

GEMÜ Code 19

EPDM diaphragm



Features

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

Description

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.

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 | Ozone resistance | Regulation (EC) No. 1935/2004 | TA Luft (German Clean Air Act) | USP

Technical data depends on the respective configuration



Product comparison

							
	GEMÜ Code 3A/13	GEMÜ Code 17	GEMÜ Code 19	GEMÜ Code 29	GEMÜ Code 36	GEMÜ Code 54	GEMÜ Code 5M
Media temperature	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-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	Not sterilizable	max. 150 °C	max. 150 °C	max. 150 °C
Diaphragm materials							
EPDM	●	●	●	●	●	-	-
PTFE/EPDM	-	-	-	-	-	●	●
Diaphragm sizes							
8	●	●	●	-	●	●	-
10	●	●	●	●	●	●	●
20	-	-	-	●	-	●	-
25	●	●	●	●	●	●	●
40	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●
65	-	-	-	●	-	●	-
80	●	●	●	●	-	●	●
100	●	●	●	●	-	●	●
125	-	-	-	●	-	●	-
150	-	-	-	●	-	●	-
200	-	-	-	●	-	-	-
Conformities							
BSE/TSE	●	●	●	●	●	●	●
EHEDG	-	-	-	-	-	-	●
FDA	●	●	●	-	●	●	●
Oxygen	●	●	●	-	-	●	●
Ozone resistance	●	●	●	-	●	●	●
Reg. (EU) No. 10/2011	-	-	-	-	-	●	●
Regulation (EC) No. 1935/2004	●	●	●	-	●	●	●
TA Luft (German Clean Air Act)	●	●	●	-	●	●	●
USP	●	●	●	-	●	●	●

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

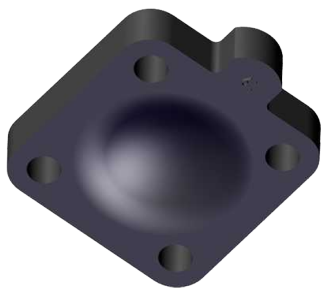
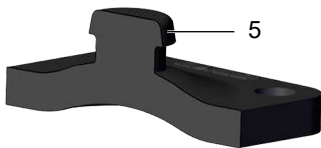
Each application must be analysed before the selection of the diaphragm material. Since the most varied operating conditions often prevail within a plant at different locations, it can be necessary to use different valves and materials. In particular, the chemical properties and the temperature of the 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.

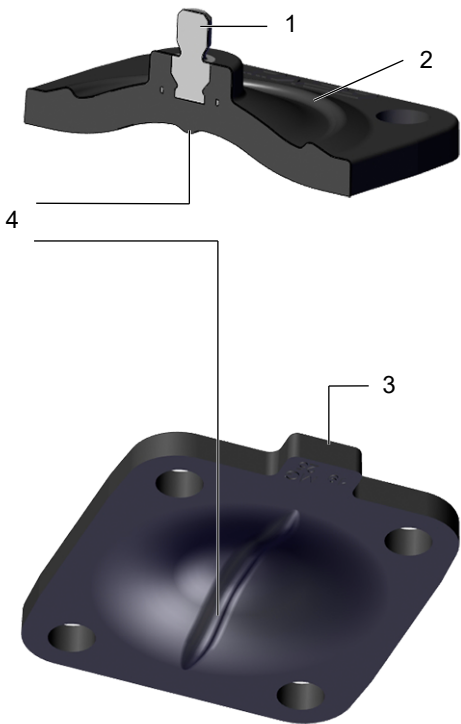
Please note: The maintenance intervals for inspecting and replacing diaphragms are application-dependent. In order to determine a suitable maintenance interval, the maintenance history and the stresses placed on the parts due to frequent sterilisation or frequent cycle duties must be taken into account.

Product description

Construction



Diaphragm size 8



Diaphragm size 25

Item	Name
1	Threaded pin vulcanised in place with integrated screw-in stop
2	Additional sealing bead for optimum external sealing
3	Tab
4	Sealing bead for reliable sealing on the valve weir
5	Rubber pin

GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

For further information on GEMÜ CONEXO please visit:

www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".

For electronic identification purposes, each replaceable component contained in the product you have purchased is equipped with an RFID chip (1). Where you can find the RFID chip differs from product to product.

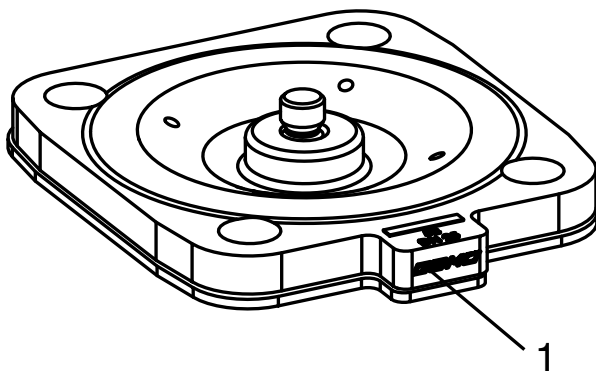


Fig. 1: Diaphragm RFID chip

Availability

Special version	Packaging unit	Type of design
Without	Without	Without
S	Without	Without
Without	P01	Without
Without	Without	0101
Without	Without	0104

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Diaphragm	600

2 Diaphragm size	Code
Diaphragm size 8	8
Diaphragm size 10	10
Diaphragm size 25	25
Diaphragm size 40	40
Diaphragm size 50	50
Diaphragm size 80	80
Diaphragm size 100	100

3 Replacement diaphragm	Code
Replacement diaphragm	M

4 Diaphragm material	Code
EPDM	19

5 Packaging unit	Code
Without	

5 Packaging unit	Code
Packaging unit 1 piece for Pharma applications, including inspection certificate 3.1 and FDA certificate of conformity	P01

6 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

7 Special version	Code
Without	
Special version for oxygen, maximum medium temperature: 60°C	S

8 CONEXO	Code
Without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Ordering option	Code	Description
1 Type	600	Diaphragm
2 Diaphragm size	10	Diaphragm size 10
3 Replacement diaphragm	M	Replacement diaphragm
4 Diaphragm material	19	EPDM
5 Packaging unit		Without
6 Type of design		Without
7 Special version		Without
8 CONEXO		Without

Technical data

Medium

Working medium: Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the diaphragm material.

Temperature

Media temperature: -10 – 100 °C
with special function S: -10 – 60 °C

Sterilization temperature: max. 150 °C¹⁾, max. 180 min²⁾ per cycle

- 1) The sterilization temperature is only valid for steam (saturated steam) or superheated water.
- 2) If the sterilization 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.

Storage temperature: -10 °C – 25 °C (preferably 15 °C) must be observed

Pressure

Operating pressure: max. 10 bar (dependent on the diaphragm valve used)

Vacuum: Can be used up to a vacuum of 70 mbar (absolute)

Product compliance

Food: Regulation (EC) No. 1935/2004
Regulation (EC) No. 2023/2006
FDA 21 CFR 177.2600
USP Class VI Title 87
USP Class VI Title 88 (50 °C and 121 °C)
The materials used for the manufacture of the product comply with the recommendation of the BFR (German Federal Institute for Risk Assessment) XXI Category 4

Ozone resistance: Diaphragm material is resistant to a maximum concentration of ozone of 0.2 mg/l (dissolved in water)

TA Luft (German Clean Air Act): The product complies with the equivalence requirements of section 5.2.6.4 of the German Clean Air Act (TA Luft / VDI 2440 according to section 3.3.1.3)

Oxygen: BAM compliant, the product is suitable for application with oxygen

BSE/TSE: The product conforms to EMA/410/01 revision 3 and is free of animal substances

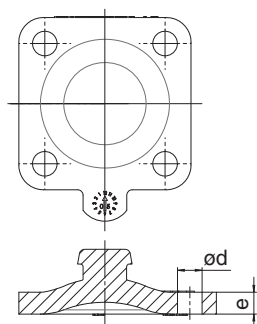
Unused components:	Asbestos
	Natural or synthetic latex
	PVC
	2-Mercaptobenzothiazole
	Bis(2-ethylhexyl) phthalate (DEHP)
	Bis(n-butyl) phthalate (DnBP DBP)
	Bisphenol-A (BPA)
	Butyl benzyl phthalate (BBP)
	Diethyl phthalate (DEP)
	Diisodecyl phthalate (DIDP)
	Diisononyl phthalate (DINP)
	Dimethyl phthalate (DMP)
	Di-n-octyl phthalate (DNOP)
	N-nitrosamines

Mechanical data

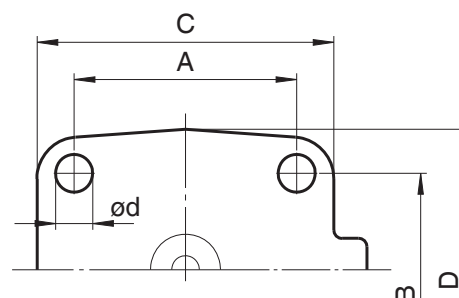
Service life:	Max. recommended service life, 8 years
	The service life is the sum of the storage life and operating life.
	Note the Technical Information "Service life, storage and marking of GEMÜ diaphragms".

Dimensions

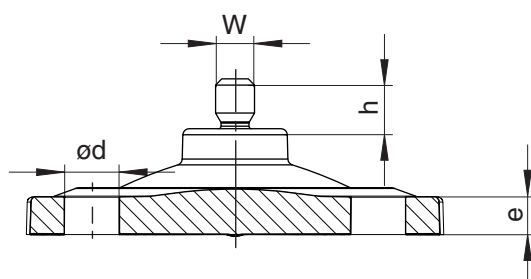
EPDM diaphragm



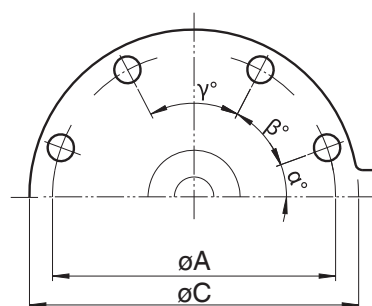
MG 8



MG 8 to 80



MG 10 to 100



MG 100

MG	DN	NPS	A	B	C	D	Ød	e	h	W	α	β	γ	n
8	4 - 15	1/4" - 1/2"	22.0	22.0	31.5	31.5	4.5	4.0	5.6	-	-	-	-	4
10	10 - 20	3/8" - 3/4"	39.0	44.0	48.0	53.0	5.2	5.0	9.0	M4	-	-	-	4
25	15 - 25	1/2" - 1"	54.0	46.0	72.0	67.0	9.0	6.0	8.0	1/4"	-	-	-	4
40	32 - 40	1 1/4" - 1 1/2"	70.0	65.0	100.0	90.0	11.0	7.0	8.0	1/4"	-	-	-	4
50	50	2"	82.0	78.0	124.0	106.0	12.7	7.0	7.0	1/4"	-	-	-	4
80	80	3"	127.0	114.0	186.0	156.0	18.0	7.0	8.0	5/16"	-	-	-	4
100	100	4"	196.2	-	230.0	-	13.0	10.0	9.0	5/16"	28.0°	42.0°	40.0°	8

Dimensions in mm

n = number of bolt holes

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



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany
Phone +49 (0) 7940 1230 · info@gemue.de
www.gemu-group.com