

**GEMÜ**



**GEMÜ diaphragms  
for aseptic and sterile applications**



The original diaphragms for GEMÜ diaphragm valves are available for various applications. They are divided into the two categories of soft elastomer and PTFE diaphragms and come with the customary GEMÜ quality:

- Tested on our in-house test rigs
- Special compound according to original GEMÜ specifications
- Production and quality control according to high GEMÜ standards
- Certified production takes place within the GEMÜ Group and at certified suppliers
- Optimised for GEMÜ seal system
- Uniform diaphragm sizes for different nominal sizes to simplify inventory and spare parts procurement



# Management systems

GEMÜ is certified according to quality standard DIN EN ISO 9001:2008. This does not only apply to the German sites in Ingelfingen-Criesbach, Niedernhall-Waldzimmern and Kupferzell but also to our plant in Switzerland and the diaphragm manufacturing site in France. All German plants are also certified to the international environmental standard DIN EN ISO 14001:2004.

All valves and diaphragms are intensively tested on our own test rigs under realistic conditions. They are subjected to several static and dynamic tests because the service life of diaphragms depends on numerous interactions. To this end, there is a wide range of testing devices available, such as a state-of-the-art steam and a CIP/SIP\* test rig.

Statistical tests are generally used to test external leak tightness and leak tightness across the weir. These involve checking the leak tightness at the maximum operating pressure and determining the operating pressure at which the first leaks occur. Dynamic tests are continuous stress tests where the limit values are determined depending on the diaphragm material and diaphragm size. The operating pressure for diaphragm valves, which we permit and recommend, is considerably less than the pressure at which the valves start leaking. This means additional safety for your plant. Our shut-off diaphragms sometimes achieve several million switching cycles depending upon application, material, and diaphragm size.

Depending on diaphragm type and material, dynamic vacuum tests (70 mbar absolute) are additionally carried out at ambient pressure. After the diaphragms have passed these internal tests without problems, field tests are carried out at selected customers. The diaphragms are only released for final series production and worldwide marketing after these field tests have been completed successfully.

All compounding for GEMÜ shut-off diaphragms are carried out exclusively for and according to the specifications of GEMÜ. Production is likewise carried out according to strict quality criteria within the GEMÜ Group or at selected partners with whom we have a close partnership spanning many years.



\* CIP = Cleaning in Place, SIP = Sterilisation in Place

# The original GEMÜ seal system

As a recognised diaphragm valve specialist, GEMÜ are familiar with almost all industrial sectors and applications. We are the leading supplier of stainless steel valves for aseptic and sterile applications in the pharmaceutical industry, biotechnology industry, as well as the foodstuff and beverage industries. As well as this, our valves also stand for reliability and a high standard of quality in the chemical and processing industries. The diaphragm, a central sealing element in the piping system is of major importance. Only the diaphragm and the valve body are in contact with the medium. At the same time, they also guarantee external hermetic sealing of the pipeline.

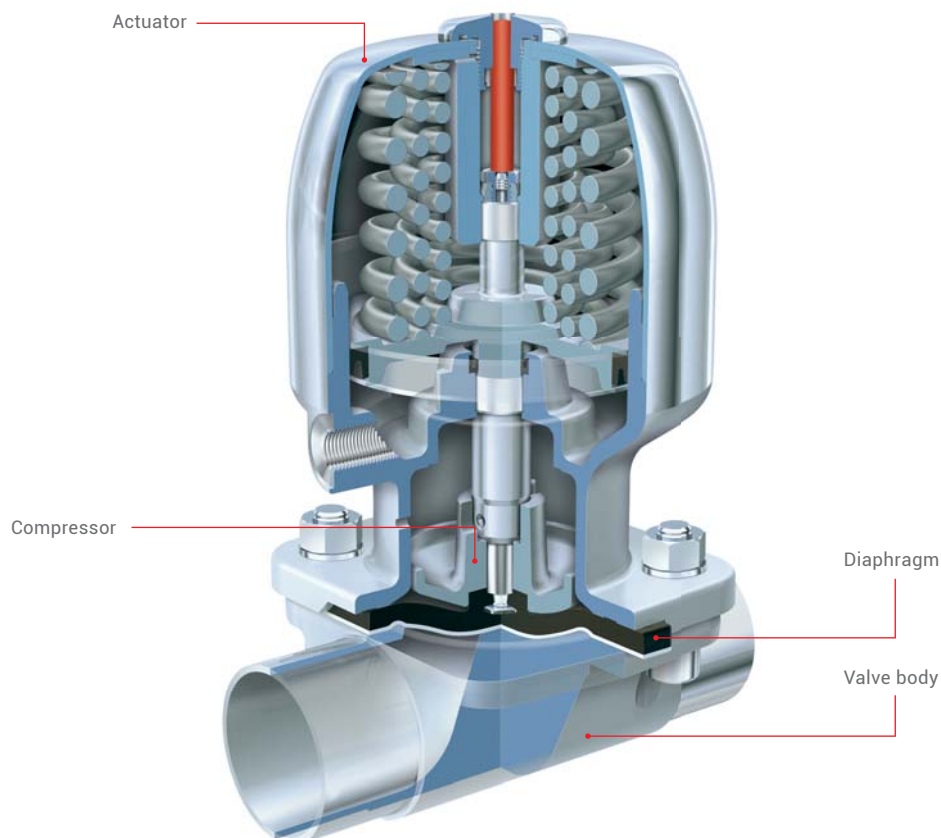
## **The system is more than the sum of the individual parts**

The outstanding characteristics of the diaphragm valve are the result of the perfect interaction of tuned components. These are the valve body, the shut-off diaphragm, the diaphragm fixing, the compressor as well as the actuator. Our many years of experience and intensive dialogue with plant operators has enabled us to continue optimising the diaphragm valve design and its individual components.

## **Diaphragm and valve body are „inseparable“**

GEMÜ valve bodies have a raised circular sealing bead on the inside diameter, in contrast to the valve bodies of other manufacturers. This results in a defined sealing edge. 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. We also consider this crucial design and functional characteristic, which was developed by GEMÜ more than three decades ago and constantly refined, during the development of our diaphragms. Only this ensures 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 do not recommend or guarantee 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.



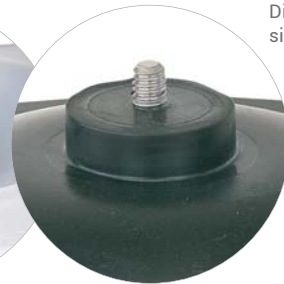


### Flexible diaphragm fixing

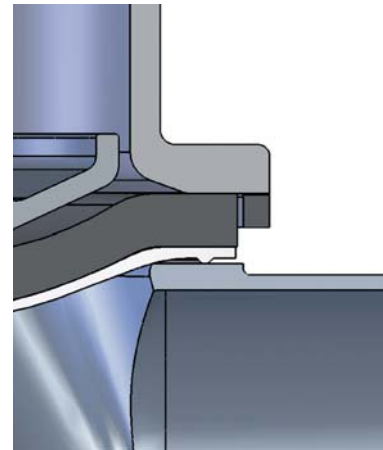
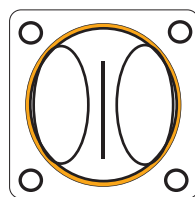
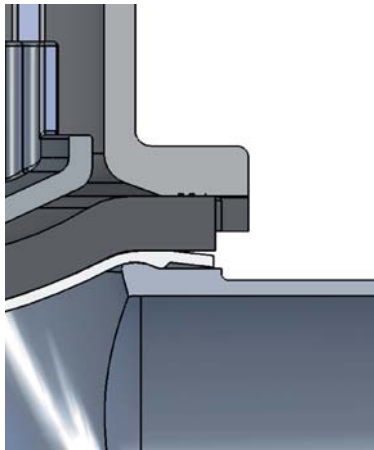
The diaphragm is uniformly fixed in the compressor by means of a threaded pin. The only exception is the smallest diaphragm size (diaphragm size 8), which is pushed in with a rubber pin. The uniform fixing method applies both to soft elastomer and PTFE diaphragms. The largest advantage of fixing by means of a threaded pin, e.g. in comparison to a bayonet fitting, is the even transfer of forces onto the large area of the flanks of the screw thread. This prevents damage to the mechanical connection between compressor and diaphragm especially under vacuum operating conditions. The uniform fixing of elastomer and PTFE diaphragms enables subsequent replacement of the diaphragm while using the same actuator.



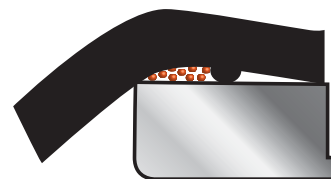
Diaphragm size 8



Diaphragm sizes 10 - 100



GEMÜ seal system



Conventional seal systems

# Certificates and approvals

There is no universal diaphragm for all applications, hence we use different rubber mixtures and materials for our diaphragms. The different diaphragms have been certified according to their main fields of application so that we can certify conformity with the international regulations and rules below.

## FDA (U.S. Food and Drug Administration)

FDA Extraction according to 21CFR 177.2600 for elastomers and 21CFR 177.1550 for PTFE.

## USP (United States Pharmacopeia)

An independent institution has tested our diaphragms according to the regulations of the USP Class VI Chapter 87 In-Vitro and Chapter 88 In-Vivo. Furthermore, our diaphragms are free from animal ingredients.

## RoHS

GEMÜ diaphragms comply with the RoHS Directive 2011/65 EC and the WEEE Directive 2002/96 EC.

## Pressure Equipment Directive

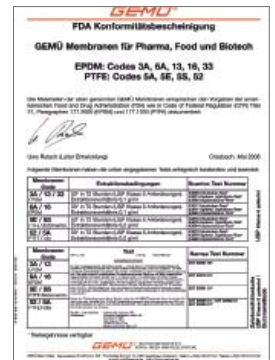
As all diaphragm valves are pressure bearing components and as the diaphragm is the central sealing element in addition to the valve body, all diaphragms also comply with the European Pressure Equipment Directive 2014/68/EU Art. 3 § 3. If no original GEMÜ shut-off diaphragms are installed, GEMÜ cannot accept any responsibility.

## EAC

Certification of conformity with the standards, quality and safety standards of the customs union between Russia, Kazakhstan, Belarus, Armenia and Kyrgyzstan.

## EHEDG

Hygiene standards in the foodstuff and beverage industry are continuously increasing and are approaching those of the pharmaceutical industry in sensitive areas. For this reason, the EHEDG was established some years ago (European Hygienic Engineering and Design Group). GEMÜ was the first diaphragm valve manufacturer worldwide to be granted certification for its diaphragm valve system. The examination took place in 2002.



# GEMÜ diaphragms

## Soft elastomer and PTFE

### Soft elastomer diaphragms

Soft elastomer diaphragms consist of EPDM rubber mixtures, which are peroxidically cross-linked (vulcanised) with each other. This enables the diaphragms to be used safely, even at high media temperatures. The diaphragms are provided with different technical features dependent on the mixture used and on the processing conditions such as the duration of the cross-linking process, the vulcanisation temperature as well as the vulcanisation pressure. The following statement applies in principle to soft elastomer materials: the higher the temperature load capability, the lower the service life is in relationship to the mechanical stress. Therefore both the temperature load and the deformability of diaphragms must be optimally adjusted to the application. Different constructional designs are available to achieve this. Soft elastomer diaphragms are characterised by a high insensitivity in the case of mechanically contaminated working media, e.g. cellular lumps, solid matter or catalytic solid matter. Slurries usually do not affect the function of the valve or the seal on the valve weir. Different EPDM rubber mixtures can be selected according to the operating/sterilisation temperatures and the chemical characteristics or the working media.



Code 17, diaphragm size 25

### PTFE diaphragms-Membranen

The GEMÜ PTFE diaphragms are made of a chemically modified second-generation PTFE (TFMTM\*) and provide maximum chemical resistance. Even under steam conditions, PTFE diaphragms wear much more slowly than soft elastomer diaphragms. In the case of highly permeating media the structure of PTFE materials requires appropriately larger bonding thicknesses, stiffening this diaphragm version compared to pure soft elastomer diaphragms. Due to the higher rigidity the service life of the diaphragm may be reduced on high cycle duties depending on the application.



Code 5E, diaphragm size 25

# GEMÜ EPDM diaphragms

## Code 13 and 17

GEMÜ has developed the EPDM diaphragms code 13 and 17 for use in pharmaceutical and biotechnological applications as well as for the food and beverage industries. Both diaphragms have TA Luft (German Clean Air Act) approval. The diaphragm code 17 is especially suitable for applications with steam and for high temperatures. Both diaphragms are FDA compliant according to title 21 paragraph 177, certified according to USP Class VI, free from animal ingredients and RoHS compliant.

### Features of code 13

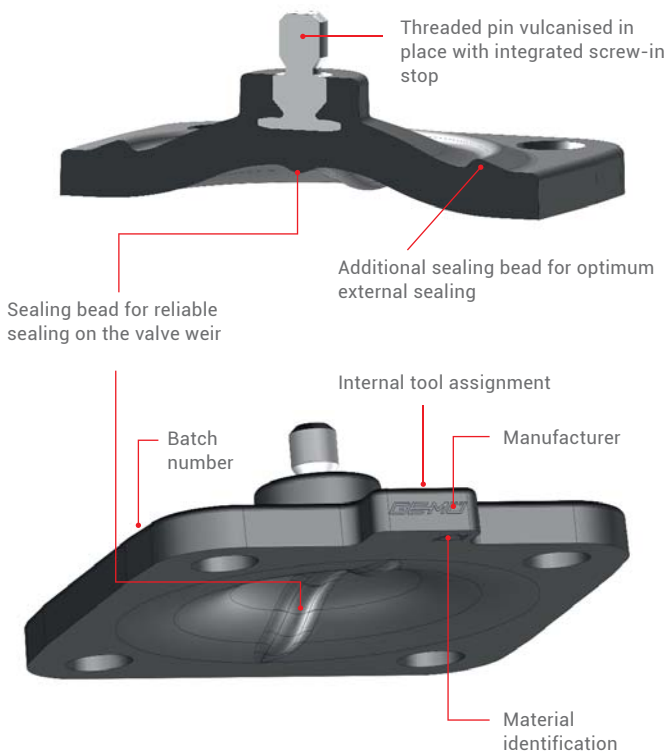
- Diaphragm with long-term reliability
- O<sub>2</sub> approval
- Defined assembly due to threaded pin vulcanised in place with integrated screw-in stop

### Features of code 17

- Optimised for use in steam applications
- Thermal load capability (hot/cold)
- Improved long-term sealing due to contour optimisation
- Defined assembly due to threaded pin vulcanised in place with integrated screw-in stop

### Technical data

- -10 to 100 °C with liquid media
- Max. 150 °C steam sterilisation depending on version for max. 180 minutes per cycle
- Available in diaphragm sizes 8 to 100



GEMÜ diaphragm code 13



GEMÜ diaphragm code 17



# GEMÜ PTFE diaphragms

Code 5E (two-piece), 5A/52 (fully laminated)

The GEMÜ PTFE/EPDM diaphragms comprise a PTFE face and an EPDM back. These two components are either firmly (Code 5A/52) or flexibly (Code 5E) combined with each other.

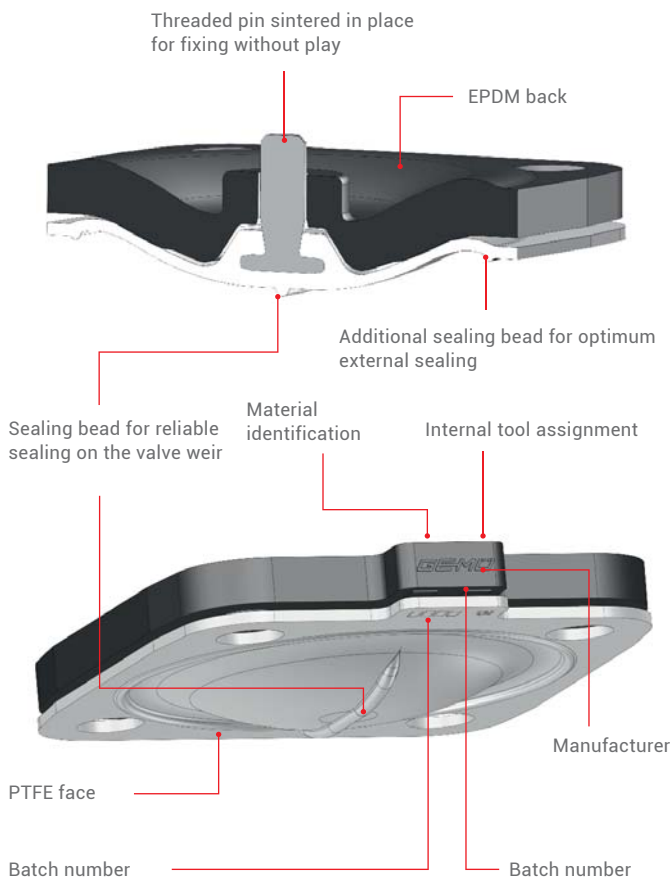
The flexible PTFE diaphragm unites all the advantages of PTFE with the flexibility of elastomer diaphragms in one product. In order to optimise the entire system again, both the PTFE face as well as the diaphragm back are compounded for GEMÜ and produced within the GEMÜ Group.

## Features

- In-house development of the material composition
- Production within the GEMÜ Group
- Insensitive also at higher temperatures
- High chemical resistance due to PTFE face
- Simple and defined assembly possible
- Sintered (Code 5E) threaded pin or vulcanised (Code 5A) rubber pin
- Vulcanised (Code 52) threaded pin with integrated screw-in stop

## Technical data

- -10 to 100 °C continuous operation with liquid media
- Max. 150 °C steam sterilisation without any time limit per cycle
- Available in diaphragm sizes 8 to 100



GEMÜ diaphragm code 5E



GEMÜ diaphragm code 52

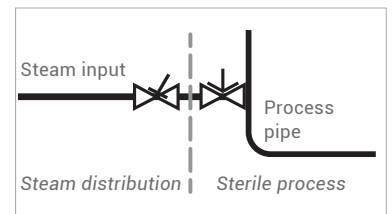
# GEMÜ diaphragms

## Selection

			Temperature range [°C]			
Diaphragm	Material/Design	Diaphragm size	Liquid media			
			Min.	Max.	Sterilisation <sup>1</sup>	Code
EPDM	Ethylene-propylene-diene rubber	8 - 100	-10	100	max. 150 °C <sup>2</sup> max. 60 min. per cycle	13/3A
EPDM	Ethylene-propylene-diene rubber	8 - 100	-10	100	max. 150 °C <sup>2</sup> max. 180 min. per cycle	17
PTFE/EPDM	Fully laminated PTFE diaphragm with EPDM back	8, 10, 100	-10	100	max. 150 °C <sup>2</sup> , no time limit per cycle	52/5A
PTFE/EPDM	Convex two-piece PTFE diaphragm with loose EPDM back	25, 40, 50, 80	-10	100	max. 150 °C <sup>2</sup> , no time limit per cycle	5E

<sup>1</sup> The sterilisation temperature is valid for steam (saturated steam) or superheated water.

<sup>2</sup> If the sterilisation temperatures listed above are applied to the EPDM diaphragms for longer periods of time, the service life of the diaphragms will be reduced. In these cases, maintenance cycles must be adapted accordingly. This also applies to PTFE diaphragms exposed to high temperature fluctuations. PTFE diaphragms can also be used as moisture barriers; however, this will reduce their service life. The maintenance cycles must be adapted accordingly. GEMÜ 555 and 505 globe valves are particularly suitable for use in the area of steam generation and distribution. The following valve arrangement for interfaces between steam pipes and process pipes has proven itself over time: A globe valve for shutting off steam pipes and a diaphragm valve as an interface to the process pipes.



Each application must be analysed before the selection of the diaphragm material. Since the most varied operating conditions often prevail within a plant at different locations, it can be necessary to use different valves and materials. In particular, the chemical characteristics and the temperature of the working media often lead to different interactions. The suitability of the materials used must therefore always be examined individually with regard to the current resistance list or checked by an authorised specialist. Only this procedure guarantees that the application will operate safely and economically for a longer period. Diaphragms are wearing parts. They need to be regularly inspected and replaced otherwise malfunctions can occur, possibly resulting in hazardous situations. Please note: The maintenance intervals for inspecting and replacing diaphragms are application-dependent. In order to determine a suitable maintenance interval, the maintenance history and the stresses placed on the parts due to frequent sterilisation or frequent cycle duties must be taken into account.

### Note

Since plastics and elastomers are subject to natural aging, we recommend observing the GEMÜ storage conditions for shut-off diaphragms. You thereby guarantee maximum storage and service life of the diaphragms. The temperatures specified above are merely the permissible temperature ranges for the respective diaphragm. The permissible temperature ranges of the valve must always be taken into account for the overall valve design. These can be found in the respective datasheets. The temperature values are indicated irrespective of operating pressure and diaphragm size and apply to water and/or inert gases. When using water vapour or saturated steam, observe the steam pressure diagram.

# Certificates and approvals

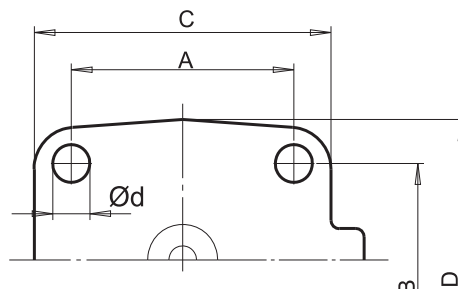
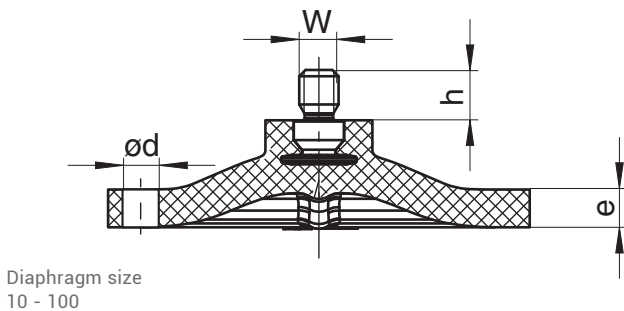
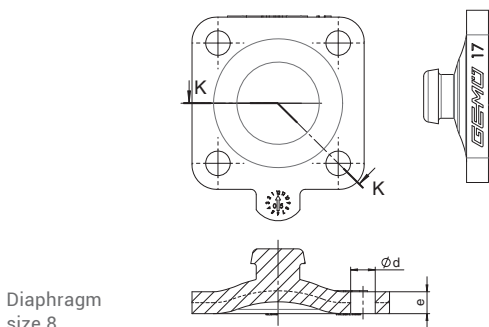
FDA compliant	USP Class VI	EHEDG	TA Luft (German Clean Air Act)	O <sub>2</sub> BAM	Compatibility with media	Special features
•	•	•	•	•	Very good all-round elastomer, resistant to many acidic and alkaline media, demineralised and deionised hot water, inert and many other industrial gases.	Suitable for vacuum, low gas permeability, applicable for steam sterilisation.
•	•	•	•	•		Compound and construction of the diaphragm have been specially optimised for steam applications, clearly improved service life.
•	•	•	•	•	Resistant to nearly all chemicals, such as strong acids, alkalis and salts, also at high temperatures, steam, WFI as well as pharmaceuticals. Good resistance to solvents, chlorine, and aromatic hydrocarbons.	Fully laminated diaphragm, can be used in steam. Low gas permeability.
•	•	•	•	•		Convex two-piece diaphragm with loose PTFE face for higher switching cycles, can be used for permanent steam application. Special compounding and production by GEMÜ. Special seal contour for external sealing on the bottom of the diaphragm. Low gas permeability.

## EPDM diaphragm dimensions [mm]

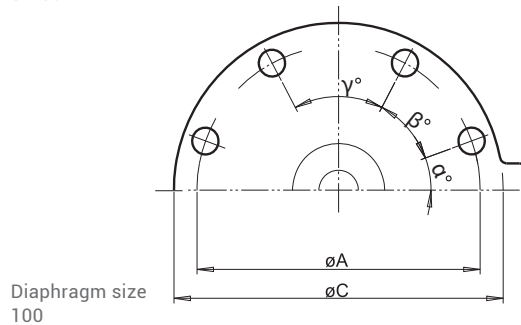
MG*	DN	NPS	A	B	C	D	ød	e	h	W	α	β	γ	Y	Number of bolt holes
8	4 - 15	¼" - ½"	22	22	31,5	31,5	4,5	4	5,6	-	-	-	-	-	4
10	10 - 20	⅜" - ¾"	39	44	48	53	5,2	5	9	M4	-	-	-	-	4
25	15 - 25	½" - 1"	54	46	71,7	66,7	9	6	8	¼"	-	-	-	-	4
40	32 - 40	1¼" - 1½"	70	65	100	90	11,5	7	8	¼"	-	-	-	-	4
50	50	2"	82	78	124	106	13	7	7	¼"	-	-	-	-	4
80	80	3"	127	114	186	156	18	9	8	5/16"	-	-	-	-	4
100	100	4"	194	-	228	-	13	10	9	5/16"	28°	42°	40°	-	8

\* Diaphragm size

The thread of the diaphragm pin „W" corresponds to Whitworth standard.



Diaphragm sizes 8 - 80



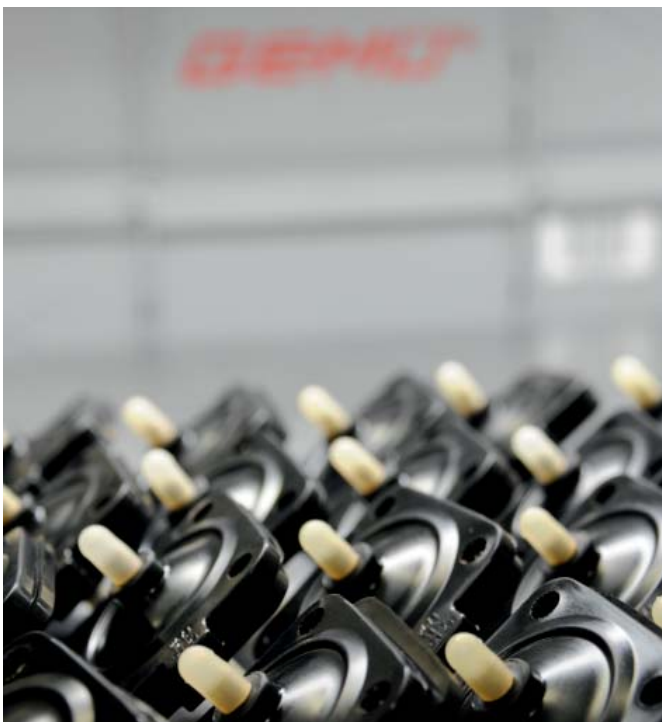
# Diaphragm expertise

## Manufacture and documentation

GEMÜ leaves nothing to chance in the development and manufacture of diaphragms. As well as many years of experience in the field of diaphragm valves, GEMÜ can draw on the group's ever increasing expertise in the field of diaphragm production. In addition to developing compounds, this also includes producing and permanent controlling 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 (includes special test cycles for the pharmaceutical industry)



# Manufacture of diaphragms

The right process depending on the components:

- Manufacture of elastomer parts using vacuum injection and compression moulding
- Manufacture of PTFE parts in a sintering mould under cleanroom conditions
- Manufacture of solid elastomer compounds with metal, PTFE, fabric, etc.

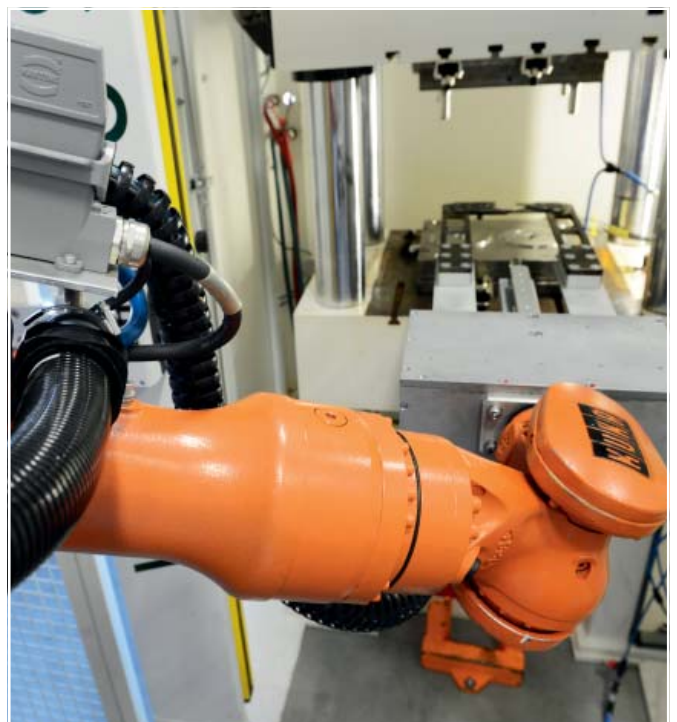
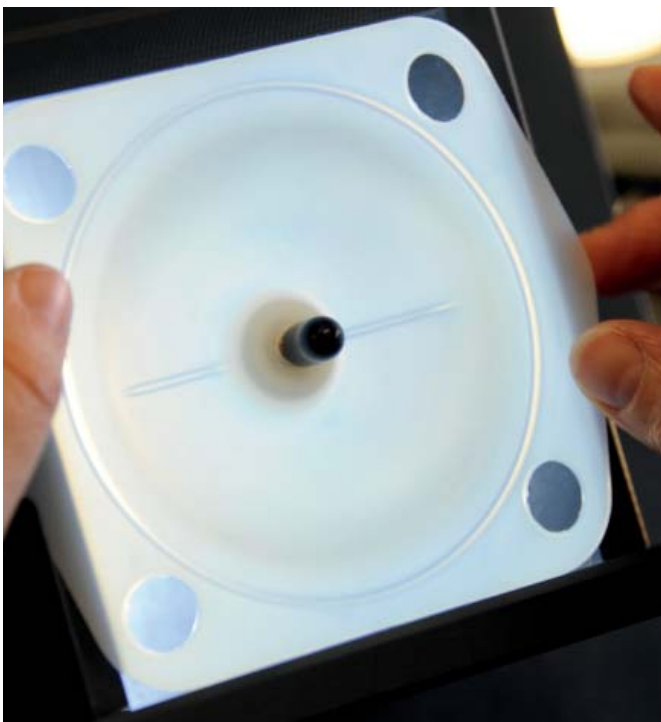
The GEMÜ group has a wide range of machinery for elastomer production, including:

- Compression machines
- Injection moulding machines
- Punch presses
- Annealing furnaces

The group also has machinery for the field of PTFE manufacture, including:

- 5-axis presses
- Sintering furnaces
- Equipment for quenching process

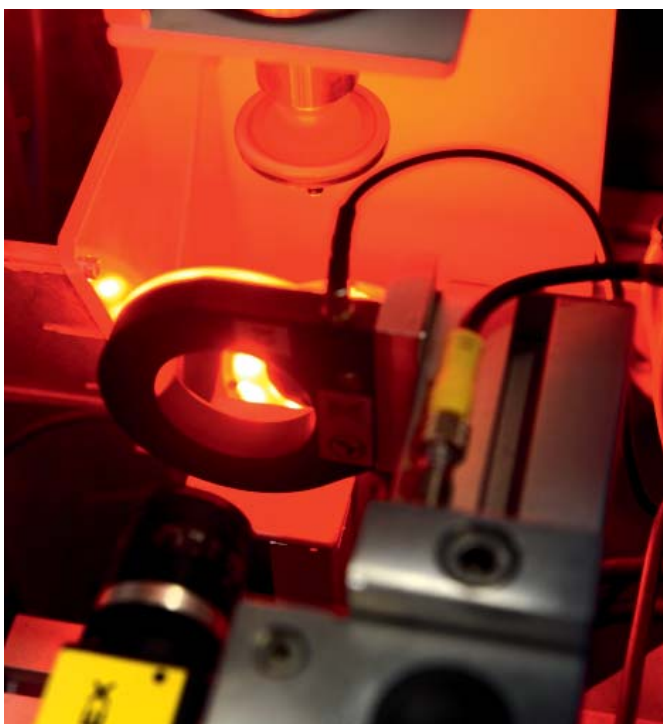
There is also an ISO class 9 cleanroom available for the PTFE sector.





# Production examination and documentation

- Inspection of the raw material provided as per test certificate
- Testing the Shore hardness
- Testing using vulcametry (statistical and permanent process control during vulcanising)
- Statistical and permanent process control during tempering (monitoring the temperature, retention time, temperature profile, humidity and other parameters that can affect the quality of the final product)
- Measuring the threaded pin, position and length in the finished diaphragm
- Pull-out resistance of the diaphragm pin
- Dimensional accuracy of the diaphragm, diaphragm thickness, width, length and height
- 100 % visual inspection



# Storage and service life of elastomer components

Correct storage, such as that described in ISO 2230 is essential for a product to achieve its specified service life. Please observe the pertinent standards.

Our customers can continue to make full use of elastomer products manufactured by us and our qualified suppliers as long as the elapsed time since production has not exceeded the period stated in the table. The max. storage period refers to the year of production. The date of manufacture can be based on the batch number, which in the form of an embossing is applied to the diaphragm can be determined. The batch number consists of the production lot of the production and the year of manufacture. The exact date of manufacture can be determined by quoting the batch number via a request to GEMÜ.

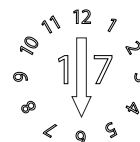
Specific measures must be implemented in order to store the diaphragms.

- Temperature below 25 °C, preferably 15 °C, but not below -10 °C
- Protection from light, in particular from light with a high UV component (e.g. sunlight)
- Relative humidity below 65 %
- The storage space must not contain any ozone-producing equipment (e.g. electric motors), or solvents, fuels, chemicals, etc.
- Do not use films containing plasticizers for packaging
- The diaphragms must be stored stress-free, i.e. without tension, pressure or other deformation; for example, they must not be suspended from any part of the edge of their circumference

Elastomers are organic materials; they can be damaged by external influences such as oxygen, ozone, heat, etc. The measures listed above are necessary for achieving the maximum storage time.

## Examples batch number

EPDM back /  
EPDM diaphragm  
(stamp)



Production Lot 6  
from the year 2017

PTFE face

06/17

Production Lot 6  
from the year 2017

Elastomer	Code	Max. storage time in years	Max. recommended operating time in years*
EPDM	13, 17, 3A	5	3
PTFE/EPDM	52, 5E, 5A	5	4

\* In addition it is recommended that diaphragms that are in service are replaced at the latest after the operating times listed above. These values are to be understood as guidelines and there can be strong deviations from these according to the actual operating conditions (temperature, pressure, media, switching frequency etc.).

# Steam pressure table

## Water

Pressure table: Saturated steam										Specific values		
Pressure						Saturated steam temperature		Water enthalpy	Enthalpy of vaporisation	Steam enthalpy	Steam volume	Steam density
Gauge pressure			pressure			t		h'	r	h''	v''	ρ''
p <sub>g</sub>			p <sub>a</sub>			°C	°F					
bar	psi	kPa	bar	psi	kPa			kJ/kg	kJ /kg	kJ /kg	m <sup>3</sup> / kg	kg/m <sup>3</sup>
The gauge pressure is based on an absolute pressure of 1 bar (14.5 psi)			0.01	0.15	1	7	44.6	29.34	2485	2514	129.2	0.008
			0.05	0.73	5	32.9	91.2	137.8	2424	2562	28.19	0.036
			0.1	1.45	10	45.8	114.4	191.8	2393	2585	14.67	0.068
			0.2	2.90	20	60.1	140.2	251.5	2358	2610	7.65	0.131
			0.3	4.35	30	69.1	156.4	289.3	2336	2625	5.229	0.191
			0.4	5.80	40	75.9	168.6	317.7	2319	2637	3.993	0.250
			0.5	7.25	50	81.3	178.3	340.6	2305	2646	3.24	0.309
			0.6	8.70	60	86	186.8	359.9	2294	2654	2.732	0.366
			0.7	10.15	70	90	194.0	376.8	2283	2660	2.365	0.423
			0.8	11.60	80	93.5	200.3	391.7	2274	2666	2.087	0.479
			0.9	13.05	90	96.7	206.1	405.2	2266	2671	1.869	0.535
0	0.00	0	1	14.50	100	99.6	211.3	417	2258	2675	1.694	0.590
0.1	1.45	10	1.1	15.95	110	102.3	216.1	429	2251	2680	1.549	0.646
0.2	2.90	20	1.2	17.40	120	104.8	220.6	439	2244	2683	1.428	0.700
0.3	4.35	30	1.3	18.85	130	107.1	224.8	449	2238	2687	1.325	0.755
0.4	5.80	40	1.4	20.31	140	109.3	228.7	458	2232	2690	1.236	0.809
0.5	7.25	50	1.5	21.76	150	111.4	232.5	467	2226	2693	1.158	0.863
0.6	8.70	60	1.6	23.21	160	113.3	235.9	475	2221	2696	1.091	0.917
0.7	10.15	70	1.7	24.66	170	115.2	239.4	483	2216	2699	1.031	0.97
0.8	11.60	80	1.8	26.11	180	116.9	242.4	491	2211	2702	0.977	1.023
0.9	13.05	90	1.9	27.56	190	118.6	245.5	498	2206	2704	0.929	1.076
1	14.50	100	2	29.01	200	120.2	248.4	505	2201	2706	0.885	1.129
1.5	21.76	150	2.5	36.26	250	127.4	261.3	535	2181	2716	0.718	1.392
2	29.01	200	3	43.51	300	133.5	272.3	561	2163	2724	0.606	1.651
2.5	36.26	250	3.5	50.76	350	138.9	282.0	584	2147	2731	0.524	1.908
3	43.51	300	4	58.02	400	143.6	290.5	605	2133	2738	0.462	2.163
3.5	50.76	350	4.5	65.27	450	147.9	298.2	623	2120	2743	0.414	2.417
4	58.02	400	5	72.52	500	151.8	305.2	640	2107	2747	0.375	2.669
4.5	65.27	450	5.5	79.77	550	155.5	311.9	656	2096	2752	0.343	2.92
5	72.52	500	6	87.02	600	158.8	317.8	670	2085	2755	0.316	3.17
6	87.02	600	7	101.53	700	165	329.0	697	2065	2762	0.273	3.667
7	101.53	700	8	116.03	800	170.4	338.7	721	2046	2767	0.240	4.162
8	116.03	800	9	130.53	900	175.4	347.7	743	2029	2772	0.215	4.655
9	130.53	900	10	145.04	1000	179.9	355.8	763	2013	2776	0.194	5.147
10	145.04	1000	11	159.54	1100	184.1	363.4	781	1999	2780	0.177	5.637
11	159.54	1100	12	174.05	1200	188	370.4	798	1984	2782	0.163	6.127
12	174.05	1200	13	188.55	1300	191.6	376.9	815	1971	2786	0.151	6.617
13	188.55	1300	14	203.05	1400	195	383.0	830	1958	2788	0.141	7.106
14	203.05	1400	15	217.56	1500	198.3	388.9	845	1945	2790	0.132	7.596
15	217.56	1500	16	232.06	1600	201.4	394.5	859	1933	2792	0.124	8.085
16	232.06	1600	17	246.56	1700	204.3	399.7	872	1921	2793	0.117	8.575
17	246.56	1700	18	261.07	1800	207.1	404.8	885	1910	2795	0.110	9.065
18	261.07	1800	19	275.57	1900	209.8	409.6	897	1899	2796	0.105	9.555
19	275.57	1900	20	290.08	2000	212.4	414.3	909	1888	2797	0.100	10.05
20	290.08	2000	21	304.58	2100	214.9	418.8	920	1878	2798	0.095	10.54
24	348.09	2400	25	362.59	2500	223.9	435.0	962	1839	2801	0.080	12.51

# Replacement diaphragms

Replacement diaphragms can be ordered as loose items using the following article numbers. For reasons of traceability, we also offer you the option of ordering the diaphragms individually packed and labelled, along with the corresponding inspection certificates.

Diaphragm size	Article number loose	Article designation	Article number Only for type 660	Article designation	Article number individually packed	Article designation
8	88049543	600 8M3A	88286959	660 8M3AD	88360293	600 8M3A P01
	88301387	600 8M17			88360295	600 8M17 P01
	88050581	600 8M5A	88286960	660 8M5AD	88360296	600 8M5A P01
10	88037819	600 10M13	88287047	660 10M13D	88360289	600 10M13 P01
	88301389	600 10M17			88360291	600 10M17 P01
	88026752	600 10M52	88287048	660 10M52D	88360292	600 10M52 P01
25	88037767	600 25M13	88287059	660 25M13D	88360284	600 25M13 P01
	88301392	600 25M17			88360286	600 25M17 P01
	88076835	600 25M5E	88347124	660 25M52D	88360288	600 25M5E P01
40	88028799	600 40M13			88360279	600 40M13 P01
	88301394	600 40M17			88360281	600 40M17 P01
	88076834	600 40M5E			88360283	600 40M5E P01
50	88037820	600 50M13			88355207	600 50M13 P01
	88301396	600 50M17			88355208	600 50M17 P01
	88075897	600 50M5E			88355210	600 50M5E P01
80	88037821	600 80M13			88360273	600 80M13 P01
	88301399	600 80M17			88360275	600 80M17 P01
	88092599	600 80M5E			88360278	600 80M5E P01
100	88043165	600100M13			88360303	600100M13 P01
	88294597	600100M17			88360305	600100M17 P01
	88015192	600100M52			88360306	600100M52 P01

## Example:

600 10M17

Diaphragm size

Code

# Training and Service

Our team from the „Technical Training“ department offers GEMÜ customers various training courses on the subject of diaphragm valves and the changing of diaphragms. These training courses can be carried out at GEMÜ's Ingelfingen-Criesbach site or on-site at the customer's premises.

Would you like assistance when you carry out your first diaphragm change?

Contact GEMÜ. Our team from the „Technical Service“ department will be happy to help you.





# Worldwide presence

## AUSTRALIA

GEMÜ Australia Pty. Ltd  
Unit 4 - 8/10 Yandina Road  
West Gosford, NSW 2250  
Phone: +61-2-43 23 44 93  
Fax: +61-2-43 23 44 96  
mail@gemu.com.au

## AUSTRIA

GEMÜ GmbH  
Europaring F15 401  
2345 Brunn am Gebirge  
Phone: +43 22-36 30 43 45-0  
Fax: +43 22-36 30 43 45-31  
info@gemue.at

## BELGIUM

GEMÜ Valves bvba/sprl  
Koning Albert 1 laan, 64  
1780 Wemmel  
Phone: +32 2 702 09 00  
Fax: +32 2 705 55 03  
info@gemue.be

## BRAZIL / SOUTH AMERICA

GEMÜ Indústria de Produtos  
Plásticos e Metalúrgicos Ltda.  
Rue Marechal Hermes, 1141  
83.065-000 São José dos Pinhais  
Paraná  
Phone: +55-41-33 82 24 25  
Fax: +55-41-33 82 35 31  
gemu@gemue.com.br

## CANADA

GEMÜ Valves Canada Inc.  
2572 Daniel-Johnson Boulevard  
Laval, Quebec  
H7T 2R8  
Phone: +1-450-902-2690  
Fax: +1-404-3 44 4003  
info@gemu.com

## CHINA

GEMÜ Valves (China) Co., Ltd  
No.518, North Hengshahe Road  
Minhang District, 201108  
Shanghai  
Phone: +86-21-2409 9878  
info@gemue.com.cn

## DENMARK

GEMÜ ApS  
Industriparken 16-18  
2750 Ballerup  
Phone: +45 70 222 516  
Fax: +45 70 222 518  
info@gemue.dk

## FRANCE

GEMÜ S.A.S  
1 Rue Jean Bugatti  
CS 99308 Duppigheim  
67129 Molsheim Cedex  
Phone: +33-3 88 48 21 00  
Fax: +33-3 88 49 12 49  
info@gemu.fr

INTERCARAT  
1 Rue Jean Bugatti  
CS 99308 Duppigheim  
67129 Molsheim Cedex  
Phone: +33-3 88 48 21 20  
Fax: +33-3 88 49 14 82  
sales@intercarat.com

## GERMANY

GEMÜ Gebr. Müller GmbH & Co. KG  
Fritz-Müller-Straße 6 - 8  
74653 Ingelfingen-Criesbach  
Postfach 30  
74665 Ingelfingen-Criesbach

Phone: +49 (0)7940-12 30  
Fax: +49 (0)7940-12 31 92  
(Domestic)  
Fax: +49 (0)7940-12 32 24 (Export)  
info@gemue.de

## GREAT BRITAIN / UK

GEMÜ Valves Ltd.  
10 Olympic Way  
Birchwood, Warrington  
WA2 0YL  
Phone: +44-19 25-82 40 44  
Fax: +44-19 25-82 80 02  
info@gemu.co.uk

## HONG KONG

GEMÜ Valves (Hong Kong) Co.,  
Ltd.  
Room 2015, Tower B,  
Regent Centre,  
70 TA Chuen Ping Street  
Kwai Chung, N.T., Hong Kong  
P.R. China  
Phone: +852 6873 8280  
Fax: +852 6873 8280  
info@gemue.com.cn

## INDIA

GEMÜ India  
Representative Office  
301, K.B. Complex, Rambaug,  
L.G.Hospital Road, Maninagar,  
Ahmedabad-380 008  
Phone: +91-79-25450438  
+91-79-25450440  
Fax: +91-79-25450439  
sales@gemu.in

## INDONESIA

GEMÜ Valves Pte Ltd  
(Indonesia Representative Office)  
Rukan Mangga Dua Square  
Block F17, 2nd Floor  
Jl. Gunung Sahari Raya No. 1  
Jakarta Utara 14420  
Indonesia  
Phone: +62 (21) - 6231 0035  
Fax: +62 (21) - 2907 4643  
info@gemu.co.id

## IRELAND

GEMÜ Ireland Ltd  
15 Eastgate Drive  
Eastgate Business Park  
Little Island  
Co. Cork  
Phone: +353 (0)21 4232023  
Fax: +353 (0)21 4232024  
info@gemu.ie

## ITALY

GEMÜ S.r.l.  
Via Giovanni Gentile, 3  
20157 Milano  
Phone: +39-02-40044080  
Fax: +39-02-40044081  
info@gemue.it

## JAPAN

GEMÜ Japan Co., Ltd.  
2-5-6, Aoi, Higashi-ku,  
Nagoya, Aichi, 461-0004  
Phone: +81-52-936-2311  
Fax: +81-52-936-2312  
info@gemu.jp

## MALAYSIA

GEMÜ VALVES PTE LTD  
(Malaysia Representative Office)  
D-8-09, Block D, No. 2A  
Jalan PJU 1A/7A  
Oasis Square, Oasis Damansara  
47301 Petaling Jaya  
Selangor Darul Ehsan  
Phone: +(603)- 7832 7640  
Fax: +(603)- 7832 7649  
info@gemu.com.sg

## MEXICO

GEMÜ Valvulas S.A. de C.V.  
German Centre,  
Av. Santa Fe No. 170 - OF. 5-1-05  
Col. Lomas de Santa Fe,  
Del. Alvaro Obregon  
01210 Mexico, D.F.  
Phone: +52 55 7090 4161  
+52 55 7090 4179

## RUSSIA

OOO „GEMÜ GmbH“  
Pr-kt Andropova, 22  
RU 115533 Moskau  
Phone: +7(495) 662-58-35  
Fax: +7(495) 662-58-35  
info@gemue.ru

## SINGAPORE

GEMÜ Valves PTE. LTD.  
25 International Business Park  
German Centre #03-73/75  
Singapore 609916  
Phone: +65-65 62 76 40  
Fax: +65-65 62 76 49  
info@gemu.com.sg

## SOUTH AFRICA

GEMÜ Valves Africa Pty. Ltd  
Stand 379  
Northlands Business Park,  
Hoogland Ext 45  
Northriding, Randburg  
Phone: +27(0)11 462 7795  
Fax: +27(0)11 462 4226  
office@gemue.co.za

## SWEDEN

GEMÜ Armatur AB  
Box 5  
437 21 Lindome  
Phone: +46-31-99 65 00  
Fax: +46-31-99 65 20  
order@gemu.se

## SWITZERLAND

GEMÜ GmbH  
Seetalstr. 210  
6032 Emmen  
Phone: +41-41-7 99 05 05  
Fax: +41-41-7 99 05 85  
info@gemue.ch

GEMÜ Vertriebs AG  
Lettenstrasse 3  
6343 Rotkreuz  
Phone: +41-41-7 99 05 55  
Fax: +41-41-7 99 05 85  
vertriebsag@gemue.ch

## TAIWAN

GEMÜ Taiwan Ltd.  
9F.-5, No.8, Ziqiang S. Rd.  
Zhubei City  
Hsinchu County 302,  
Taiwan (R.O.C.)  
Phone: +886-3-550-7265  
Fax: +886-3-550-7201  
office@gemue.tw

## UNITED STATES

GEMÜ Valves Inc.  
3800 Camp Creek Parkway  
Suite 120, Building 2600  
Atlanta, Georgia 30331  
Phone: +1-678-5 53 34 00  
Fax: +1-404-3 44 93 50  
info@gemu.com

In addition to these  
subsidiaries, GEMÜ has a  
global partner network.

Contact details:

[https://www.gemu-group.com/en\\_GB/kontakte/](https://www.gemu-group.com/en_GB/kontakte/)



 GEMÜ manufacturing site

 GEMÜ subsidiary

