
- Compact design
- Approvals: FDA, TA-Luft (German Clean Air Act)



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:	FDA TA Luft (German Clean Air Act)

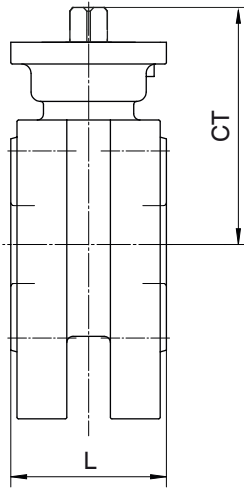
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GW-K762



Installation dimensions (extract)



Nominal size	CT	L
DN 15	55.7	40.8
DN 20	61.7	44.0
DN 25	77.0	50.0
DN 32	88,3	60.0
DN 40	101.0	65.0
DN 50	109.0	80.0
DN 65	125.5	110.0
DN 80	135.5	120.0
DN 100	150.5	150.0

Dimensions in mm

Dimensions for EN 1092 / PN16 flange (code 68) connection type and CF8M body material (code 37)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 CONEXO

GEMÜ 790

High-pressure ball valve with bare shaft

The GEMÜ 790 3-piece 2/2-way metal ball valve has a bare shaft. The seat seal is made of PTFE. Due to a graphite reinforced body seal, the GEMÜ 790 ball valve is optionally also available as a FireSafe version.

Features

- Low maintenance and reliable spindle sealing
- TA-Luft compliant
- Broad range of operating temperatures and pressures
- Additionally encapsulated body seal
- Suitable for vacuum applications
- Fire-safe design according to API 607 optionally available



Technical specifications

Media temperature:	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 137 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 SMS
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX FDA FireSafe TA Luft (German Clean Air Act)

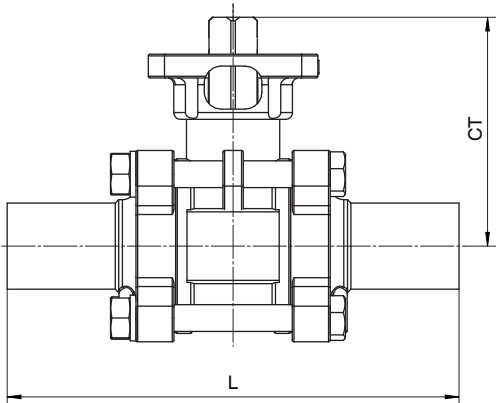
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GW-790



Installation dimensions (extract)



Nominal size	CT	L
DN 15	50.2	75.0
DN 20	55.5	81.7
DN 25	69.7	99.7
DN 32	73.0	116.5
DN 40	92.4	122.3
DN 50	101.1	145.1
DN 65	125.5	160.2
DN 80	135.5	197.4
DN 100	150.5	233.0

Dimensions in mm

Dimensions for DIN threaded socket (code 1) connection type and 1.4408 (code 37) body material

Order example







configure online

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 CONEXO

Manually operated ball valves

Overview

GEMÜ type	B24	740	762	797
				
Special feature	Option with minimal deadleg and delta ferrite < 1 to 3 %	Option with cavity filled seat and high-grade surface finish	Compact length	High pressures
Media temperature	-10 to 220 °C	-20 to 220 °C	-20 to 180 °C	-20 to 180 °C
Ambient temperature	0 to 60 °C	0 to 60 °C	-20 to 60 °C	-20 to 60 °C
Operating pressure	0 to 63 bar	0 to 63 bar	0 to 40 bar	0 to 137 bar
Nominal sizes	DN 8 to 100	DN 8 to 100	DN 15 to 100	DN 8 to 100
Connection types				
Clamp	•	•	-	-
Flange	-	-	•	•
Spigot	•	•	-	•
Threaded connection	-	-	-	•
Connection standards				
ANSI	-	-	•	-
ASME	•	•	-	•
DIN	•	•	-	•
EN	-	•	•	•
ISO	•	•	-	•
NPT	-	-	-	•
SMS	-	•	-	•
Body configurations				
2/2-way body	•	•	•	•
Body materials				
1.4404 (CF3M)	-	•	-	-
1.4408	-	-	•	•
1.4435 (316L)	•	-	-	-
Conformities				
ATEX	•	•	•	•
EAC	-	•	•	-
FDA	•	•	•	•
FireSafe	-	-	-	•
Reg. (EU) No. 10/2011	•	-	-	-
Regulation (EC) No. 1935/2004	•	-	-	-
TA Luft (German Clean Air Act)	-	•	•	•
USP	•	-	-	-

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

GEMÜ B24

Manually operated ball valve

The GEMÜ B24 3-piece 2/2-way metal ball valve is manually operated. It is particularly suitable for requirements in the pharmaceutical, food processing and biotechnology industries, such as water treatment or sterile steam generation. Only those plastics which are compliant with FDA, USP Class VI and EC10/2011 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
- Option with cavity filled seat
- Suitable for vacuum applications
- Option: ATEX version



Technical specifications

Media temperature:	-10 to 220 °C
Ambient temperature:	0 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
Body materials:	1.4435 (316L), investment casting material
Seal materials:	PTFE TFM™
Conformities:	ATEX FDA Reg. (EU) No. 10/2011 Regulation (EC) No. 1935/2004 USP

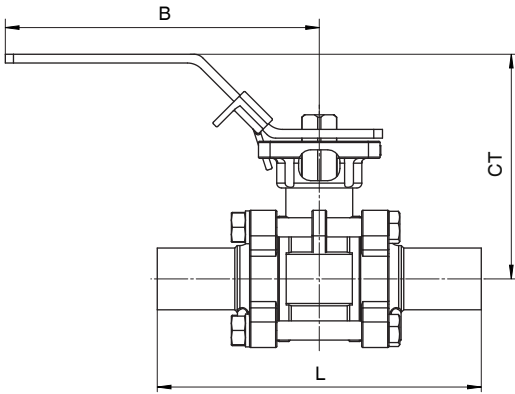
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GW-B24



Installation dimensions (extract)



Nominal size	B	CT	L
DN 8	139.0	71.9	120.1
DN 10	139.0	71.9	120.1
DN 15	139.0	71.9	140.1
DN 20	139.0	75.0	140.1
DN 25	165.0	87.4	152.0
DN 32	165.0	92.1	165.0
DN 40	215.0	112.5	190.0
DN 50	215.0	120.8	203.0
DN 65	300.0	150.3	254.0
DN 80	370.0	160.3	280.0
DN 100	370.0	191.4	308.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and 316L body material (code C3)

Order example



- 1 Type
- 2 DN
- 3 Body/ball configuration
- 4 Connection type
- 5 Ball valve material
- 6 Seal material
- 7 CONEXO

GEMÜ 740

Manually operated sanitary ball valve

The GEMÜ 740 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 available either in PTFE or TFM™.

Features

- Suitable for vacuum applications
- Optionally available with cavity-filled seat
- CIP/SIP capable
- Low maintenance and reliable spindle sealing
- Reduced torque
- High-grade surface finish



Technical specifications

Media temperature:	-20 to 220 °C
Ambient temperature:	0 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 EN ISO SMS
Body materials:	1.4404 (CF3M), investment casting material
Seal materials:	PTFE
Conformities:	ATEX EAC FDA TA Luft (German Clean Air Act)

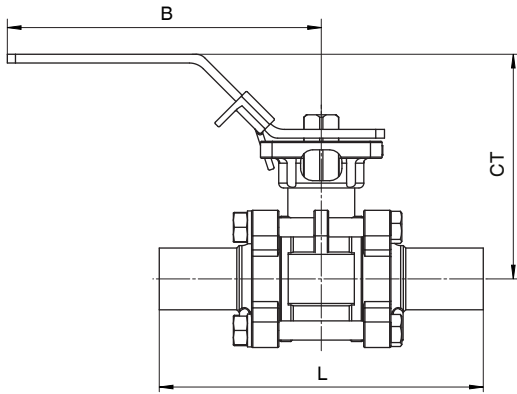
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GW-740



Installation dimensions (extract)

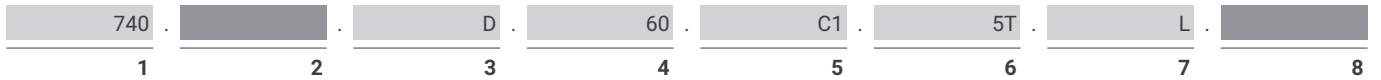


Nominal size	B	CT	L
DN 8	139.0	77.0	120.2
DN 10	139.0	77.0	120.2
DN 15	139.0	77.0	140.2
DN 20	139.0	83.0	140.0
DN 25	165.0	96.0	152.2
DN 32	165.0	100.0	165.1
DN 40	215.0	127.0	190.4
DN 50	215.0	134.0	203.0
DN 65	300.0	167.0	254.0
DN 80	370.0	176.0	280.2
DN 100	370.0	192.0	317.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and CF3M body material (code C1)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Control function
- 8 CONEXO

GEMÜ 762

Manually operated compact flanged ball valve

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

Features

- High flow rates
- Full-flow bore
- Compact design
- Non-twisting lever
- Lockable hand lever



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 TA Luft (German Clean Air Act)

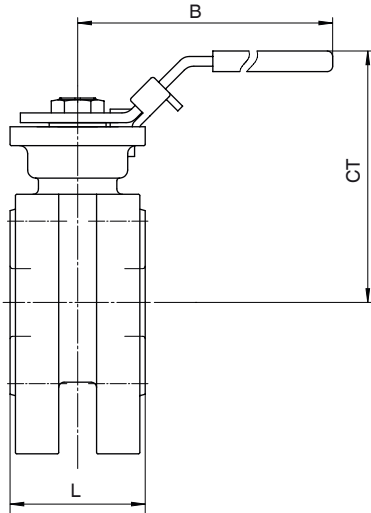
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GW-762



Installation dimensions (extract)

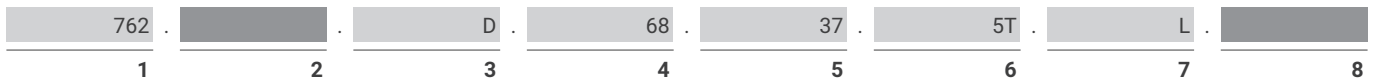


Nominal size	B	CT	L
DN 15	139.0	85.0	41.0
DN 20	139.0	90.0	44.0
DN 25	165.0	104.0	50.0
DN 32	165.0	116.0	60.0
DN 40	215.0	135.0	65.0
DN 50	215.0	142.0	80.0
DN 65	263.0	168.2	110.0
DN 80	313.0	178.0	120.0
DN 100	344.0	191.2	150.0

Dimensions in mm

Dimensions for EN 1092 / PN16 flange (code 68) connection type and CF8M body material (code 37)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Control function
- 8 CONEXO

GEMÜ 797

Manually operated high-pressure ball valve

The GEMÜ 797 3-piece 2/2-way metal ball valve is manually operated. It has a plastic sleeved hand lever. The seat seal is made of PTFE. Due to a graphite reinforced body seal, the GEMÜ 797 ball valve is optionally also available as a FireSafe version.

Features

- Low maintenance and reliable spindle sealing
- Broad range of operating temperatures and pressures
- Choice of various body materials and connection types
- Lockable hand lever
- Suitable for vacuum applications
- Fire-safe design according to API 607 optionally available



Technical specifications

Media temperature:	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 137 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 SMS
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX FDA FireSafe TA Luft (German Clean Air Act)

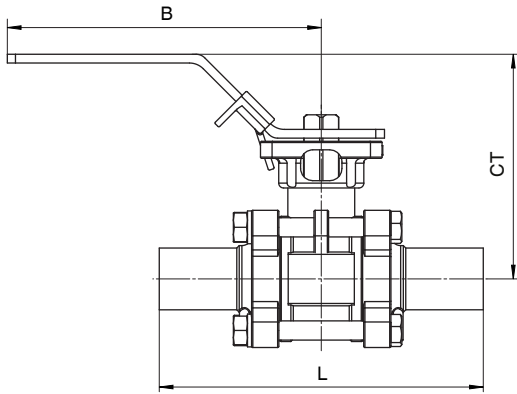
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GW-797



Installation dimensions (extract)



Nominal size	B	CT	L
DN 8	139.0	77.0	120.2
DN 10	139.0	77.0	120.2
DN 15	139.0	77.0	140.2
DN 20	139.0	83.0	140.0
DN 25	165.0	96.0	152.2
DN 32	165.0	100.0	165.1
DN 40	215.0	127.0	190.4
DN 50	215.0	134.0	203.0
DN 65	300.0	167.0	254.0
DN 80	370.0	176.0	280.2
DN 100	370.0	192.0	317.0

Dimensions in mm

Dimensions for DIN threaded socket (code 1) connection type and 1.4408 (code 37) body material

Order example






- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Control function
- 8 CONEXO

Pneumatically operated ball valves

Overview

GEMÜ type	741	761	791
			
Special feature	Option with cavity filled seat and high-grade surface finish	Compact length	High pressures
Media temperature	-20 to 220 °C	-20 to 180 °C	-20 to 180 °C
Ambient temperature	0 to 60 °C	-20 to 60 °C	-20 to 60 °C
Operating pressure	0 to 63 bar	0 to 40 bar	0 to 137 bar
Nominal sizes	DN 8 to 100	DN 15 to 100	DN 8 to 100
Connection types			
Clamp	•	-	-
Flange	-	•	•
Spigot	•	-	•
Threaded connection	-	-	•
Connection standards			
ANSI	-	•	-
ASME	•	-	•
DIN	•	-	•
EN	•	•	•
ISO	•	-	•
NPT	-	-	•
SMS	•	-	•
Body configurations			
2/2-way body	•	•	•
Body materials			
1.4404 (CF3M)	•	-	-
1.4408	-	•	•
Conformities			
ATEX	•	•	•
EAC	•	•	-
FDA	•	•	•
FireSafe	-	-	•
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 741

Pneumatically operated sanitary ball valve

The GEMÜ 741 3-piece 2/2-way metal ball valve has a metal actuator and is pneumatically operated. The seat seal is available either in PTFE (cavity filled) or in PTFE TFM™.

Features

- Suitable for vacuum applications
- Optionally available with cavity-filled seat
- CIP/SIP capable
- Low maintenance and reliable spindle sealing
- Reduced torque
- High-grade surface finish



Technical specifications

Media temperature:	-20 to 220 °C
Ambient temperature:	0 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 EN ISO SMS
Body materials:	1.4404 (CF3M), investment casting material
Seal materials:	PTFE
Conformities:	ATEX EAC FDA Regulation (EC) No. 1935/2004 TA Luft (German Clean Air Act)

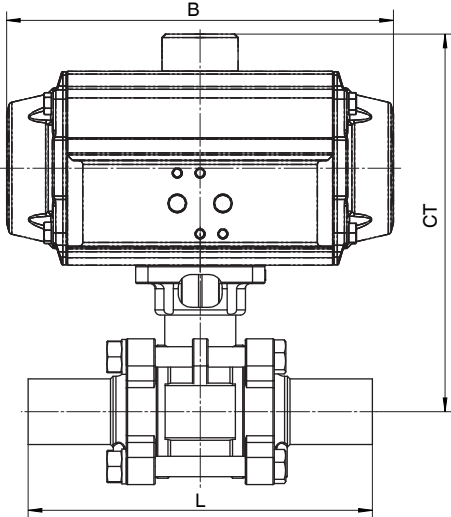
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GW-741



Installation dimensions (extract)

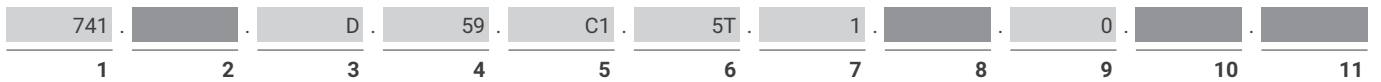


Nominal size	B	CT	L
DN 15	136.0	131.6	75.0
DN 20	136.0	135.9	81.7
DN 25	136.0	148.3	99.7
DN 32	153.5	167.6	116.5
DN 40	153.5	184.0	122.3
DN 50	153.5	192.7	145.1
DN 65	259.0	255.7	160.2
DN 80	259.0	264.7	197.4
DN 100	259.0	280.7	233.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and CF3M body material (code C1)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 Actuator particulars
- 10 Ball config./port position

11 CONEXO

GEMÜ 761

Pneumatically operated compact flanged ball valve

The GEMÜ 728 2/2-way metal ball valve is pneumatically operated. The seat seal is made of PTFE.

Features

- High flow rates
- Full-flow bore
- Adjustable travel stops
- Antistatic device



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 TA Luft (German Clean Air Act)

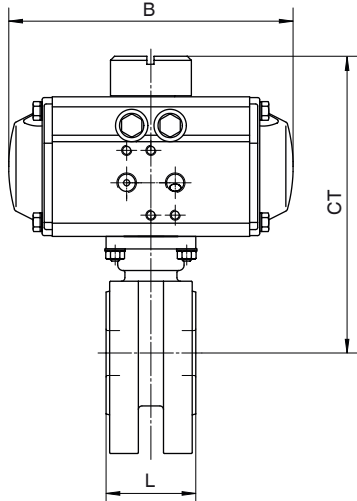
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GW-761



Installation dimensions (extract)

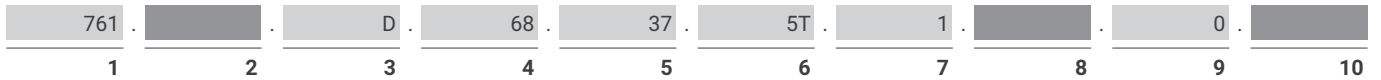


Nominal size	B	CT	L
DN 15	136.0	138.0	41.0
DN 20	136.0	143.0	44.0
DN 25	153.5	170.0	50.0
DN 32	203.5	199.0	60.0
DN 40	203.5	210.5	65.0
DN 50	241.0	228.0	80.0
DN 65	241.0	244.7	110.0
DN 80	259.0	266.5	120.0
DN 100	304.0	307.7	150.0

Dimensions in mm

Dimensions for EN 1092 / PN16 flange (code 68) connection type and CF8M body material (code 37)

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 Actuator particulars
- 10 CONEXO

GEMÜ 791

Pneumatically operated high-pressure ball valve

The GEMÜ 791 3-piece 2/2-way metal ball valve has a metal actuator and is pneumatically operated. The seat seal is made of PTFE. Due to a graphite reinforced body seal, the GEMÜ 791 ball valve is optionally also available as a FireSafe version.

Features

- Low maintenance and reliable spindle sealing
- TA-Luft compliant
- Broad range of operating temperatures and pressures
- Additionally encapsulated body seal
- Suitable for vacuum applications
- Fire-safe design according to API 607 optionally available



Technical specifications

Media temperature:	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 137 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 SMS
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Conformities:	ATEX FDA FireSafe TA Luft (German Clean Air Act)

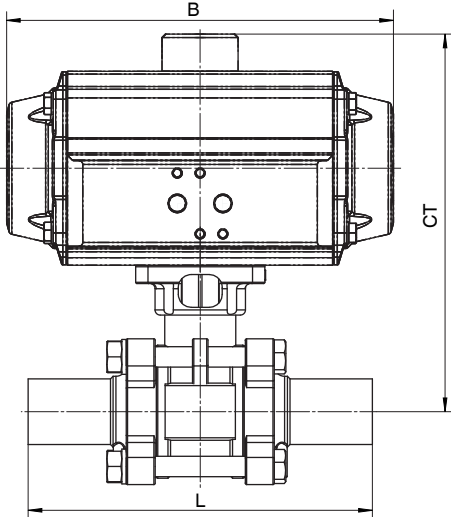
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GW-791



Installation dimensions (extract)



Nominal size	B	CT	L
DN 15	136.0	131.6	75.0
DN 20	136.0	135.9	81.7
DN 25	136.0	148.3	99.7
DN 32	153.5	167.6	116.5
DN 40	153.5	184.0	122.3
DN 50	153.5	192.7	145.1
DN 65	259.0	255.7	160.2
DN 80	259.0	264.7	197.4
DN 100	259.0	280.7	233.0

Dimensions in mm

Dimensions for DIN threaded socket (code 1) connection type and 1.4408 (code 37) body material

Order example

791		V	2 A	37	5	3	DU03AP	0		
1	2	3	4	5	6	7	8	9	10	11






- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Control function
- 8 Actuator version
- 9 Actuator particulars
- 10 Ball config./port position

11 CONEXO

Motorized ball valves

Overview

GEMÜ type	748	768	798
			
Special feature	Option with cavity filled seat and high-grade surface finish	Compact length	High pressures
Media temperature	-20 to 220 °C	-20 to 180 °C	-20 to 180 °C
Ambient temperature	0 to 60 °C	-20 to 60 °C	-20 to 60 °C
Operating pressure	0 to 63 bar	0 to 40 bar	0 to 137 bar
Nominal sizes	DN 8 to 100	DN 15 to 100	DN 8 to 100
Supply voltage	12 - 250 V AC/DC	12 - 250 V AC/DC	12 - 250 V AC/DC
Operating time 90°	11 to 20 s	11 to 20 s	11 to 20 s
Connection types			
Clamp	●	-	-
Flange	-	●	●
Spigot	●	-	●
Threaded connection	-	-	●
Connection standards			
ANSI	-	●	-
ASME	●	-	●
DIN	●	-	●
EN	●	●	●
ISO	●	-	●
NPT	-	-	●
SMS	●	-	●
Body configurations			
2/2-way body	●	●	●
Body materials			
1.4404 (CF3M)	●	-	-
1.4408	-	●	●
Conformities			
ATEX	-	-	●
EAC	●	●	-
FDA	●	●	●
FireSafe	-	-	●
TA Luft (German Clean Air Act)	-	●	●

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

GEMÜ 748

Motorized sanitary ball valve

The GEMÜ 748 3-piece 2/2-way metal ball valve is motorized. It has a plastic actuator housing. The seat seal is available either in PTFE or TFM™.

Features

- Suitable for vacuum applications
- Optionally available with cavity-filled seat
- CIP/SIP capable
- Low maintenance and reliable spindle sealing
- Reduced torque
- High-grade surface finish



Technical specifications

Media temperature:	-20 to 220 °C
Ambient temperature:	0 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 EN ISO SMS
Body materials:	1.4404 (CF3M), investment casting material
Seal materials:	PTFE
Supply voltage:	12 - 250 V AC/DC
Operating time 90°:	11 to 20 s
Protection class:	IP 65
Conformities:	EAC FDA

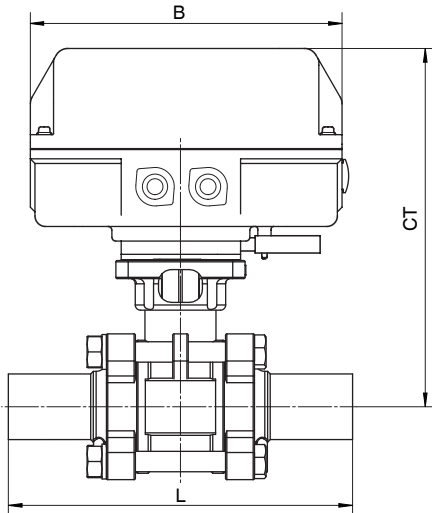
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GW-748



Installation dimensions (extract)



Nominal size	B	CT	L
DN 15	145.0	136.6	75.0
DN 20	145.0	140.9	81.7
DN 25	208.0	183.8	99.7
DN 32	208.0	187.1	116.5
DN 40	235.0	234.0	122.3
DN 50	235.0	242.7	145.1
DN 65	277.5	253.7	160.2
DN 80	277.5	262.7	197.4
DN 100	277.5	278.7	233.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and CF3M body material (code C1)

Order example

748		D	59	C1	5C	C1	A0	1015	
1	2	3	4	5	6	7	8	9	10

- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Voltage/frequency
- 8 Control module
- 9 Actuator version
- 10 CONEXO

GEMÜ 768

Motorized compact flanged ball valve

The GEMÜ 768 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 rates
- Full-flow bore
- Suitable for vacuum applications
- Available with Open/Close control or control module
- Antistatic device



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 - 250 V AC/DC
Operating time 90°:	11 to 20 s
Protection class:	IP 65
Conformities:	EAC FDA TA Luft (German Clean Air Act)

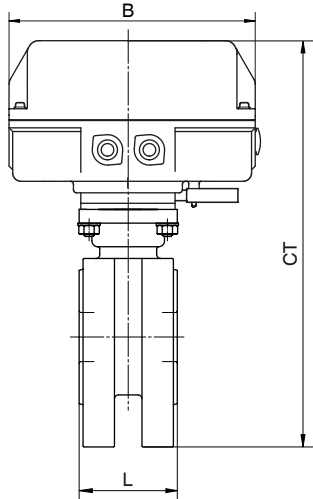
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GW-768



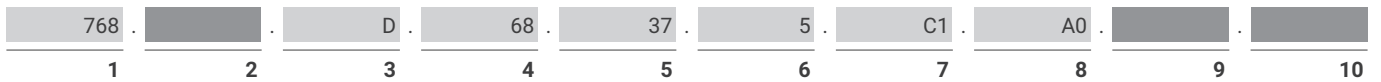
Installation dimensions (extract)



Nominal size	B	CT	L
DN 15	139	171	41
DN 20	139	176	44
DN 25	165	220	50
DN 32	165	232	60
DN 40	215	243.5	65
DN 50	215	248	80
DN 65	263	254.7	110
DN 80	313	264.5	120
DN 100	344	277.7	150

Dimensions in mm

Order example



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Voltage/Frequency
- 8 Control module
- 9 Actuator version
- 10 CONEXO

GEMÜ 798

Motorized high-pressure ball valve

The GEMÜ 798 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. Due to a graphite reinforced body seal, the GEMÜ 798 ball valve is optionally also available as a FireSafe version.

Features

- Low maintenance and reliable spindle sealing
- TA-Luft compliant
- Broad range of operating temperatures and pressures
- Choice of various body materials and connection types
- Suitable for vacuum applications
- Available with Open/Close control or control module



Technical specifications

Media temperature:	-20 to 180 °C
Ambient temperature:	-20 to 60 °C
Operating pressure :	0 to 137 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 SMS
Body materials:	1.4408, investment casting material
Seal materials:	PTFE
Supply voltage:	12 - 250 V AC/DC
Operating time 90°:	11 to 20 s
Protection class:	IP 65
Conformities:	ATEX FDA FireSafe TA Luft (German Clean Air Act)

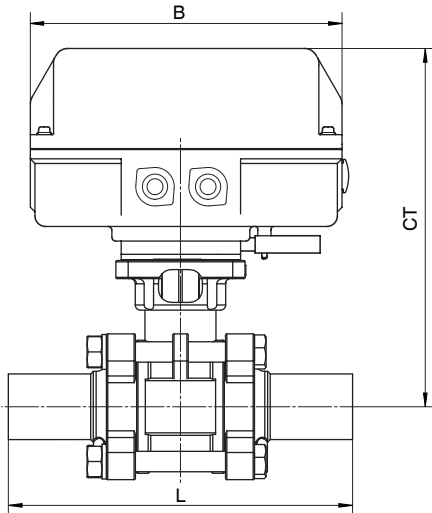
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GW-798



Installation dimensions (extract)



Nominal size	B	CT	L
DN 15	145.0	136.6	75.0
DN 20	145.0	140.9	81.7
DN 25	208.0	183.8	99.7
DN 32	208.0	187.1	116.5
DN 40	235.0	234.0	122.3
DN 50	235.0	242.7	145.1
DN 65	277.5	253.7	160.2
DN 80	277.5	262.7	197.4
DN 100	277.5	278.7	233.0

Dimensions in mm

Dimensions for ISO 1127 / EN 10357 series C / DIN 11866 series B spigot (code 60) connection type and CF3M body material (code C1)

Order example




- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Ball valve material

- 6 Seal material
- 7 Ball configur./port position
- 8 Voltage/Frequency
- 9 Control module
- 10 Actuator version

- 11 Type of design
- 12 CONEXO

Order data for GEMÜ BB04 and BB24

Order example for GEMÜ B24

B24	25	D	59	C3	5T	
1	2	3	4	5	6	7
	1 Type 2 DN 3 Body/ball configuration 4 Connection type 5 Ball valve material			6 Seal material 7 CONEXO		


Order codes

1 Type	Code	7 CONEXO	Code
Ball valve, metal, manually operated, 3-piece body, sanitary, ISO 5211, top flange, lockable hand lever	B24	without	
Ball valve body, metal, 3-piece, Sanitary/Hygienic, ISO 5211, top flange	BB04		
2 DN	Code		
DN 8	8		
DN 10	10		
DN 15	15		
DN 20	20		
DN 25	25		
DN 32	32		
DN 40	40		
DN 50	50		
DN 65	65		
DN 80	80		
DN 100	100		
3 Body/ball configuration	Code		
2/2-way body	D		
4 Connection type	Code		
Spigot ASME BPE	59		
Spigot EN 10357, series A	17		
Spigot ISO 1127 / EN 10357, series C	60		
Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80		
5 Ball valve material	Code		
1.4435 / ASTM A351, low ferrite <3% (equivalent to 316L Δ Fe<3%) (body, connection, ball), 1.4409 / SS316L (spindle)	C3		
6 Seal material	Code		
TFM 1600 (FDA certification)	5T		
TFM 1600 (FDA certification), cavity filled	5H		

Order data for GEMÜ 790, 791, 797 and 798

Order example for GEMÜ 791

791	25	V	1	37	5	1	SU06KP	0			
1	2	3	4	5	6	7	8	9	10	11	12

	<p>1 Type</p> <p>2 DN</p> <p>3 Body configuration</p> <p>4 Connection type</p> <p>5 Ball valve material</p>	<p>6 Seal material</p> <p>7 Control function</p> <p>8 Actuator version</p> <p>9 Actuator particulars</p> <p>10 Ball config./port position</p>	<p>11 Type of design</p> <p>12 CONEXO</p>
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Order codes

1 Type	Code
Ball valve, metal, bare shaft	790
Ball valve, metal, pneumatically operated	791
Ball valve, metal, manually operated	797
Ball valve, metal, motorized	798
2 DN	Code
DN 8	8
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
3 Body configuration	Code
2/2-way body, reduced bore	R
2/2-way body, full bore	V
4 Connection type	Code
Spigot	
Spigot DIN EN 12627	19
Spigot SMS 3008	37
Spigot ASME BPE	59
Spigot ISO 1127 / EN 10357 series C	60
Socket weld DIN EN 12760	2 A
Thread	
Threaded socket DIN ISO 228	1
Flange	
Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	11

4 Continuation of Connection type	Code
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8
5 Ball valve material	Code
Body 1.4408 (CF8M), ball SS316 for DN 8 - DN 15, ball CF8M for DN 20 - DN 100	37
6 Seal material	Code
PTFE, maximum -20 °C to +180 °C	5
PTFE, FIRE SAFE, maximum -20 °C to +180 °C	TI
7 Control function	Code
Only for manually and pneumatically operated ball valves	
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3
Manually operated, hand lever, lockable	L
8 Voltage/Frequency	Code
For GEMÜ 798	
12 VDC	B1
12 V 50/60 Hz	B4
24 VDC	C1
24 V 50/60 Hz	C4
120 V 50/60 Hz	G4
230 V 50/60 Hz	L4
100–250 V 50/60 Hz	O4
9 Control module	Code
For GEMÜ 798	
On/Off actuator, relay, not reversible	00
On/Off actuator, two additional potential-free limit switches, relay, not reversible	0E

9 Continuation of Control module	Code
On/Off actuator, potentiometer output, relay, not reversible	0P
On/Off actuator	A0
On/Off actuator, two additional potential-free limit switches, Class A (EN15714-2)	AE
On/Off actuator, potentiometer output, Class A (EN15714-2)	AP
Control actuator, external set value 0–10 VDC	E1
Control actuator, external set value 0/4–20 mA	E2

10 Actuator version	Code
For GEMÜ 791	
Actuator GEMÜ ADA	
Actuator, pneumatic, double acting, clockwise rotation, ADA0020U F04YS14A	BU02AA
Actuator, pneumatic, double acting, clockwise rotation, ADA0020U F05YS14A	BU02AB
Actuator, pneumatic, double acting, clockwise rotation, ADA0040U F05YS14A	BU04AB
Actuator, pneumatic, double acting, clockwise rotation, ADA0080U F05F07YS17A	BU08AC
Actuator, pneumatic, double acting, clockwise rotation, ADA0200U F07F10YS17A	BU20AE
Actuator GEMÜ ASR	
Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0020U S08 F04YS14/S11A	AU02FA
Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0040U S14 F05YS14/S11A	AU04KB
Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0080U S14 F05F07YS17/S14A	AU08KC
Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0130U S14 F05F07YS17/S14A	AU13KC
Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0200U S14 F07F10YS17/S14A	AU20KE
Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0300U S14 F07F10YS22A	AU30KD

10 Continuation of Actuator version	Code
Actuator GEMÜ DR	
Actuator, pneumatic, double acting, clockwise rotation, DR0015U F04NS11A	DU01AO
Actuator, pneumatic, double acting, clockwise rotation, DR0015U F03F05NS11A	DU01AW
Actuator, pneumatic, double acting, clockwise rotation, DR0030U F05F07NS14A	DU03AP
Actuator, pneumatic, double acting, clockwise rotation, DR0150U F07F10NS17A	DU15AE
Actuator GEMÜ SC	
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0030U 6 F04NS11A	SU03KO
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0060U 6 F05F07NS14A	SU06KP
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0100U 6 F05F07NS17A	SU10KC
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0150U 6 F05F07NS17A	SU15KC
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0220U 6 F07F10NS22A	SU22KD
For GEMÜ 798	
GEMÜ actuator, motorized, size 1, operating time 11 s, torque 15 Nm, supply voltage B1, C1	1015
GEMÜ actuator, motorized, size 2, operating time 11 s, torque 15 Nm, supply voltage B4, C4, O4	2015
GEMÜ actuator, motorized, size 2, operating time 15 s, torque 70 Nm, supply voltage C1	2070
GEMÜ actuator, motorized, size 3, operating time 15 s, torque 35 Nm, supply voltage C1, O4	3035
GEMÜ actuator, motorized, size 4, operating time 20 s, torque 100 Nm, supply voltage C1	4100
GEMÜ actuator, motorized, size 4, operating time 16 s, torque 200 Nm, supply voltage C1	4200


Order data for GEMÜ 790, 791, 797 and 798

11 Actuator particulars	Code
For GEMÜ 791	
Anodized aluminium	0
12 Ball config./port position	Code
without	
T-port, end position "Open", connection 1 and 3 open, T-port, end position "Closed", connection 1 and 2 open	2
T-port, end position "Open", connection 1 and 2 open, T-port, end position "Closed", connection 2 and 3 open	3
T-port, end position "Open", connection 2 and 3 open, T-port, end position "Closed", connection 1, 2 and 3 open	4
L-port, end position "Open", connection 1 and 3 open, L-port, end position "Closed", connection 1 open	6
T-port, anticlockwise rotation, end position "Open", connection 2 and 3 open, T-port, end position "Closed", connection 1 and 2 open	7
L-port, standard end position "Open", connection 2 and 3 open, L-port, standard end position "Closed", connection 1 and 3 open	L
R ball (control ball) for 0°- 90° control range linear control characteristic between port position and percentage flow rate	R
T-port, standard end position "Open", connection 1, 2 and 3 open, T-port, standard end position "Closed", connection 1 and 3 open	T
V ball 30°	U
V ball 60°	V
V ball 90°	W
13 Type of design	Code
without	
Media wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	0101
Media wetted parts cleaned for high purity media and packed in plastic bag	0104
14 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order data for GEMÜ K740, 740, 741 and 748

Order example for GEMÜ 741

741	15	D	59	C1	5T	1	SU01KO	0		
1	2	3	4	5	6	7	8	9	10	11

	1 Type	6 Seal material	11 CONEXO
	2 DN	7 Control function	
	3 Body configuration	8 Actuator version	
	4 Connection type	9 Actuator particulars	
	5 Ball valve material	10 Type of design	

Order codes

1 Type	Code
Sanitary ball valve, pneumatically operated, aluminium double piston actuator	741
Sanitary ball valve, motorized, electric plastic quarter turn actuator, optical position indicator, manual override	748
Sanitary ball valve, manually operated, metal actuator with top flange, lockable hand lever	740
Sanitary ball valve, 3-piece body, with top flange	K740
2 DN	Code
DN 8	8
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Spigot	
Spigot EN 10357 series A, formerly DIN 11850 series 2	17
Spigot SMS 3008	37
Spigot ASME BPE	59
Spigot ISO 1127/EN 10357 series C	60

4 Continuation of Connection type	Code
Clamp	
Clamp ASME BPE, length ASME BPE	80
5 Ball valve material	Code
Body CF3M (316L), ball SS316L for DN 8 - DN 15, ball CF3M for DN 20 - DN 100	C1
6 Seal material	Code
PTFE, FDA-compliant, cavity-filled, maximum -45 °C to +180 °C	5C
TFM 1600, FDA-compliant, maximum -40 °C to +220 °C	5T
7 Control function	Code
Only for manually and pneumatically operated ball valves	
Manually operated, with lockable hand lever	L
Normally Closed (NC)	1
Normally Open (NO)	2
Double Acting (DA)	3
8 Voltage/frequency	Code
For GEMÜ 748	
12 V DC	B1
12 V/50–60 Hz	B4
24 V DC	C1
24 V/50–60 Hz	C4
120 V/50–60 Hz	G4
230 V/50–60 Hz	L4
100–250 V/50–60 Hz	O4

9 Control module	Code
For GEMÜ 748	
Open/Close control with relay, not reversible	00
Open/Close control with twp additional, potential-free limit switches, with relay, not reversible	0E
Open/Close control with potentiometer output, with relay, not reversible	0P
Open/Close control	A0
Open/Close control with two additional, potential-free limit switches	AE
Open/Close control, with potentiometer output	AP
Control module for external set value and feedback, 0–10 V DC	E1
Control module for external set value, 0/4–20 mA	E2

10 Actuator version	Code
For GEMÜ 741	
Actuator GEMÜ ADA	
Double acting, clockwise rotation, ADA0020UF04YS14/S11A	BU02AA
Double acting, clockwise rotation, ADA0040UF05YS14/S11A	BU04AB
Double acting, clockwise rotation, ADA0080UF05F07YS17/S14A	BU08AC
Double acting, clockwise rotation, ADA0130U F05F07YS17/S14A	BU13AC
Double acting, clockwise rotation, ADA0200UF07F10YS17/S14A	BU20AE
Double acting, clockwise rotation, ADA0300UF07F10YS22A	BU30AD
Actuator GEMÜ ASR	
Single acting, ASR0020US08 F04YS14/S11A	AU02FA
Single acting, ASR0040US14 F05YS14/S11A	AU04KB
Single acting, ASR0080US14 F05F07YS17/S14A	AU08KC
Single acting, ASR0130US14 F05F07YS17/S14A	AU13KC
Single acting, ASR0200US14F07F10YS17/S14A	AU20KE
Single acting, ASR0300US14 F07F10YS22A	AU30KD
Single acting, ASR0500US14 F10YS22A	AU50KF

10 Continuation of Actuator version	Code
Actuator GEMÜ SC	
Single acting, SC0015U 6 F04NS11A	SU01KO
Single acting, SC0030U 6 F04NS11A	SU03KO
Single acting, SC0060U 6 F05F07NS14A	SU06KP
Single acting, SC0150U 6 F05F07NS17A	SU15KC
Single acting, SC0220U 6 F07F10NS22A	SU22KD
Single acting, SC0300U 6 F07F10NS22A	SU30KD
Single acting, SC0450U 6 F10F12NS27A	SU45KG

Actuator GEMÜ DR	
Double acting, clockwise rotation, DR0015U F04NS11A	DU01AO
Double acting, clockwise rotation, DR0030U F05F07NS14A	DU03AP
Double acting, clockwise rotation, DR0060U F05F07NS17A	DU06AC
Double acting, clockwise rotation, DR0100U F05F07NS17A	DU10AC
Double acting, clockwise rotation, DR0150U F07F10NS22A	DU15AD
Double acting, clockwise rotation, DR0220U F07F10NS22A	DU22AD

For GEMÜ 748	
Torque 15 Nm, with planetary gear, supply voltage B1, C1	1015
Torque 15 Nm, with planetary gear, supply voltage B4, C4, O4	2015
Actuator size 2, 70 Nm	2070
Actuator size 3, 35 Nm	3035
4100	4100
Actuator size 4, 200 Nm	4200


11 Actuator particulars	Code
For GEMÜ 741	
Anodized aluminium	0

12 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order data for GEMÜ K762, 762, 761 and 768

Order example for GEMÜ 761

761	15	D	68	37	5	1	SU01KO	0		
1	2	3	4	5	6	7	8	9	10	11



1 Type	6 Seal material	11 CONEXO
2 DN	7 Control function	
3 Body configuration	8	
4 Connection type	9 Actuator particulars	
5 Ball valve material	10 Type of design	

Order codes

1 Type	Code	6 Continuation of Seal material	Code
Ball valve, metal, pneumatically operated	761	TFM 1600 (FDA compliant), maximum -20 to +220 °C	5T
Ball valve, metal, motorized	768		
Ball valve, metal, manually operated	762		
Ball valve body with top flange	K762		
2 DN	Code	7 Control function	Code
DN 15	15	Only for manually and pneumatically operated ball valves	
DN 20	20	Manually operated, hand lever, lockable	L
DN 25	25	Normally closed (NC)	1
DN 32	32	Normally open (NO)	2
DN 50	50	Double acting (DA)	3
DN 65	65		
DN 80	80	8 Voltage/Frequency	Code
DN 100	100	For GEMÜ 768	
		12 VDC	B1
		12 V 50/60 Hz	B4
		24 VDC	C1
		24 V 50/60 Hz	C4
		120 V 50/60 Hz	G4
		230 V 50/60 Hz	L4
		100–250 V 50/60 Hz	O4
3 Body configuration	Code	9 Control module	Code
2/2-way body	D	On/Off actuator, relay, not reversible	00
		On/Off actuator, two additional potential-free limit switches, relay, not reversible	0E
		On/Off actuator, potentiometer output, relay, not reversible	0P
		On/Off actuator	A0
		On/Off actuator, two additional potential-free limit switches, Class A (EN15714-2)	AE
		On/Off actuator, potentiometer output, Class A (EN15714-2)	AP
4 Connection type	Code	Control actuator, external set value 0–10 VDC	E1
Flange ANSI class 125/150 RF, up to DN 100 face-to-face dimension FTF EN 558 series 3, ASME/ANSI B16.10 table 1, columns 8 and 9, from DN 125 face-to-face dimension FTF EN 558 series 12, ASME/ANSI B16.10 table 1, column 3	46	Control actuator, external set value 0/4–20 mA	E2
Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only	68		
5 Ball valve material	Code		
Body 1.4408 (CF8M), ball SS316 for DN 8 - DN 15, ball CF8M for DN 20 - DN 100	37		
6 Seal material	Code		
PTFE, maximum -20 °C to +180 °C	5		

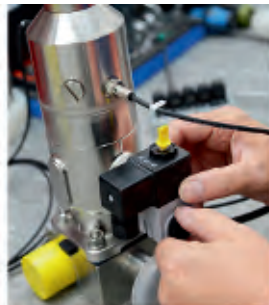
10 Actuator version	Code
For GEMÜ 761	
Actuator GEMÜ SC	
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0015U 6 F04NS11A	SU01KO
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0030U 6 F04NS11A	SU03KO
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0060U 6 F05F07NS14A	SU06KP
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0100U 6 F05F07NS17A	SU10KC
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0150U 6 F05F07NS17A	SU15KC
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0220U 6 F07F10NS22A	SU22KD
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0300U 6 F07F10NS22A	SU30KD
Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0450U 6 F10F12NS27A	SU45KG
Actuator GEMÜ DR	
Actuator, pneumatic, double acting, clockwise rotation, DR0015U F04NS11A	DU01AO
Actuator, pneumatic, double acting, clockwise rotation, DR0030U F05F07NS14A	DU03AP
Actuator, pneumatic, double acting, clockwise rotation, DR0060U F05F07NS17A	DU06AC
Actuator, pneumatic, double acting, clockwise rotation, DR0100U F05F07NS17A	DU10AC
Actuator, pneumatic, double acting, clockwise rotation, DR0150U F07F10NS22A	DU15AD
Actuator, pneumatic, double acting, clockwise rotation, DR0220U F07F10NS22A	DU22AD
For GEMÜ 768	
GEMÜ actuator, motorized, size 1, operating time 11 s, torque 15 Nm, supply voltage B1, C1	1015

10 Continuation of Actuator version	Code
GEMÜ actuator, motorized, size 2, operating time 11 s, torque 15 Nm, supply voltage B4, C4, O4	2015
GEMÜ actuator, motorized, size 2, operating time 15 s, torque 70 Nm, supply voltage C1	2070
GEMÜ actuator, motorized, size 3, operating time 15 s, torque 35 Nm, supply voltage C1, O4	3035
GEMÜ actuator, motorized, size 4, operating time 20 s, torque 100 Nm, supply voltage C1	4100
GEMÜ actuator, motorized, size 4, operating time 16 s, torque 200 Nm, supply voltage C1	4200
11 Actuator particulars	
Anodized aluminium	0
12 Type of design	
Standard	
Thermal separation between actuator and valve body via mounting kit	5222
13 CONEXO	
without	
Integrated RFID chip for electronic identification and traceability	C

Add-on components for ball valves

GEMÜ type	B24	740	741	761	762	791	797
Measurement and control technology							
Electrical position indicators							
GEMÜ 1235 / 1236 ▶ page 420			•	•		•	
GEMÜ 1242 ▶ page 422			•	•		•	
GEMÜ LSC ▶ page 426	•	•	•	•	•	•	•
GEMÜ LSF ▶ page 428	•	•	•	•	•	•	•
Combi switchboxes							
GEMÜ 4242 ▶ page 436			•	•		•	
Control systems							
Positioner							
GEMÜ 1435 ePos ▶ page 394			•	•		•	
Positioner and process controller							
GEMÜ 1436 cPos ▶ page 396			•	•		•	
Accessories							
Stroke limiters ▶ page 494			•	•		•	
Position indicators ▶ page 493			•	•		•	

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 also save on the time and effort required for logistics and installation of the plant on site, as well as for documentation.



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:

Further information can be found in the valve information section.

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

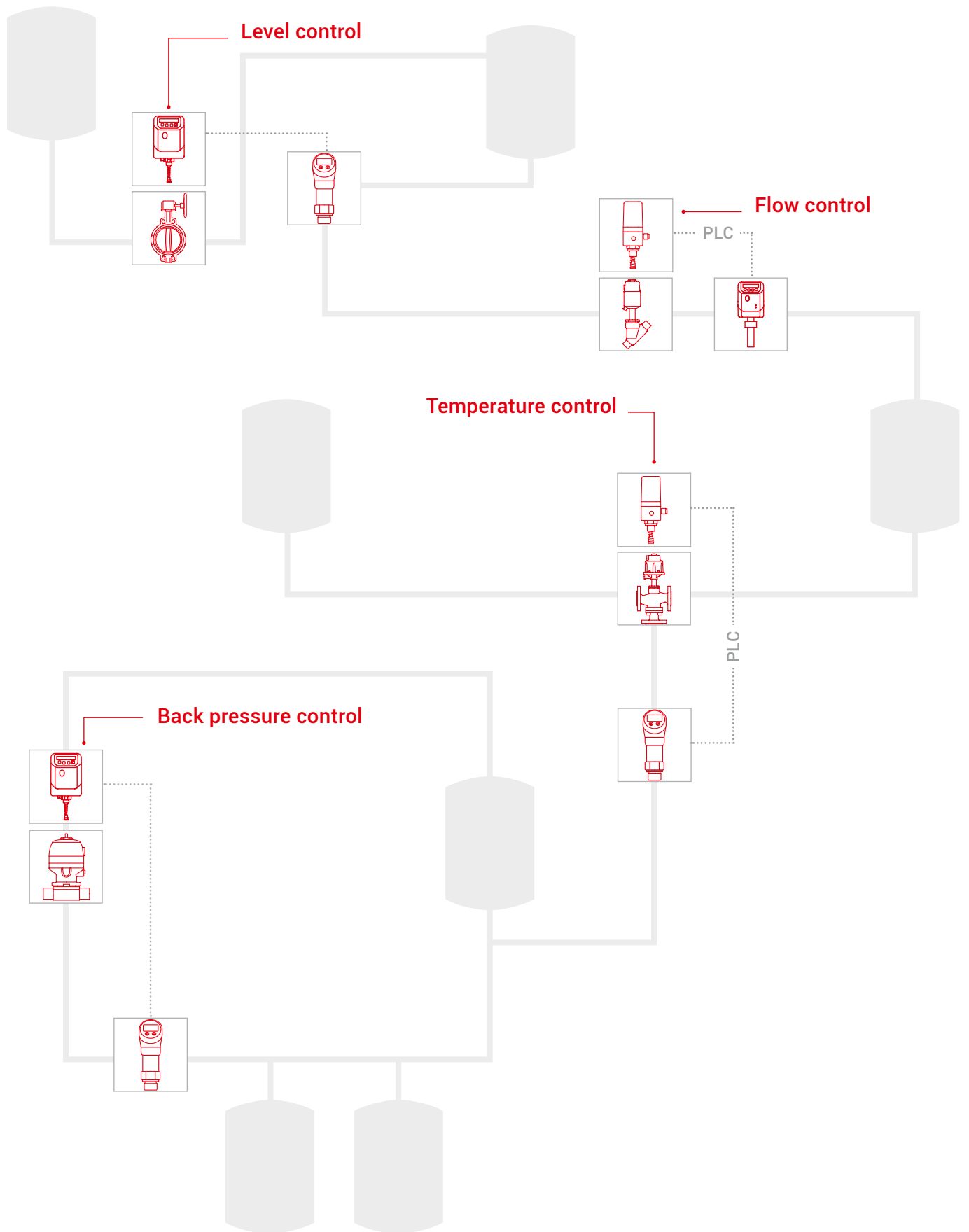
Level control

- 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)





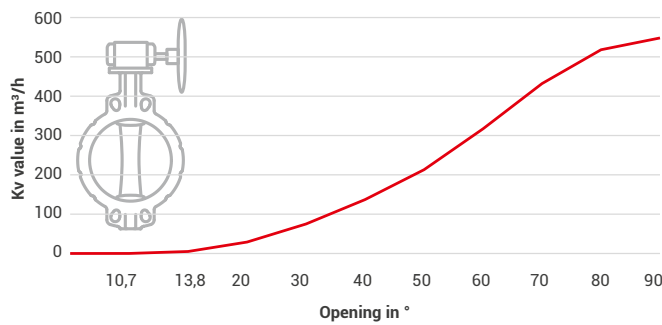
Overview of valve group controllability

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

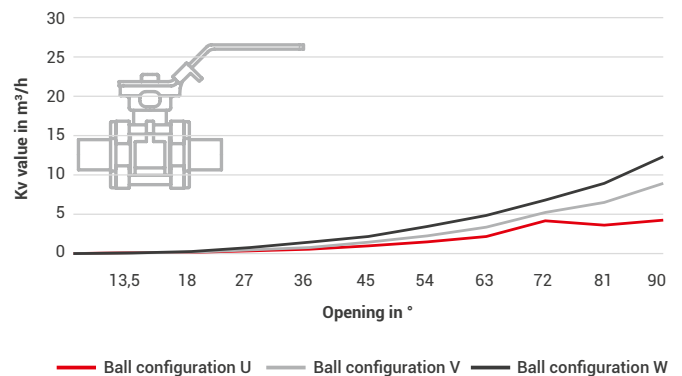


Typical control characteristic for butterfly valves

Controlling with ball valves

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

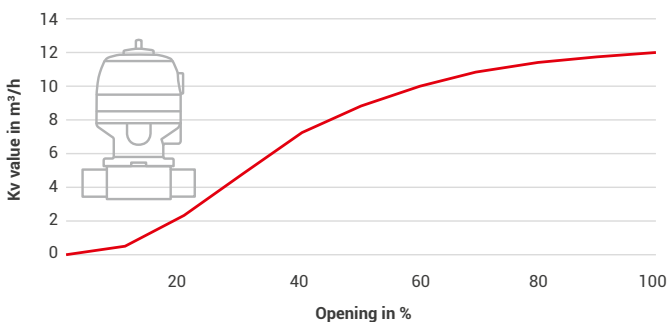
By using what has become known as an orifice plate, relatively constant control characteristics can, nevertheless, be achieved.



Typical control characteristic for ball valves

Controlling with diaphragm valves

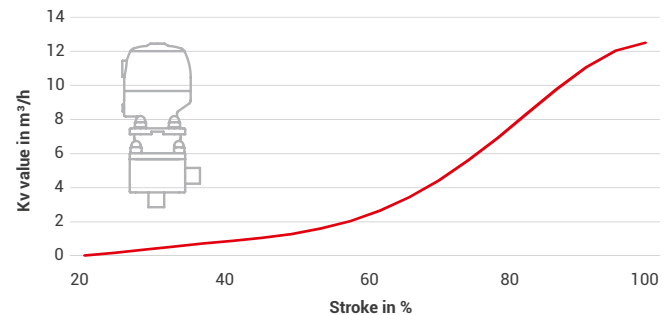
The controllable area is between 20% and 80% of the maximum achievable Kv value for the respective GEMÜ diaphragm size. This combines various nominal sizes and pipe standards (inside diameter).



Typical control characteristic for diaphragm valves

Controlling with diaphragm globe valves

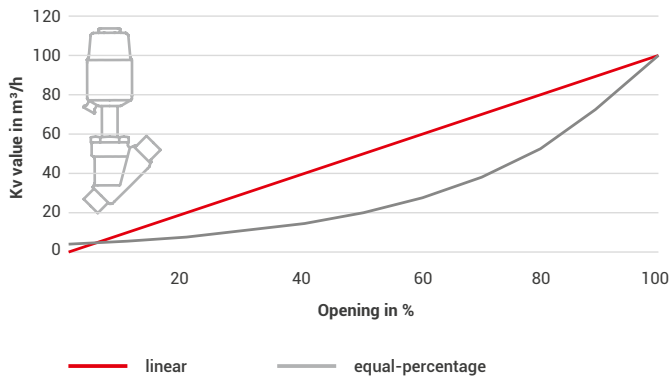
Due to the optional control PD (plug diaphragm), diaphragm globe valves are predestined for highly precise control tasks, particularly in aseptic and hygienic processes. The variety of available regulating cones means that perfectly adjusted control is possible from minimum volumes (approx. 4 l/h) up to larger volumes (approx. 12.5 m³/h).



Typical control characteristic for diaphragm globe 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

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 have widely different 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

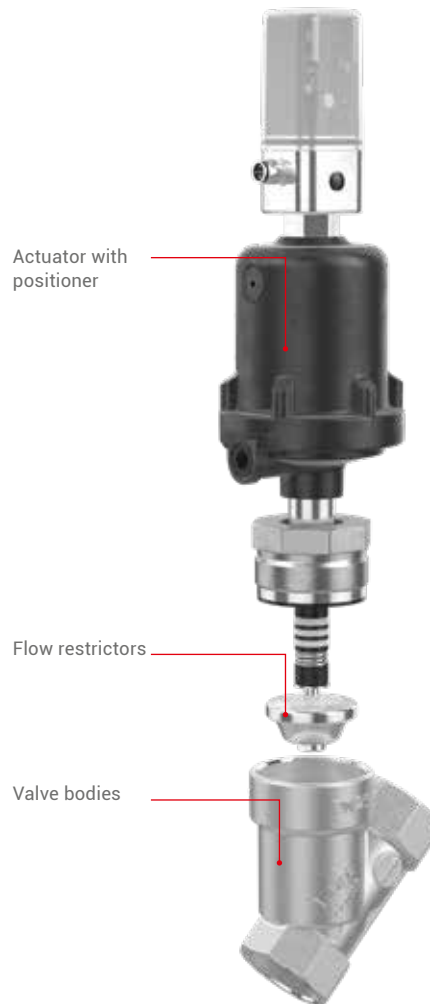


Regulating cone



Regulating cage

This is how a globe valve becomes a control valve



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.



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.

Further information can be found in the valve information section.





Independent of the correct valve design, the valve must be positioned with the positioner and the necessary sensors at the "correct place" in the pipe 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
				
Controller type	Positioner	Positioner	Positioner	Positioner and process controller
Ambient temperature	0 to 60 °C	0 to 60 °C	-20 to 60 °C	0 to 60 °C
Supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
Flow rate				
15 NI/min	●	-	-	-
150 l/min	-	●	-	●
200 l/min	-	●	-	●
300 l/min	-	-	-	●
50 NI/min	-	-	●	-
90 NI/min	-	-	●	-
Measuring range				
Max. 30 mm, linear	●	●	●	●
Max. 50 mm, linear	-	●	●	●
Max. 75 mm, linear	-	●	●	●
Max. 90°, radial	-	●	●	●
Electrical connection types				
Cable gland	-	-	●	-
Connectors	●	●	●	●
Communication modes				
DeviceNet	-	-	-	●
Profibus	-	-	-	●
ProfiNet	-	-	-	●
Programmable outputs				
No	●	●	-	-
Yes	-	-	●	●
Input option				
No	●	●	-	-
Yes	-	-	●	●
Conformities				
EAC	●	●	●	●

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 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 are 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 valves with basic requirements.

Features

- No air consumption when idle
- Simple mounting to various valve actuators
- Simple commissioning due to automatic initialisation
- Speed^{AP} function for fast mounting and initialisation
- Easy operation due to balanced pre-configuration
- 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 plug M12 socket
Conformity:	EAC

Go online!



GW-1434



Order example

1434	000	Z	1	A	14	3	00	01	010		
1	2	3	4	5	6	7	8	9	10	11	12



1 Type
2 Fieldbus
3 Accessory
4 Action
5 Set value input

6 Accessory housing material
7 Pneumatic connection
8 Option
9 Flow rate
10 Travel sensor version

11 Type of design
12 CONEXO

Order codes

1 Type	Code
Electro-pneumatic positioner µPos	1434
2 Fieldbus	Code
Without (3-wire version)	000
3 Accessory	Code
Accessory	Z
4 Action	Code
Single acting	1
5 Set value input	Code
4–20 mA, set value specification	A
0–20 mA, set value specification	B
0–10 V, set value specification	C
6 Accessory housing material	Code
Stainless steel base, PP cover	07
3.2315, AlMgSi1/AlSi1MgMn	14
7 Pneumatic connection	Code
Air supply M5 connection thread, outlet M5 connection thread	1
Air supply via push-in connector, angle, for 4 mm tube, outlet via push-in connector, angle, for 4 mm tube	2
Air supply via push-in connector, angle, for 6 mm tube, outlet via push-in connector, angle, for 6 mm tube	3
8 Option	Code
Without	00
4–20 mA, actual value output	A0
0–20 mA, actual value output	B0
0–10 V, actual value output	C0

9 Flow rate	Code
15 l/min	01
10 Travel sensor version	Code
Potentiometer, 10 mm length	010
Potentiometer, 30 mm length	030
Remote potentiometer, M12 connector	S01
11 Type of design	Code
Standard	
Dead zone presetting 2%	2442
Dead zone presetting 5%	2443
Inversed direction, for quarter turn valves control function NO (2)	6960
12 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

GEMÜ 1436 eco cPos

Intelligent electro-pneumatic positioner

The GEMÜ 1436 eco cPos digital electro-pneumatic positioner is used to control 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 valves with basic requirements.

Features

- No air consumption when idle
- Simple mounting to various valve actuators
- Simple commissioning due to automatic initialisation
- Speed^{AP} function for fast mounting and initialisation
- Easy operation due to balanced pre-configuration
- High flow rates



Technical specifications

Ambient temperature:	0 to 60 °C
Operating pressure :	1,5 to 7 bar
Mode of action:	Single acting
Flow rate:	150 l/min 200 l/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

Go online!



Order example

1436	000	Z	1	ECON	00	01	030		
1	2	3	4	5	6	7	8	9	10



1 Type
2 Fieldbus
3 Accessory
4 Action
5 Device version

6 Option
7 Flow rate
8 Travel length
9 Type of design
10 CONEXO

Order codes

1 Type	Code
Positioner, electro-pneumatic cPos	1436
2 Fieldbus	Code
Without	000
3 Accessory	Code
Accessory	Z
4 Action	Code
Single acting	1
5 Device version	Code
Positioner Economy	ECON
6 Option	Code
Without	00
7 Flow rate	Code
150 l/min	01
200 l/min	02
8 Travel length	Code
Potentiometer, 30 mm length	030
Potentiometer, 50 mm length	050
Potentiometer, 75 mm length	075
Potentiometer, 90° travel	090
Remote potentiometer, M12 connector	S01
9 Type of design	Code
Standard	
Dead zone presetting 2%	2442
Dead zone presetting 5%	2443
Inversed direction, for quarter turn valves control function NO (2)	6960

10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

GEMÜ 1435 ePos

Intelligent electro-pneumatic positioner

The GEMÜ 1435 ePos digital electro-pneumatic positioner is used to control 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 buttons and an LCD display which allows the product to be individually adapted to the control task. The operating times can be adjusted by 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 optimises the valve control during initialisation
- 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 M16 cable gland
Conformity:	EAC

Go online!



GW-1435



Order example

1435	000	Z	1	0	0	01		
1	2	3	4	5	6	7	8	9



- 1 Type
- 2 Fieldbus
- 3 Accessory
- 4 Action
- 5 Explosion-proof class

- 6 Option
- 7 Flow rate
- 8 Special specification
- 9 CONEXO

Order codes

1 Type	Code
Electro-pneumatic positioner ePos	1435
2 Fieldbus	Code
Without	000
3 Accessory	Code
Accessory	Z
4 Action	Code
Single acting	1
Double acting	3
5 Explosion-proof class	Code
Without explosion-proof rating	0
6 Option	Code
Without	0
Electrical connections M12, 5-pin	1
4-20 mA, actual value output	2
4- 20 mA, actual value output, electrical connections M12, 5-pin	3
4 - 20 mA, actual value output, heating element	4
Electrical connections M12, 5-pin, heating element	5
Heating element	6
4 - 20 mA, actual value output, electrical connections M12, 5-pin, heating element	7
7 Flow rate	Code
Electro-pneumatic, 50 l/min	01
Electro-pneumatic, 90 l/min (Booster)	02
8 Special specification	Code
without	
Dead zone presetting 2%	2442

8 Continuation of Special specification	Code
Dead zone presetting 5%	2443
Inversed direction, for quarter turn valves control function NO (2)	6960
9 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

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 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 buttons 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 valve actuators
- Access rights via different user levels
- High flow rates



DeviceNet

EAC

PI

Technical specifications

Ambient temperature:	0 to 60 °C
Operating pressure :	1,5 to 7 bar
Mode of action:	Double acting Single acting
Flow rate:	150 l/min 200 l/min 300 l/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
Conformity:	EAC

Go online!



GW-1436



Order example

1436	000	Z	1	SA01	00	01	030		
1	2	3	4	5	6	7	8	9	10



1 Type
2 Fieldbus
3 Accessory
4 Action
5 Device version

6 Option
7 Flow rate
8 Travel length
9 Type of design
10 CONEXO

Order codes

1 Type	Code
Positioner, electro-pneumatic cPos	1436
2 Fieldbus	Code
Without	000
DeviceNet	DN
Profibus DP	DP
Profinet	PN
3 Accessory	Code
Accessory	Z
4 Action	Code
Single acting	1
Double acting	3
5 Device version	Code
Positioner	SA01
Positioner and process controller	PA01
6 Option	Code
Without	00
2 additional digital inputs 24 V DC	01
7 Flow rate	Code
150 l/min	01
200 l/min	02
300 l/min (Booster)	03
8 Travel length	Code
Potentiometer, 30 mm length	030
Potentiometer, 50 mm length	050
Potentiometer, 75 mm length	075
Potentiometer, 90° travel	090
Remote potentiometer, M12 connector	S01

9 Type of design	Code
Standard	
Dead zone presetting 2%	2442
Dead zone presetting 5%	2443
Inversed direction, for quarter turn valves control function NO (2)	6960
10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C



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 also 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 optimum 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



Actuators

Metal | Plastic



Flow restrictors

Regulating needle | Regulating cage | Regulating cone



Bodies

Angle seat body | Straight seat body



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

Measurement and control technology



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	1215	1230 / 1231 / 1232	1201 / 1211 / 1214	1205	1234
					
Linear measuring range		2 to 20 mm	2 to 70 mm	2 to 70 mm	1 to 10 mm
Radial measuring range					
Ambient temperature	-15 to 60 °C	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C	-10 to 70 °C
Optical position indicators					
High visibility LED	-	-	-	-	-
Mechanical	●	-	-	-	-
On-site LED	-	●	-	-	●
Electrical connection types					
Cable gland	●	●	●	●	-
Connectors	●	●	●	-	●
Threaded connection	-	-	-	-	-
Switch types					
2-wire proximity switch (NAMUR)	-	●	●	-	-
Microswitch	●	●	●	●	-
3-wire proximity switch	-	●	●	-	-
Communication modes					
AS-Interface	-	-	-	-	-
DeviceNet	-	-	-	-	-
IO-Link	-	-	-	-	-
Supply voltage					
10 - 30 V DC	-	●	●	-	-
24 V DC	●	●	●	-	●
250 V AC	●	●	●	●	-
8 V DC	-	●	●	-	-
Conformities					
ATEX	●	●	●	●	-
CSA	-	●	-	-	-
EAC	●	●	●	●	●
ETL Listed C US	-	-	-	-	-
IECEX	-	-	-	-	-
NEC 500	-	-	-	-	-
SIL	-	-	-	-	-
UL	-	●	-	-	-

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

GEMÜ type	1235 / 1236	1242	1225	LSC	LSF
					
Linear measuring range	2,0 to 74,4 mm	2 to 46 mm			
Radial measuring range	0 to 90°	0 to 90°	0 to 90°	0 to 90°	0 to 90°
Ambient temperature	-10 to 70 °C	0 to 60 °C	0 to 70 °C	-25 to 80 °C	-25 to 85 °C
Optical position indicators					
High visibility LED	●	●	-	-	-
Mechanical	-	-	-	●	-
On-site LED	●	●	●	●	●
Electrical connection types					
Cable gland	-	-	●	●	-
Connectors	●	●	-	●	●
Threaded connection	-	-	-	●	-
Switch types					
2-wire proximity switch (NAMUR)	-	-	-	●	●
Microswitch	-	-	●	●	-
3-wire proximity switch	-	-	-	●	●
Communication modes					
AS-Interface	-	●	-	-	-
DeviceNet	-	●	-	-	-
IO-Link	●	●	-	-	-
Supply voltage					
10 - 30 V DC	-	-	-	●	●
24 V DC	●	●	●	●	-
250 V AC	-	-	-	-	-
8 V DC	-	-	-	●	●
Conformities					
ATEX	-	●	-	●	●
CSA	-	●	-	-	●
EAC	●	●	●	-	-
ETL Listed C US	-	●	-	-	-
IECEX	-	●	-	●	●
NEC 500	-	●	-	-	-
SIL	-	●	-	●	-
UL	-	-	-	-	●

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

GEMÜ 1215

Electrical position indicator

The GEMÜ 1215 electrical position indicator indicates one position of the valve. It is designed so that it can be mounted to GEMÜ valves via a female thread in the actuator housing. It can be used up to a switching cycle number of 10⁶.

Features

- The housing can be rotated through 360°
- In addition to electrical position indication an optical position indicator is also installed
- Compact, solid housing



Technical specifications

Ambient temperature:	-15 to 60 °C
Supply voltages:	24 V DC 250 V AC
Protection class:	IP 65
Electrical connection types:	Cable gland Connectors
Switch types:	Microswitch
Conformities:	ATEX EAC

Go online!



GW-1215



Order example



Order codes

1 Type	Code
Electrical position indicator	1215
2 Accessory code	Code
Accessory	000Z
3 Index	Code
For the correct determination of the indices, please contact GEMÜ.	
4 Index 2	Code
For the correct determination of the indices, please contact GEMÜ.	
5 Special version	Code
ATEX version	X

GEMÜ 1230 / 1231 / 1232

Electrical position indicators

GEMÜ 1230/1231/1232 electrical position indicators are suitable for mounting on pneumatically operated linear valves. The position of the valve spindle is reliably detected and reported to the plant control system via microswitches or inductive proximity switches, using play-free and non-positive mounting. The product has been designed specially for valves with a stroke from 2 to 20 mm.

Features

- Simple mounting and retrofitting to GEMÜ linear actuators
- Compact, solid housing
- Option with LED indication
- Adjustable switch point tolerances
- Can be fitted to GEMÜ valves or third-party actuators



Technical specifications

Ambient temperature:	-20 to 60 °C
Linear measuring range:	2 to 20 mm
Supply voltages:	10 - 30 V DC 24 V DC 250 V AC 8 V DC
Protection class:	IP 65
Electrical connection types:	Cable gland Connectors
Switch types:	2-wire proximity switch (NAMUR) Microswitch 3-wire proximity switch
Conformities:	ATEX CSA EAC UL

Go online!



GW-1230



GW-1231



GW-1232



Order example for GEMÜ 1230

1230	000	Z	A00	103	1101	101	U	
1	2	3	4	5	6	7	8	9



- 1 Type
- 2 Fieldbus
- 3 Accessories
- 4 Device version
- 5 Switch

- 6 Electrical connection
- 7 Connection diagram
- 8 Special version
- 9 CONEXO

Order codes

1 Type	Code
Electrical position indicator	1230
Electrical position indicator ATEX	1231
Electrical position indicator	1232
2 Fieldbus	Code
Without	000
3 Accessories	Code
Accessories	Z
4 Device version	Code
Open/close	A00
Open	A01
Closed	A02
Open/close, LED, PNP	A10
Open, LED, PNP	A11
Closed, LED, PNP	A12
Open/close, LED, NPN	A20
Open, LED, NPN	A21
Closed, LED, NPN	A22
5 Switch	Code
Change-over contact, microswitch Schmersal, M 610-11-21-1E	103
6 Electrical connection	Code
M16 cable gland	1101
M12 plug, 4-pin	1110
M12 Binder plug and female angled connector	1111
M16 Skintop cable gland	1103
7 Connection diagram	Code
Terminals, PNP, option with LED	101
M12 plug, PNP	102
Terminals, NPN	103
M12 plug, 4-pin, PNP, option with LED	110
M12 plug, 4-pin, NPN	112

8 Special version	Code
UL approval	U
9 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

GEMÜ 1201 / 1211 / 1214

Electrical position indicators

GEMÜ 1201/1211/1214 electrical position indicators are suitable for mounting on pneumatically operated linear valves. The position of the valve spindle is reliably detected and reported to the plant control system via microswitches or inductive proximity switches, using play-free and non-positive mounting. The product has been designed specially for valves with a stroke of 2 to 60 mm.

Features

- Simple mounting and retrofitting to GEMÜ linear actuators
- Attachment to other valve makes possible
- Compact, solid housing
- Low-wear switches, contactless detection



Technical specifications

Ambient temperature:	-20 to 60 °C
Linear measuring range:	2 to 70 mm
Supply voltages:	10 - 30 V DC 24 V DC 250 V AC 8 V DC
Protection class:	IP 65
Electrical connection types:	Cable gland Connectors
Switch types:	2-wire proximity switch (NAMUR) Microswitch 3-wire proximity switch
Conformities:	ATEX EAC

Go online!



GW-1201




GW-1211



GW-1214



Order example for GEMÜ 1201

1201	000	Z	A00	109	3001	104
1	2	3	4	5	6	7
	1 Type 2 Fieldbus 3 Accessory 4 Function 5 Switch				6 Electrical connection 7 Connection diagram	

Order codes

1 Type	Code
Electrical position indicator for linear actuators	1201
Electrical position indicator ATEX for linear actuators	1211
Electrical position indicator for linear actuators	1214
2 Fieldbus	Code
Without	000
3 Accessory	Code
Accessory	Z
4 Function	Code
Open/Closed	A00
"Open"	A01
Closed	A02
5 Switch	Code
SPDT (Single Pole Double Throw) contact, microswitch, switch Crouzet 83.181	109
6 Electrical connection	Code
PG 13.5 cable gland	3001
Skintop cable gland	3003
Hirschmann plug and socket N6RFFS11	3013
Harting plug HAN 7D and socket	3014
M16 cable gland	3102
7 Connection diagram	Code
Terminals, microswitches	104
Hirschmann socket	106
Harting socket 7D	107
Harting socket 7D	109

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 gland
Switch types:	Microswitch
Conformities:	ATEX EAC

Go online!



GW-1205



Order example

1205	000	Z	AL	A00	03	00	M2	M2	X
1	2	3	4	5	6	7	8	9	10



1 Type
2 Fieldbus
3 Accessory
4 Housing material
5 Function

6 Electrical connection
7 Options
8 Switch
9 Connection diagram
10 Special version

Order codes

1 Type	Code
Electrical position indicator ATEX for linear actuators	1205
2 Fieldbus	Code
Without	000
3 Accessory	Code
Accessory	Z
4 Housing material	Code
Aluminium diecasting	AL
5 Function	Code
Open / Closed	A00
Open	A01
Closed	A02
6 Electrical connection	Code
M20 cable gland	03
7 Options	Code
Without	00
8 Switch	Code
SPDT (Single Pole Double Throw) contact, microswitch	M2
9 Connection diagram	Code
Microswitch PNP	M2
10 Special version	Code
ATEX 2014/34/EU	X

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 feedback as standard
- Quick cable connection
- Easy to fit
- On-site end position programming
- Can be fitted to GEMÜ valves or third-party actuators



EAC

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
Conformities:	EAC

Go online!



GW-1234



Order example



Order codes

1 Type	Code
Electrical position indicator	1234
2 Accessory	Code
Accessory	Z
3 Device version	Code
Programming input, Open/Closed position feedback	1P2D
4 Electrical connection	Code
M12 plug, 5-pin	M125
5 Travel length	Code
Potentiometer, 10 mm length	010
6 Accessory housing material	Code
Base PSU black, cover PSU	H10

GEMÜ 1235 / 1236

Electrical position indicator

GEMÜ 1235 / 1236 electrical position indicators are suitable for mounting 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 make commissioning and support during operation easier. 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 initialisation
- 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



EAC

IO-Link

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
Conformities:	EAC

Go online!




GW-1235



GW-1236



Order example for GEMÜ 1235

1235	000	Z	3E	M125	030	G10
1	2	3	4	5	6	7
		1 Type 2 Fieldbus 3 Accessory 4 Device version 5 Electrical connection	6 Travel sensor version 7 Housing material			

Order codes

1 Type	Code
Electrical position indicator	1235
Electrical position indicator	1236
2 Fieldbus	Code
Without	000
3 Accessory	Code
Accessory	Z
4 Device version	Code
Open/Closed position feedback, programming input, high visibility optical position indicator, IO-Link communication	3E
Open/Closed position feedback, high visibility optical position indicator	3S
Open/Closed position feedback inversed, programming input, high visibility optical position indicator, IO-Link communication	4E
Open/Closed position feedback inversed, high visibility optical position indicator	4S
5 Electrical connection	Code
M12 plug, 5-pin	M125
6 Travel sensor version	Code
Potentiometer, 30 mm length	030
Potentiometer, 50 mm length	050
Potentiometer, 75 mm length	075
7 Housing material	Code
PVDF base, black, PPR natural cover, M16 thread PEEK	G10

GEMÜ 1242

Electrical position indicator

The GEMÜ 1242 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. Secure connection to valve spindle means reliable feedback signal. Intelligent microprocessor controlled functions make commissioning and support during operation easier. 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 initialisation
- 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



DeviceNet



IO-Link



Technical specifications

Ambient temperature:	0 to 60 °C
Linear measuring range:	2 to 46 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 SIL

Go online!




GW-1242



Order example

1242	000	Z	14	00	01	00	E0	01	
1	2	3	4	5	6	7	8	9	10



1 Type	6 Electrical connection
2 Fieldbus	7 Option
3 Accessory	8 Switch
4 Housing material	9 Connection diagram
5 Function	10 Special version

Order codes

1 Type	Code
Electrical position indicator	1242
2 Fieldbus	Code
Without, 24 V version, with IO-Link	000
AS-Interface, 31 slaves, 4I/4O	A2
AS-Interface, 62 slaves, 4I/3O	A3
AS-Interface, 62 slaves, 8I/8O	A4
DeviceNet	DN
3 Accessory	Code
Accessories	Z
4 Housing material	Code
Stainless steel base, PC cover	07
Aluminium base, PC cover	14
5 Function	Code
Position feedback Open / Closed	00
6 Electrical connection	Code
M12 plug, 5-pin	01
M12 plug, 8-pin	02
7 Option	Code
Without	00
Inversed LED feedback	40
8 Switch	Code
Electronics	E0
9 Connection diagram	Code
M12 plug, 5-pin	01
M12 plug, 8-pin	02
10 Special version	Code
Without	
NEC 500 and UL/CSA approval	Y
ATEX (2014/34/EU)	X

GEMÜ 1225

Electrical position indicator

The GEMÜ 1225 electrical position indicator for GEMÜ 410, 411, 415, 417, 423 and 428 butterfly valves has two adjustable trip cams which are positively operated by the switching shaft.

Features

- Can be fitted on quarter turn valves
- Retrofitting possible
- Integrated LED display



ERC

Technical specifications

Ambient temperature:	0 to 70 °C
Radial measuring range:	0 to 90°
Supply voltages:	24 V DC
Protection class:	IP 45
Electrical connection types:	Cable gland
Switch types:	Microswitch

Go online!



GW-1225



Order example

1225	000Z	10	00
1	2	3	4



- 1 Type
- 2 Accessory code
- 3 Type of connection
- 4 For series

Order codes

1 Type	Code
Electrical position indicator for quarter turn actuators	1225
2 Accessory code	Code
Accessories	000Z
3 Type of connection	Code
PNP switching output, microswitches	10
NPN switching output, microswitches	20
4 For series	Code
GEMÜ 410, DN 15 - DN 40	00
GEMÜ 415, DN 15 - 25, GEMÜ 418, DN 15 - 25	01
GEMÜ 415, DN 32 - DN 50	02
GEMÜ 418, DN 15 - DN 50	03
GEMÜ 413, DN 15 - 25	04
GEMÜ 423, DN 15 - DN 40	05
GEMÜ 410, DN 50	06
GEMÜ 411, DN 15 - 50	07
GEMÜ 423, DN 50	08
GEMÜ 417, DN 15 - DN 40	09
GEMÜ 417, DN 50	10

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)
- OPEN/CLOSE LED display (optional)
- Low temperatures to -40 °C (optional)



Technical specifications


Ambient temperature:	-25 to 80 °C
Radial measuring range:	0 to 90°
Supply voltages:	10 - 30 V DC 24 V DC 8 V DC
Protection class:	IP 67
Electrical connection types:	Cable gland Connectors Threaded connection
Switch types:	2-wire proximity switch (NAMUR) Microswitch 3-wire proximity switch
Conformities:	ATEX IECEx SIL

Go online!



Order example

LSC	105	Z	KK	3101	00	S
1	2	3	4	5	6	7



1 Type	6 Option
2 Switch	7 SIL
3 Accessories	
4 Housing/mounting kit material	
5 Electrical connection	

Order codes

1 Type	Code
Limit switch box for quarter turn valves	LSC
2 Switch	Code
Change-over contact, microswitch, 12-250V AC/DC Cherry, D44X-SPDT	105
Change-over contact, microswitch, 12-250V AC/DC Cherry, D44X-DPDT	109
Proximity switch, 2-wire, NAMUR, ATEX ia IFM, NS5002	205
Proximity switch, 2-wire, break contact/make contact, PNP/NPN, 5–36VDC IFM, IS5026	207
Proximity switch, 2-wire, NAMUR, ATEX ia P+F, SJ 3.5 N	208
Proximity switch, 3-wire, make contact, PNP, 10-30VDC IFM, IS5001	305
Proximity switch, 3-wire, make contact, NPN, 10-36VDC IFM, IS5003	320
3 Accessories	Code
Accessories	Z
4 Housing/mounting kit material	Code
Plastic housing	KK
Plastic mounting kit	
Plastic housing	KE
Stainless steel mounting kit	
Aluminium housing	AE
Stainless steel mounting kit	
Plastic housing for manually operated valves	KM
5 Electrical connection	Code
M20 cable gland	3101
Solenoid valve connection for 1 coil	31MA

6 Option	Code
Without	00
3D display	3D
Large 3D display	4D
7 SIL	Code
SIL 1–3 (IEC 61508:2010)	S
8 Approval	Code
ATEX, IEC	X

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
- OPEN/CLOSED LED display



Technical specifications

Ambient temperature:	-25 to 85 °C
Radial measuring range:	0 to 90°
Supply voltages:	10 - 30 V DC 8 V DC
Protection class:	IP 67
Electrical connection types:	Connectors
Switch types:	2-wire proximity switch (NAMUR) 3-wire proximity switch
Conformities:	ATEX CSA IECEx UL

Go online!



Order example

LSF	206	Z	01	A00	000	1110	
1	2	3	4	5	6	7	8



1 Type
2 Switch
3 Accessories
4 NAMUR size (VDI/VDE)
5 Function




6 Fieldbus
7 Electrical connection
8 Approval

Order codes

1 Type	Code
Inductive dual sensor for quarter turn valves	LSF
2 Switch	Code
Proximity switch, 2-wire, NAMUR, ATEX ia P+F, NCN3-F25F-N4-V1	206
Proximity switch, 3-wire, dual make contact, PNP, 10–30 V DC P+F, NBN3-F25F-E8-V1	312
Proximity switch, 3-wire, dual make contact, PNP, 10–36 V DC IFM, IN5225	316
3 Accessories	Code
Accessories	Z
4 NAMUR size (VDI/VDE)	Code
Hole spacing 80 x 30, shaft height 20	01
Hole spacing 80 x 30, shaft height 30	02
Hole spacing 130 x 30, shaft height 30	03
Hole spacing 130 x 30, shaft height 50	04
Hole spacing 80 X 30, distance adapter 10 mm for F25	A2
5 Function	Code
Open/closed	A00
6 Fieldbus	Code
Without	000
7 Electrical connection	Code
M12 plug, 4-pin	1110
8 Approval	Code
Without	
ATEX, IEC	X

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	-	-	•
23 NI/min	-	-	•
250 NI/min	•	•	•
Electrical connection types			
Cable gland	•	•	-
Connectors	-	•	•
Switch types			
2-wire proximity switch (NAMUR)	•	•	-
Microswitch	•	-	-
3-wire proximity switch	•	-	-
Communication modes			
AS-Interface	-	-	•
DeviceNet	-	-	•
IO-Link	-	-	•
Supply voltage			
24 V DC	•	-	•
8 V DC	•	•	-
Conformities			
ATEX	-	•	•
EAC	-	•	•
ETL Listed C US	-	-	•
IECEX	-	•	•
SIL	-	-	•

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 reported 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 8 V DC
Protection class:	IP 65, IP 67
Electrical connection types:	Cable gland
Switch types:	2-wire proximity switch (NAMUR) Microswitch 3-wire proximity switch

Go online!




GW-4240



Order example

4240	000	Z	01	01	03	04	M1	M1	075
1	2	3	4	5	6	7	8	9	10



1 Type	6 Electrical connection
2 Fieldbus	7 Pneumatic connection
3 Accessory	8 Switch
4 Housing material	9 Connection diagram
5 Function	10 Travel length

Order codes

1 Type	Code
Combi switchbox	4240
2 Fieldbus	Code
Without	000
3 Accessory	Code
Accessory	Z
4 Housing material	Code
PPS base, PC cover	01
5 Function	Code
Single acting, with manual override	01
Double acting, without manual override	02
Single acting, without manual override	E1
6 Electrical connection	Code
M16 Skintop cable gland	03
7 Pneumatic connection	Code
Without	00
Air supply 6 mm angled connection, exhaust air 6 mm angled connection	04
Air supply 6 mm T-connection, exhaust air 6 mm angled connection	05
G1/8 connection thread (for IP67 or piped air outlet)	E1
8 Switch	Code
Change-over contact, microswitch, 24 V DC, 250 V AC Crouzet, V4S, SPDT	M1
Proximity switch, 2-wire, NAMUR P+F, HJ1.5-6.5-15-N-Y180094	N1
Proximity switch, 3-wire, make contact, PNP, 10–30 V DC Balluff, BES 516-371-SA 16	P1

9 Connection diagram	Code
Microswitch	M1
Terminals, NAMUR	N1
3-wire	P1
10 Travel length	Code
Potentiometer, 75 mm length	075

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 gland Connectors
Switch types:	2-wire proximity switch (NAMUR)
Conformities:	ATEX EAC IECEx

Go online!




GW-4241



Order example

4241	000	Z	01	01	03	00	N1	N1	075	X
1	2	3	4	5	6	7	8	9	10	11

	<ul style="list-style-type: none"> 1 Type 2 Fieldbus 3 Accessory 4 Housing material 5 Action 	<ul style="list-style-type: none"> 6 Electrical connection 7 Pneumatic connection 8 Switch 9 Connection diagram 10 Travel sensor version 	<ul style="list-style-type: none"> 11 Special version
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Order codes

1 Type	Code	11 Special version	Code
Combi switchbox	4241	ATEX (2014/34/EU), IECEx	X
2 Fieldbus	Code		
Without	000		
3 Accessory	Code		
Accessory	Z		
4 Housing material	Code		
PPS base, PC cover	01		
5 Action	Code		
Single acting, with manual override	01		
6 Electrical connection	Code		
M16 Skintop cable gland; connection diagram "N"	03		
7 Pneumatic connection	Code		
Without	00		
Air supply 6 mm angled connection, exhaust air 6 mm angled connection	04		
Air supply 6 mm T-connection, exhaust air 6 mm angled connection	05		
G1/8 connection thread (for IP67 or piped air outlet)	E1		
8 Switch	Code		
Proximity switch, 2-wire, NAMUR P+F, NJ1,5-6,5-15-N-Y180094	N1		
9 Connection diagram	Code		
NAMUR terminals OPEN/CLOSE 8 V NAMUR sensor; 24 V DC pilot valve	N1		
NAMUR terminals OPEN/CLOSE 8 V NAMUR sensor; 12 V DC pilot valve	N2		
10 Travel sensor version	Code		
Potentiometer, 75 mm length	075		

GEMÜ 4242

Combi switchbox with integrated pilot valve

The GEMÜ 4242 combi switchbox is suitable for mounting to 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 make commissioning and support during operation easier. The current position of the valve is displayed via high visibility LEDs and fed back via electrical signals.

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 initialisation
- 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 23 NI/min 250 NI/min
Supply voltages:	24 V DC
Electrical connection types:	Connectors
Protection class:	IP 65, IP 67
Communication modes:	AS-Interface DeviceNet IO-Link
Conformities:	ATEX EAC ETL Listed C US IECEx SIL

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GW-4242



Order example

4242	000	Z	07	01	01	01	01	01	030	
1	2	3	4	5	6	7	8	9	10	11



1 Type	6 Electrical connection	11 Special version
2 Fieldbus	7 Pneumatic connection	
3 Accessory	8 Option	
4 Housing material	9 Flow rate	
5 Function	10 Travel sensor version	

Order codes

1 Type	Code
Combi switchbox	4242
2 Fieldbus	Code
Without, 24 V DC version	000
AS-Interface, 31 slaves, 4I/4O	A2
AS-Interface, 62 slaves, 4I/3O	A3
AS-Interface, 62 slaves, 8I/8O	A4
DeviceNet	DN
IO-Link	IOL
3 Accessory	Code
Accessories	Z
4 Housing material	Code
Stainless steel base, PC cover	07
Aluminium base, PC cover	14
PPS base, PC cover	01
5 Function	Code
Combi switchbox, single acting	01
Combi switchbox, double acting	02
Combi switchbox, compact version, single acting	K1
6 Electrical connection	Code
M12 plug, 5-pin	01
M12 plug, 8-pin	02
7 Pneumatic connection	Code
Connection thread M5 for size 1, connection thread G1/8 for size 2	01
Air supply 4 mm angled connection, exhaust air 4 mm angled connection	02
Air supply 4 mm T-connection, exhaust air 4 mm angled connection	03
Air supply 6 mm angled connection, exhaust air 6 mm angled connection	04

7 Continuation of Pneumatic connection	Code
Air supply 6 mm T-connection, exhaust air 6 mm angled connection	05
Connection thread M5 for size 1, connection thread G1/8 for size 2 (for IP67 or piped air outlet)	E1
8 Option	Code
Without	00
Manual override	01
Inversed LED colours	40
Inversed LED colours, manual override	41
9 Flow rate	Code
14 NI/min, size 1	01
23 NI/min (Booster), size 1	02
250 NI/min, size 2	03
10 Travel sensor version	Code
Potentiometer 30 mm length, size 1	030
Potentiometer 75 mm length, size 2	075
11 Special version	Code
Without	
NEC 500 and UL/CSA approval	Y
ATEX (2014/34/EU), IECEx	X



Pilot valves





Pilot valves are used to control pneumatic actuators. Pilot valves are generally electromagnetically operated. A pressure differential for operating the valve is also used here. This has the advantage that small electro solenoid actuators can also control high operating pressures in the valve.

Our GEMÜ product range includes pilot valves for direct mounting on pneumatic valve actuators, as well as single valves, valve batteries and complete valve manifolds for assembly in a control cabinet.






Pilot valves

Overview

GEMÜ type	0322	0324	0326	8303 002
				
Media temperature	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C	-10 to 60 °C
Ambient temperature	-10 to 50 °C	-10 to 50 °C	-10 to 50 °C	-10 to 60 °C
Operating pressure	0 to 10 bar	0 to 10 bar	0 to 10 bar	1 to 10 bar
Nominal sizes	DN 2 to 2	DN 2 to 2	DN 2 to 2	DN 2 to 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	•	•	•	•
SIL	•	•	•	-

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

GEMÜ type	8500	8505	8506
			
Media temperature	-10 to 60 °C	-10 to 50 °C	-10 to 50 °C
Ambient temperature	-10 to 60 °C	0 to 50 °C	-10 to 50 °C
Operating pressure	2,5 to 10 bar	1 to 10 bar	2 to 8 bar
Nominal sizes	DN 7 to 7	DN 4 to 7	DN 6 to 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	-	•	•
SIL	•	-	-

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 SIL

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GW-0322



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
- 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 SIL

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 SIL

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GW-0326



GEMÜ 8303 002

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

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002



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 SIL

Go online!



GW-8500



GEMÜ 8505

Electrically operated pilot solenoid valve

The GEMÜ 8505 servo assisted 4/2-way pilot solenoid valve is indirectly controlled. The body is made of aluminium. The plastic encapsulated coil is detachable.

Features

- Optional installation position
- Standard manual override
- Battery mounting with central air supply possible
- The solenoid can be replaced without removing the valve body from the piping
- Technically advanced and proven construction



EAC

Technical specifications

Media temperature:	-10 to 50 °C
Ambient temperature:	0 to 50 °C
Operating pressure :	1 to 10 bar
Nominal sizes:	DN 4 to 7
Electrical connection types:	Plug, design A Plug, design B
Supply voltages:	230 V AC, 50 Hz 24 V AC, 50 Hz 24 V DC
Connection types:	Threaded connection
Connection standards:	DIN ISO
Body materials:	Aluminium
Conformities:	EAC

Go online!



GW-8505



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



EAC

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

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GW-8506



Order data for GEMÜ 0322, 0324 and 0326

Order example for GEMÜ 0322

0322	2	M	1	74	4	1	C1	01	00	10	
1	2	3	4	5	6	7	8	9	10	11	12



configure online

1 Type
2 DN
3 Body configuration
4 Connection type
5 Valve body/solenoid material

6 Seal material
7 Control function
8 Voltage/Frequency
9 Electrical connection
10 Option
11 Maximum operating pressure
12 Type of design


Order codes

1 Type	Code	9 Electrical connection	Code
Pilot solenoid valve, directly controlled, single mounting/battery mounting	0322	Plug design A	00
Pilot solenoid valve, directly controlled, direct mount/hollow bolt	0324	Plug design A, with cable socket, without cable	01
Pilot solenoid valve, directly controlled, mounting to battery rail	0326	M12 plug, (only NC and 24V DC version)	02
		M12 plug, with cable socket, without cable, (only NC and 24V DC version)	03
		Plug design A, with cable socket, 3 m cable, encapsulated (only ATEX version)	05
		Plug design A, with cable socket, without cable, bridge rectifier and incandescent lamp, (with reverse battery protection), (for ≤ 48 V)	06
		Plug design A, with cable socket, without cable, glow lamp (for ≥ 120 V)	08
		Plug design A with cable socket, without cable, green LED, suppression diode, (only for 24V DC version)	09
		Plug design A, with cable socket, without cable, bridge rectifier, glow lamp and varistor, (for ≥ 120 V)	10
2 DN	Code	10 Option	Code
DN 2	2	Without	00
		ATEX (only electrical connection 05, only control function normally closed)	01
		Manual override (only control function 1, normally closed)	02
		Silencer	03
		ATEX, manual override (only electrical connection 05 and for control function 1, normally closed)	04
3 Body configuration	Code		
Multi-port version	M		
4 Connection type	Code		
Threaded socket DIN ISO 228	1		
Threaded socket DIN ISO 228, with hollow bolt G 1/4	14		
Threaded socket DIN ISO 228, with hollow bolt G 1/8	18		
Threaded socket DIN ISO 228, with hollow bolt M5	M5		
5 Valve body/solenoid material	Code		
PA, polyamide	74		
6 Seal material	Code		
FPM	4		
7 Control function	Code		
Normally closed (NC)	1		
Normally open (NO)	2		
8 Voltage/Frequency	Code		
24 V DC	C1		
24 V/50 - 60 Hz	C4		
120 V/50 - 60 Hz	G4		
230 V/50 - 60 Hz	L4		

10 Continuation of Option	Code
ATEX silencer (only electrical connection 05 and for control function 1, normally closed)	05
Manual override, silencer (only control function 1, normally closed)	06
ATEX, manual override, silencer (only electrical connection 05 and for control function 1, normally closed)	07
Manual override, silencer with exhaust air throttle (only control function 1, normally closed)	08
Silencer with exhaust air throttle	09
ATEX, manual override, silencer with exhaust air throttle (only electrical connection 05 and for control function 1, normally closed)	11
11 Maximum operating pressure	Code
10 bar	10
12 Type of design	Code
Without	
Media wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	0101

Order data GEMÜ 8303

Order example

8303	002	M	1	38	2	1	24	DC		
1	2	3	4	5	6	7	8	9	10	11
		1 Type 2 DN 3 Body configuration 4 Connection type 5 Valve body material	6 Seal material 7 Control function 8 Voltage 9 Frequency 10 Type of design	11 Special version						

Order data


1 Type	Code
Pilot solenoid valve, directly controlled	8303
2 DN	Code
DN 2	002
3 Body configuration	Code
Multi-port version	M
4 Connection type	Code
Threaded socket DIN ISO 228	1
5 Valve body material	Code
3.2315, AlMgSi1/AlSi1MgMn	14
1.4581, stainless steel	38
6 Seal material	Code
NBR	2
7 Control function	Code
Normally closed (NC)	1
8 Voltage	Code
110 V	110
120 V	120
230 V	230
24 V	24
9 Frequency	Code
50 Hz	50
60 Hz	60
DC	DC
10 Type of design	Code
Without	
Media wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	0101
For control air connector G 1/8	5224

10 Continuation of Type of design	Code
For water control	5229
Piped air outlet, M5	7040
11 Special version	Code
Without	
ATEX version	X

Order data GEMÜ 8500

Order example

8500	32		G2	14	1	C1	
1	2	3	4	5	6	7	8



1 Type	6 Control function
2 Way version	7 Voltage/frequency
3 NAMUR	8 Special version
4 Connection type	
5 Valve body material	

Order data

1 Type	Code
Pilot valve	8500
2 Way version	Code
3/2-way	32
5/2-way	52
3 NAMUR	Code
Flex plate	F
NAMUR	N
4 DN	Code
DN 7	7
5 Body configuration	Code
Multi-port version	M
6 Connection type	Code
Thread G1/4"	G2
7 Valve body material	Code
AA-2015, AlCuMgSn	14
8 Seal material	Code
NBR	2
9 Control function	Code
Combined spring return	1
Pneumatic spring (ATEX)	A
10 Voltage/frequency	Code
12 V DC	B1
24 V DC	C1
24 V/50 - 60 Hz	C4
48 V DC	D1
110 V/50 - 60 Hz	E4
230 V/50 - 60 Hz	L4

11 Special version	Code
UL approval	U
ATEX version	X

Order data GEMÜ 8505

Order example

8505	4	M	1	14	2	1	230	50
1	2	3	4	5	6	7	8	9



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Valve body material

- 6 Seal material
- 7 Switch position
- 8 Voltage
- 9 Frequency


Order codes

1 Type	Code
Pilot solenoid valve, servo assisted, manual override	8505
2 DN	Code
DN 4	4
DN 7	7
3 Body configuration	Code
Multi-port version	M
4 Connection type	Code
Threaded socket DIN ISO 228	1
5 Valve body material	Code
AA-2015, AlCuMgSn	14
6 Seal material	Code
NBR	2
7 Switch position	Code
Closed neutral position	1
8 Voltage	Code
24 V	24
110 V	110
230 V	230
9 Frequency	Code
50 Hz	50
DC	DC

Order data GEMÜ 8506

Order Example

8506	6	M	1	14	2	1	230	50	
1	2	3	4	5	6	7	8	9	10



1 Type	6 Seal material
2 DN	7 Switch position
3 Body configuration	8 Voltage
4 Connection type	9 Frequency
5 Valve body material	10 Special version

Order codes

1 Type	Code
Pilot solenoid valve, servo assisted, manual override	8506
2 DN	Code
DN 6	6
3 Body configuration	Code
Multi-port version	M
4 Connection type	Code
Threaded socket DIN ISO 228	1
5 Valve body material	Code
3.0615, AlMgSiPb	14
6 Seal material	Code
NBR	2
7 Switch position	Code
Closed neutral position	1
8 Voltage	Code
24 V	24
110 V	110
230 V	230
9 Frequency	Code
50 Hz	50
DC	DC
10 Special version	Code
ATEX version, encapsulation (Ex mb)	X



Flowmeter

With the help of a flowmeter, the volume of a liquid or gas that flows through a pipe can be determined. GEMÜ offers various functional principles 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 measuring float is lifted higher or lower according to the volumetric flow.

Turbine flowmeter

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

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 to 65
Connection types			
Flange	•	•	-
Spigot	•	•	•
Union end	•	•	-
Metering tube materials			
PA	•	•	-
PSU	•	•	-
PVC-U	•	•	•
Float materials			
PP, black	•	•	•
PVC-U, red	•	•	•
PVDF	•	•	-
Stainless steel 1.4571	•	•	-
Conformities			
ATEX	-	•	-
EAC	•	•	•

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
- Corrosion resistant plastic body
- 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



EAC

Technical specifications

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
Connection types:	Flange Spigot Union end
Metering tube materials:	PA PSU PVC-U
Float materials:	PP, black PVC-U, red PVDF Stainless steel 1.4571
Conformities:	EAC

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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
- Corrosion resistant plastic body
- 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



Technical specifications

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
Connection types:	Flange Spigot Union end
Metering tube materials:	PA PSU PVC-U, transparent
Float materials:	PP, black PVC-U, red PVDF Stainless steel 1.4571
Conformities:	ATEX EAC

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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



EAC

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:	PVC-U
Float materials:	PP, black PVC-U, red
Conformities:	EAC

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GW-840



Order data GEMÜ 800

Order example for GEMÜ 805

805	R	25	D	7	21	14	1	52	250	
1	2	3	4	5	6	7	8	9	10	11

	1 Type	6 Metering tube material	11 CONEXO
	2 RoHS conformance	7 O-ring material	
	3 DN	8 Union material	
	4 Body configuration	9 Metering tube size	
	5 Connection type	10 Measuring range	

Order codes


1 Type	Code	1 Continuation of Type	Code
Variable area flowmeter, PVC float, (series 800)	801	Variable area flowmeter, PVDF float with magnet, (series 800)	830
Variable area flowmeter, PP float, (series 800)	805	Variable area flowmeter, PVC float with magnet, (series 800)	831
Variable area flowmeter, 1.4571 (316Ti) stainless steel float, guided float, (series 800)	806	Variable area flowmeter, PVDF float with magnet, for DN 50 with conus 73, (series 800)	832
Variable area flowmeter, 1.4571 (316Ti) stainless steel float, (series 800)	807	Variable area flowmeter, PP float with magnet, (series 800)	835
Variable area flowmeter, PVC float with magnet, (series 800)	811		
Variable area flowmeter, PP float with magnet (series 800)	815	2 RoHS conformance	Code
Variable area flowmeter, 1.4571 (316Ti) stainless steel float with magnet, guided float, (series 800)	816	Conformance to RoHS	R
Variable area flowmeter, 1.4571 (316Ti) stainless steel float with magnet, (series 800)	817	3 DN	Code
Variable area flowmeter, PVDF float (series 800)	820	DN 20	20
Variable area flowmeter, PVDF float, for DN 50 with conus 73, (series 800)	822	DN 25	25
Variable area flowmeter, PP float, (series 800)	825	DN 32	32
		DN 40	40
		DN 50	50
		DN 65	65
		4 Body configuration	Code
		Straight through pipe	D
		5 Connection type	Code
		Union end with DIN insert (socket)	7
		Union end with inch insert - BS (socket)	33
		Union end with DIN insert (for butt welding)	71
		Union end with DIN insert (for IR butt welding)	78
		Union end with Rp threaded socket insert	7R
		Spigot DIN	0
		Spigot EN 10357 series B, formerly DIN 11850 series 1	16

5 Continuation of Connection type	Code
Spigot EN 10357 series A (formerly DIN 11850 series 2)	17
Spigot DIN 11850 series 3	18
Spigot SMS 3008	37
Spigot ASME BPE	59
Spigot ISO 1127/EN 10357 series C	60
6 Metering tube material	Code
PVC-U, transparent	3
PA, transparent	21
PSU	22
7 O-ring material	Code
FPM	4
EPDM	14
FEP encapsulated	55
8 Union material	Code
Insert PVC-U, union nut PP grey	1
Insert PP, union nut PP beige	5
Malleable iron	6
Insert 1.4404 (Rp threaded socket), union nut stainless steel	7
Insert PVDF, union nut PVDF	20
Insert 1.4435 (butt weld spigot), union nut stainless steel	41
Insert 1.4435 (butt weld spigot), insert 1.4404 (Rp threaded socket), PP beige union nut	1V12345 6
Insert 1.4435 (butt weld spigot), insert 1.4404 (Rp threaded socket), PVDF union nut	2V12345 6
9 Metering tube size	Code
See table	
10 Measuring range	Code
See table	
11 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order data GEMÜ 850

Order example for GEMÜ 855

855	R	10	D	7	21	14	1			
1	2	3	4	5	6	7	8	9	10	11



1 Type	6 Metering tube material	11 CONEXO
2 RoHS conformance	7 O-ring material	
3 DN	8 Union material	
4 Body configuration	9 Metering tube size	
5 Connection type	10 Measuring range	

Order codes

1 Type	Code
Variable area flowmeter, PVC float, (series 850)	851
Variable area flowmeter, PP float, (series 850)	855
Variable area flowmeter, 1.4571 (316Ti) stainless steel float, (series 850)	857
Variable area flowmeter, PVC float with magnet, (series 850)	861
Variable area flowmeter, PP float with magnet, (series 850)	865
Variable area flowmeter, 1.4571 (316Ti) stainless steel float with magnet, (series 850)	867
Variable area flowmeter, PVDF float, (series 850)	870
Variable area flowmeter, PP float, (series 850)	875
Variable area flowmeter, PVDF float with magnet, (series 850)	880
Variable area flowmeter, PP float with magnet, (series 850)	885

2 RoHS conformance	Code
Conformance to RoHS	R

3 DN	Code
DN 10	10
DN 15	15
DN 20	20

3 Continuation of DN	Code
DN 25	25

4 Body configuration	Code
Straight through pipe	D

5 Connection type	Code
Union end with DIN insert (socket)	7
Union end with inch insert - BS (socket)	33
Union end with DIN insert (for IR butt welding)	78
Union end with Rp threaded socket insert	7R
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)	17
Spigot DIN 11850 series 3	18
Spigot SMS 3008	37
Spigot ASME BPE	59
Spigot ISO 1127/EN 10357 series C	60

6 Metering tube material	Code
PVC-U, transparent	3
PVDF	20
PA, transparent	21
PSU	22

7 O-ring material	Code
FPM	4
EPDM	14
FEP encapsulated	55

8 Union material	Code
Insert PVC-U, union nut PP grey	1
Insert PP, union nut PP beige	5
Malleable iron	6

8 Continuation of Union material	Code
Insert 1.4404 (Rp threaded socket), union nut stainless steel	7
Insert PVDF, union nut PVDF	20
Insert 1.4435 (butt weld spigot), union nut stainless steel	41
Insert 1.4435 (butt weld spigot), insert 1.4404 (Rp threaded socket), PP beige union nut	1V12345 6
Insert 1.4435 (butt weld spigot), insert 1.4404 (Rp threaded socket), PVDF union nut	2V12345 6
9 Metering tube size	Code
See table	
10 Measuring range	Code
See table	
11 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order data GEMÜ 840

Order example for GEMÜ 840

840	65	D	0	1	14	1	36	20000	
1	2	3	4	5	6	7	8	9	10



- 1 Type
- 2 DN
- 3 Body configuration
- 4 Connection type
- 5 Metering tube material
- 6 O-ring material
- 7 Union material
- 8 Orifice diameter
- 9 Measuring range
- 10 CONEXO




Order codes

1 Type	Code
Variable area flowmeter, part flow principle, PVC	840
Variable area flowmeter, part flow principle, PVC float with magnet	841
Variable area flowmeter, part flow principle, PP float	845
Variable area flowmeter, part flow principle, PP float with magnet	846
2 DN	Code
DN 65	65
3 Body configuration	Code
Straight through pipe	D
4 Connection type	Code
Spigot DIN	0
5 Metering tube material	Code
PVC-U	1
PP, reinforced	5
6 O-ring material	Code
FPM	4
EPDM	14
7 Union material	Code
Insert PVC-U, union nut PP grey	1
Insert PP, union nut PP beige	5
Insert 1.4404 (RP threaded socket), union nut stainless steel	7
8 Orifice diameter	Code
Diameter 36 mm	36
Diameter 40 mm	40
Diameter 44 mm	44
Diameter 48 mm	48

8 Continuation of Orifice diameter	Code
Diameter 52 mm	52
9 Measuring range	Code
Maximum measuring range of flowmeter	20000
Maximum measuring range of flowmeter	25000
Maximum measuring range of flowmeter	32000
Maximum measuring range of flowmeter	40000
Maximum measuring range of flowmeter	50000
10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Electrical flowmeters

Overview

GEMÜ type	3020	3021	3030 mFlow
			
Measuring range - Liquids	120 to 25000 l/h	120 to 25000 l/h	180 to 1150000 l/h
Media temperature	-20 to 80 °C	-20 to 80 °C	0 to 135 °C
Max. operating pressure	10 bar	10 bar	10 bar
Nominal sizes	DN 25 to 50	DN 25 to 50	DN 25 to 300
Connection types			
Flange	-	-	•
Spigot	-	-	•
Union end	•	•	•
Weld-in sleeve	-	-	•
Metering tube materials			
1.4435	-	-	•
PVC-U	•	•	-
PVDF	•	•	-
Electrical connection types			
Plug, design A	•	•	-
M12 plug	-	•	•
M12 socket	-	-	•
Supply voltage			
24 V DC	•	•	•
Conformities			
EAC	•	•	•

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

GEMÜ 3020

Flow transmitter, turbine

GEMÜ 3020 is a turbine flow transmitter. The measuring transducer is separated from the medium flowing through the measurement unit. It has integrated flow rectifiers. The measuring transducer 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

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GW-3020



Order example

3020	25	D	7	1	4	P	002	3600	
1	2	3	4	5	6	7	8	9	10



1 Type
2 DN
3 Body configuration
4 Connection type
5 Material

6 Seal material
7 Display position
8 Transducer
9 Flow rate
10 CONEXO

Order codes

1 Type	Code
Turbine flow transmitter	3020
2 DN	Code
DN 25	25
DN 50	50
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Union end with DIN insert (socket)	7
Union end with Rp threaded socket insert	7R
Union end with inch insert - BS (socket)	33
Union end with DIN insert (for IR butt welding)	78
5 Material	Code
Body PVC-U grey, internal components PVDF	1
Body PVDF, internal components PVDF	20
6 Seal material	Code
EPDM	14
FPM	4
7 Display position	Code
Without display	P
8 Transducer	Code
Frequency output	002
Analogue output 4 - 20 mA	523
9 Flow rate	Code
Maximum flow rate 3600 l/h	3600
Maximum flow rate 25,000 l/h	25000
10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

GEMÜ 3021

Flow transmitter, turbine

GEMÜ 3021 is a turbine flow transmitter. The keypad at the front of the unit enables 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



Order example

3021	25	D	7	1	4	A	T41	C1	
1	2	3	4	5	6	7	8	9	10



1 Type	6 Seal material
2 DN	7 Display position
3 Body configuration	8 Function
4 Connection type	9 Voltage/frequency
5 Material	10 CONEXO

Order codes

1 Type	Code
Turbine flow transmitter, programmable measurement device	3021
2 DN	Code
DN 25	25
DN 50	50
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Union end with DIN insert (socket)	7
Union end with Rp threaded socket insert	7R
Union end with inch insert - BS (socket)	33
Union end with DIN insert (for IR butt welding)	78
5 Material	Code
Body PVC-U grey, internal components PVDF	1
Body PVDF, internal components PVDF	20
6 Seal material	Code
FPM	4
EPDM	14
7 Display position	Code
Display parallel, 0° to flow direction	A
Display vertical, 90° offset to flow direction	B
Display parallel, 180° to flow direction	C
Display vertical, 270° offset to flow direction	D
8 Function	Code
Totalizer, 0/4 - 20 mA and pulse output	T41
Batch controller, 2 relays, remote control inputs and time control	BBT

9 Voltage/frequency	Code
24 V DC	C1
10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

GEMÜ 3030 mFlow

Magnetically inductive flowmeter

The GEMÜ 3030 mFlow flowmeter is based on the magnetically inductive measurement principle. It is suitable for electrically conductive media. Operation is carried out using a membrane keypad positioned on the front of the body with a backlit display.

Features

- Same measurement device can be used for different nominal sizes
- No moving parts in the medium
- Access rights via different user levels
- Integrated Web browser capability
- Simple commissioning and versatile operating facilities
 - Fascia keys
 - PC connection with Internet browser
 - Fieldbus interfaces e.g. Profibus-DP



EAC

Technical specifications

Measuring range - Liquids:	180 to 1150000 l/h
Error of measurement:	± 1 % of final value
Media temperature:	0 to 135 °C
Operating pressure :	0 to 10 bar
Nominal sizes:	DN 25 to 300
Connection types:	Flange Spigot Union end Weld-in sleeve
Metering tube materials:	1.4435
Electrical connection types:	M12 plug M12 socket
Supply voltages:	24 V DC
Conformities:	EAC

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GW-3030



Order example

3030	000	DH	WS	41	4	E	M42	00	C1		
1	2	3	4	5	6	7	8	9	10	11	12

	1 Type	6 Seal material	11 Type of design
	2 DN	7 Sensor material	12 CONEXO
	3 Housing configuration	8 Device version	
	4 Connection type	9 Option	
	5 Housing material	10 Voltage/frequency	

Order codes

1 Type	Code	8 Device version	Code
Magnetically inductive flowmeter, complete measurement device	3030	Measurement device with fieldbus interface	M02
		Measurement device 4 - 20 mA, one pulse output, two relay outputs	M42
		Temperature sensor measurement device, 4 - 20 mA, one pulse output, two relay outputs	MT2
2 DN	Code	9 Option	Code
DN 25 - DN 300, (for DH housing configuration)	000	Without	00
		Profibus-DP	DP
3 Housing configuration	Code	10 Voltage/frequency	Code
Complete measurement device, with GEMÜ in-line housing	DD	24 V DC	C1
Complete measurement device, with GEMÜ wafer-type flange	DF		
Complete measurement device, with GEMÜ weldolet	DH		
Complete measurement device, with NEUMO BioControl in-line housing	DN		
Complete measurement device with TUCHENHAGEN Varivent in-line housing	DU		
4 Connection type	Code	11 Type of design	Code
Union end with Rp threaded socket insert	7R	Without	
DIN wafer-type flange	8	Ra ≤ 0.8 µm electropolished internal/external, surface finish data refers to media-wetted surfaces	1503
Spigot EN 10357 series A (formerly DIN 11850 series 2)	17		
GEMÜ weldolet for DH housing configuration	WS		
5 Housing material	Code	12 CONEXO	Code
1.4435	41	without	
		Integrated RFID chip for electronic identification and traceability	C
6 Seal material	Code		
FPM	4		
EPDM	14		
FFKM (Isolast J9505)	F5		
7 Sensor material	Code		
1.4435/Peek	C		
1.4435/TFM1600	E		



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's pressure 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 measurement devices for sanitary/hygienic 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 SIL UL

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GW-3140



Order example

3140	G12	A	10	7	4	A	C1	0	4A	
1	2	3	4	5	6	7	8	9	10	11



1 Type	6 Seal material	11 Special version
2 Connection size	7 Electrical connection	
3 Type of measurement	8 Voltage/frequency	
4 Measuring range	9 Display	
5 Material	10 Output	

Order codes

1 Type	Code
Pressure transducer, pressure switch	3140
2 Connection size	Code
G 1/2	G12
G 1/4	G14
3 Type of measurement	Code
Absolute pressure	A
Relative pressure	R
4 Measuring range	Code
Measuring range 0 - 6 bar	6
Measuring range 0 - 10 bar	10
Measuring range 0 - 40 bar	40
5 Material	Code
1.4404	7
PVDF	20
6 Seal material	Code
FPM	4
EPDM	14
7 Electrical connection	Code
Type A connector	A
M12 x 1 plug, 4-pin	M
8 Voltage/frequency	Code
24 V DC	C1
9 Display	Code
Without	0
With display	D
10 Output	Code
0 to 20 mA/3-wire	0A
0 to 10 V/3-wire	0V
1 x PNP/0 to 10 V 3-wire + IO-Link	1P0V

10 Continuation of Output	Code
1 x PNP/4 to 20 mA 3-wire + IO-Link	1P4A
2 x NPN/no analogue signal 3-wire + IO-Link	2N
2 x PNP/no analogue signal 3-wire + IO-Link	2P
4 to 20 mA/2-wire	4A
4 to 20 mA/2-wire SIL2 design	4AS
4 to 20 mA/2-wire Ex design	4AX
4 to 20 mA/2-wire Ex + SIL2 design	4AXS
11 Special version	Code
Standard	
ATEX (2014/34/EU)	X

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

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GW-3240



Order example

3240	G12	T	7	4	M	C1	D	PNAV
1	2	3	4	5	6	7	8	9



- | | |
|-----------------------|-------------------------|
| 1 Type | 6 Electrical connection |
| 2 Connection size | 7 Voltage/Frequency |
| 3 Type of measurement | 8 Display |
| 4 Material | 9 Output |
| 5 Seal material | |

Order codes

1 Type	Code
Temperature transducer, temperature switch	3240
2 Connection size	Code
G 1/2	G12
3 Type of measurement	Code
Temperature	T
4 Material	Code
1.4404	7
PVDF	20
5 Seal material	Code
FPM	4
EPDM	14
6 Electrical connection	Code
M12 x 1 plug, 4-pin	M
7 Voltage/Frequency	Code
24 V DC	C1
8 Display	Code
With display	D
9 Output	Code
PNP, NPN, 4-20mA, 0-10V, IO-Link switchable	PNAV

Accessories

Valve mounting accessories

GEMÜ 1041
Mounting and compensating
plate



GEMÜ 1050
Mounting plate



GEMÜ 1041 is a mounting and compensating plate which serves to mount and align GEMÜ plastic diaphragm valves with union ends.

GEMÜ 1050 is a mounting set for mounting pilot valves on a DIN rail.

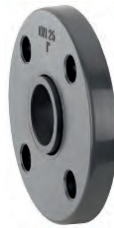
Connection accessories

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 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 model. 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 fixing nut.

Connection accessories

GEMÜ 1470
NAMUR control air adapter



The GEMÜ 1470 adapter makes it possible to connect the control air connector on the defined NAMUR interface.

GEMÜ 2022
Exhaust air throttle



GEMÜ 2022 is a metal or plastic exhaust air throttle. It allows the actuator speed to be regulated by restricting the emission of air. Various connection sizes are available with female thread, male thread, connector, plug-in nipple or quick connectors.

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.

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 SERVICE-IO-LINK-KIT
Programming set



The GEMÜ service IO-Link set comprises an IO-Link master, an adapter and a cable gland. The programming set is suitable for all GEMÜ IO-Link interfaces.

GEMÜ 1434 000 Z IK
Initialisation kit



The GEMÜ 1434 000 Z IK initialization kit is intended for on-site initializing of GEMÜ 1434 μ Pos 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 1434 μ Pos, GEMÜ 1435 ePos and GEMÜ 1436 cPos 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 and GEMÜ 1436 cPos 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).

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 stroke limiter limits both the opening and closing of a valve, thereby setting a minimum and maximum flow. 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 integral 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
Mounting bracket 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
Mounting bracket 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 continuous flow monitoring of 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.

GEMÜ 1276
Digital display unit



The GEMÜ 1276 digital display unit is available as types M11 (4-digit) and M21, M31 (5-digit). The device can be programmed at the front using a disconnectable keypad. Programming is made using the easy to understand menu guidance.

Accessories for fieldbus systems

GEMÜ 4150

AS-Interface extension plug



The AS Interface Extension Plug serves to extend the network cable length from the current 100 m to 200 m without a repeater. This is a passive component without an address in the AS-Interface fieldbus system. At the same time, the extension plug serves as a voltage monitor. Low voltages are signalled by the integrated LED. The extension plug can also be employed in a standard network in order to improve the signal quality and to reduce possible existing telegram error rate.

Valve knowledge

Surface processing

The requirements for functional surfaces are directly related to hygiene safety in pharmaceutical production systems. In the media-wetted area, it is essential that the valves used exhibit optimum cleaning behaviour and maximum corrosion resistance. On a macroscopic level, this is implemented by means of a design that meets the Hygienic Design criteria. Materials are selected according to the resistance criteria for the media and processes used. On a microscopic level, the focus for this functional surface is on an appropriate topography and morphology.

In addition to hygiene class DIN 11866 or ASME BPE, GEMÜ offers the appropriate grade of surface finish depending on customer requirements.



All manufacturing processes are involved in producing a functional surface. All mechanical machining measures from grinding through to electropolishing are precisely synchronized with each other.



Machining

The requirement for a defined surface must be taken into account as early as during the machining of the valve bodies with a geometrically defined cutting edge, for example during milling or turning.



Welding

Each welding procedure involves the manipulation of the structure and surface. The tempering colours that develop here must be considered and evaluated accordingly. Ultimately, you are providing information on the structural morphology. Tempering colours are removed using precisely defined pickling processes. The valve bodies are also electropolished if the customer requests this.



Grinding

The grinding processes have a significant impact on the quality of the surfaces. In addition to the manual grinding procedure, GEMÜ also employs alternative methods, such as slide machining and flow grinding.



Electropolishing

A key factor in producing a functional surface for stainless steels is the electropolishing process. With the surface technology centre, GEMÜ is integrating all capabilities from its own company and also has a great deal of expertise in manufacturing functional surfaces.



Passivation

So that the quality of the surface is also ensured long-term, it is passivated according to a defined procedure immediately after the manufacturing process. This ensures that there is a complete protective layer that prevents corrosion.

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 is 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 and therefore interconnects 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 pipeline and system construction are subdivided into two categories:

- Detachable connection: The piping can be disconnected again, for example for maintenance purposes. This includes union ends, clamps, threads, flare connections and flanges.
- Non-detachable connection: The piping is connected without an additional seal, minimizing weak points and deadlegs. 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 deadleg 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
Kv ₁₀₀	Kv value of an individual valve when open 100% (may deviate +/- 10% from Kv _v)
Kv _s	Kv value of a valve series at rated stroke

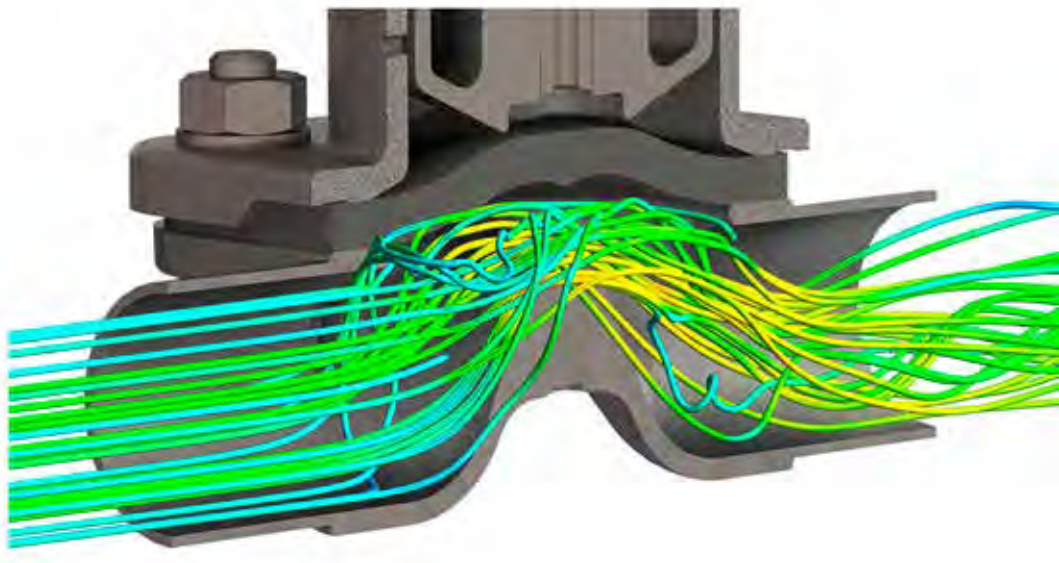
Kv value determination:

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
Measurement unit:	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

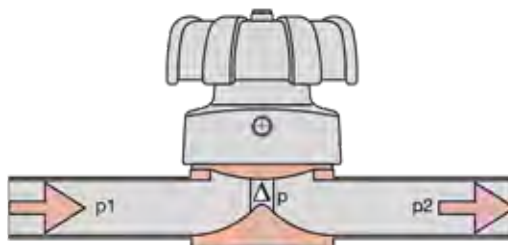


Diaphragm valve flow simulation

Calculation basis for Kv values:

Formulae are used here that 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.



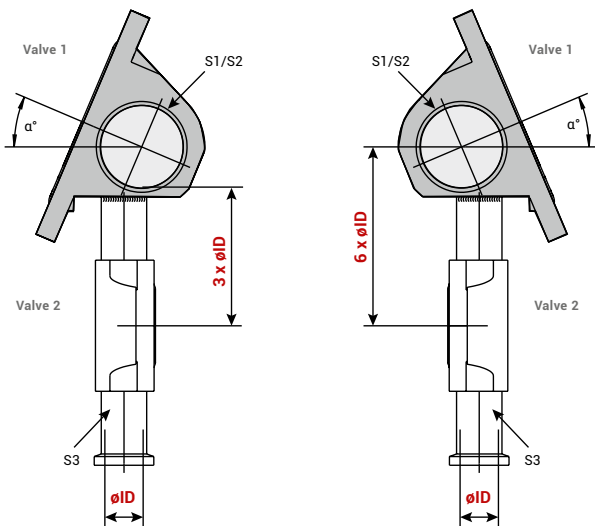
Pressure loss	Kv	for water	for liquid	for steam	for gases
$\Delta p < \frac{p_1}{2}$ ($p_2 > \frac{p_1}{2}$)	Kv	$= \frac{Q}{\sqrt{\Delta p}}$	$= \frac{Q}{31.6} \cdot \sqrt{\rho_1 \Delta p}$	$= \frac{\dot{m}}{31.6} \cdot \sqrt{v' \Delta p}$	$= \frac{Q_N}{514} \cdot \sqrt{\rho_N \cdot T_1 \Delta p \cdot p_2}$
$\Delta p > \frac{p_1}{2}$ ($p_2 < \frac{p_1}{2}$)	Kv	$= \frac{Q}{\sqrt{\Delta p}}$	$= \frac{Q}{31.6} \cdot \sqrt{\rho_1 \Delta p}$	$= \frac{\dot{m}}{31.6} \cdot \sqrt{2 \cdot \frac{v''}{p_1} \Delta p}$	$= \frac{Q_N}{257 \cdot p_1} \cdot \sqrt{\rho_N \cdot T_1 \Delta p}$

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			

3D and 6D rule

The most challenging issues include the purity in processes and the associated cleanability of the valves in the best way possible. Regulatory codes like the FDA/GMP regulations or the ASME/BPE standard define precise geometric reference points to allow you to assess the cleanability of valves. This considers the maximum permissible non-flowing pipe section in a valve configuration between valves 1 and 2.

A welding configuration can be performed either as the 3D rule ($3 \times \text{ØID}$) or the 6D rule ($6 \times \text{ØID}$).



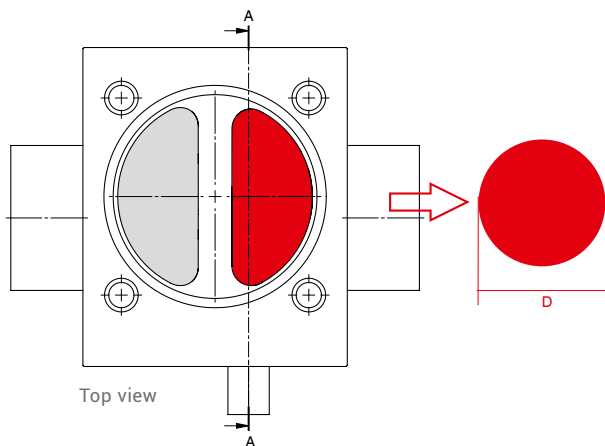
The longitudinal distance from the lower edge (3D rule) or the centre axis (6D rule) of the inside diameter of the main valve to the centre of the sealing weir of the welded-on second valve body may not exceed three or six times the inside diameter of the spigots on the welded-on valve body.

In contrast to welding configurations, the values of bodies made from block material (T bodies, i-bodies, multi-port valve bodies) cannot be determined so easily. To nevertheless comply with the FDA/GMP and ASME/BPE requirements and prove that we have done so, we developed a method by which the length/diameter ratio can likewise be determined for block material bodies:

L/D ratio for multi-port bodies

1. The theoretical diameter D

From the point of view of geometry, the surface of a cavity can also take the form of a circle (see red marking in the diagram) without changing the surface area. The adjacent table provides an overview of different theoretical diameters for standard designs.



3. Overview of standard designs

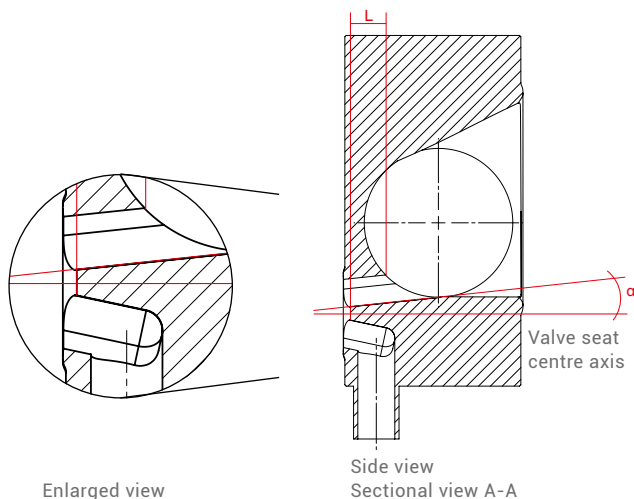
The table below lists the most common inclination angles in conjunction with the corresponding diaphragm sizes. These values can be used to quickly and easily calculate the theoretical diameter.

α	0°	6°	12°	$\geq 45^\circ$
MG	D			
8	11.3	11.5	11.6	9.7
10	15.7	15.9	16.1	14.2
25	29.6	30.1	30.4	29.1
40	39.3	39.9	40.2	38.6
50	49.8	50.7	51.3	50.0
80	73.4	75.1	76.3	74.8
100	98.9	101.0	102.5	100.5

α = inclination angle of the cavity
 MG = diaphragm size
 D = diameter [mm]

2. The length L and the inclination angle α

These two dimensions can be determined using the technical drawing of the valve body.



4. The optimum L/D ratio

The relative proportions of the values ascertained for L (from the drawing) and D (from the table) are now represented as a ratio. The result allows a conclusion to be drawn with regard to whether this valve design fulfils the requirements.

$$\frac{L}{D} = \text{Cleanability guide value}$$

Example: M-block with diaphragm size 25

2. Values taken from the drawing

L = 50 mm
 $\alpha = 6$

3. Value taken from the table

D = 30.1 mm

4. Calculated guide value

$$\frac{L}{D} = \frac{50}{30.1} = 1.66$$

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.

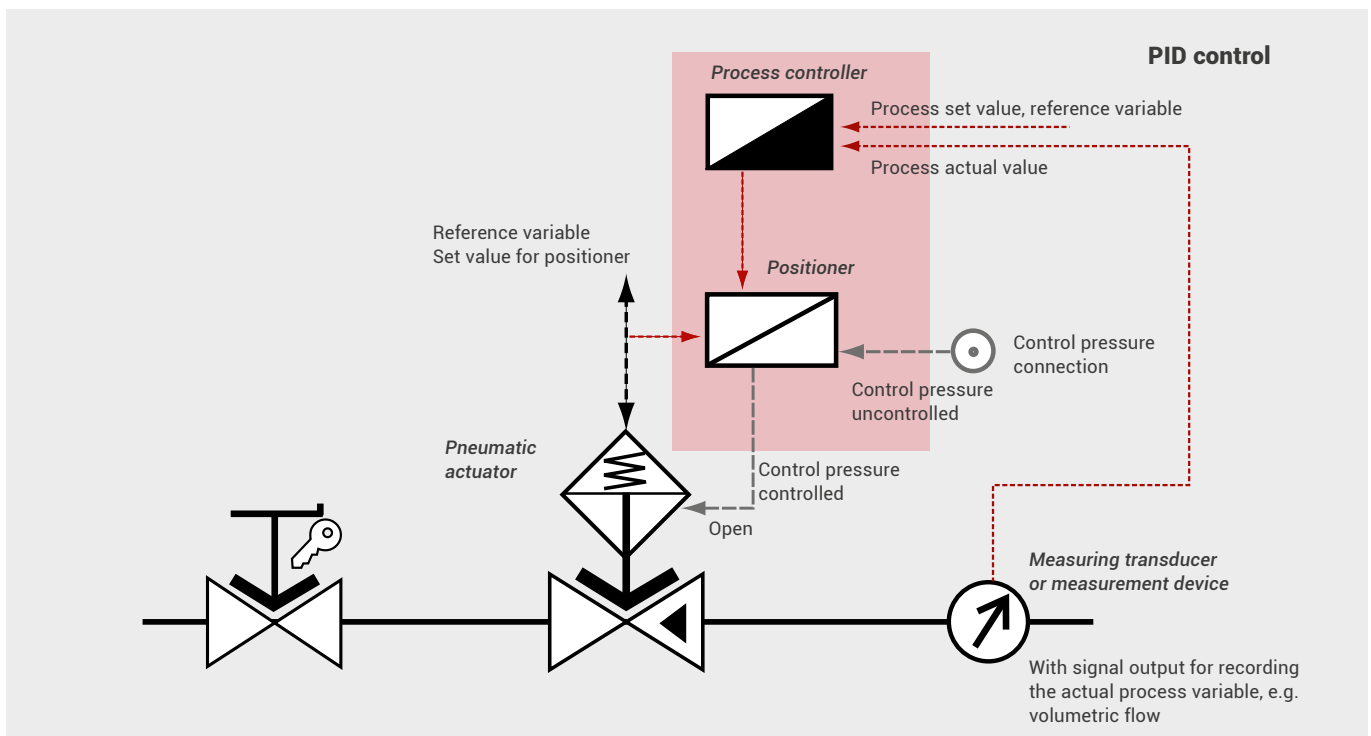
The right design of the control circuit is necessary for good, reliable functionality. The valve and the control or regulating device must be closely adapted to each other.

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 is, the higher the costs for the components and commissioning generally are. 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 set-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 fallen short of. 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, 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 systems. 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 use of energy stores occurring in every controlled system. This is clearly seen in heating processes in systems. 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.

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	○	●	●

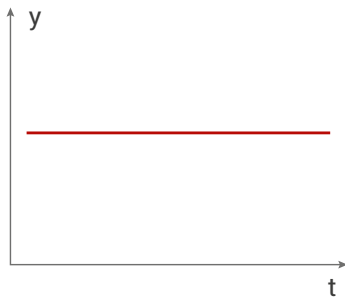
- Very suitable
- Conditionally suitable
- Not suitable

Controlled element	Control error	Actuating speed
P	permanent	fast
I	idle	slow
PD	permanent	very fast
PI	idle	fast
PID	idle	very fast

P controller

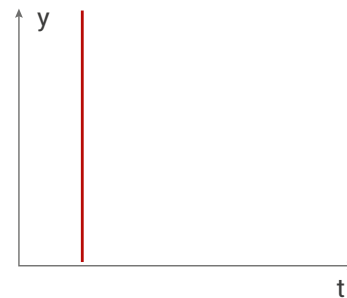
A P controller is a proportionally acting controller. The initial variable (correcting variable y) is always proportional to the control difference. P controllers respond very quickly and have an immediate positioning effect, but they have a permanent control difference between the reference variable 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.



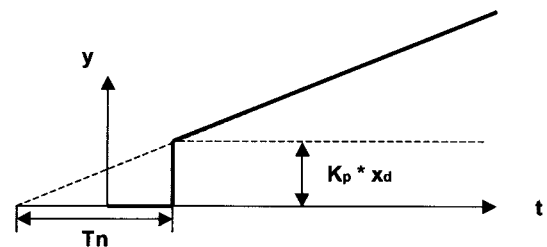
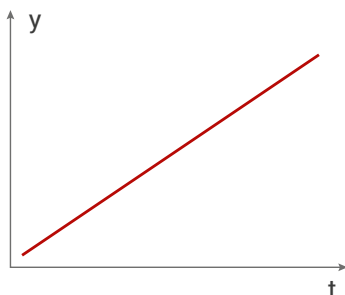
PI controllers

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.

I controllers

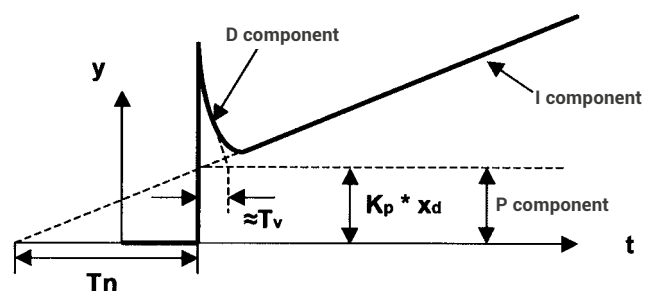
I controllers are integrally acting controllers. A proportional relation exists between control error and actuating speed. I controllers are slower than P controllers but eliminate the control difference completely. The I component in a controller therefore leads to an increase in the accuracy.

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.



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.



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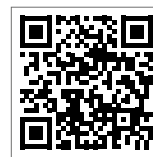
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