

GEMÜ Code 3A/13

EPDM diaphragm



Features

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

Description

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.

Technical specifications

- Media temperature: -10 to 100 °C
 - Sterilisation temperature*: max. 150 °C
 - Diaphragm material: EPDM
 - Diaphragm sizes: 8 | 10 | 25 | 40 | 50 | 80 | 100
- * depending on version and/or operating parameters

Product comparison



| | GEMÜ Code 3A/13 | GEMÜ Code 17 | GEMÜ Code 19 | 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 |
| Sterilisation temperature¹⁾ | max. 150 °C | max. 150 °C | max. 150 °C | max. 150 °C | max. 150 °C | max. 150 °C |
| Diaphragm materials | | | | | | |
| EPDM | ● | ● | ● | ● | - | - |
| PTFE/EPDM | - | - | - | - | ● | ● |
| Diaphragm sizes | | | | | | |
| 8 | ● | ● | ● | ● | ● | - |
| 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 | ● | ● | ● | ● | ● | ● |

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

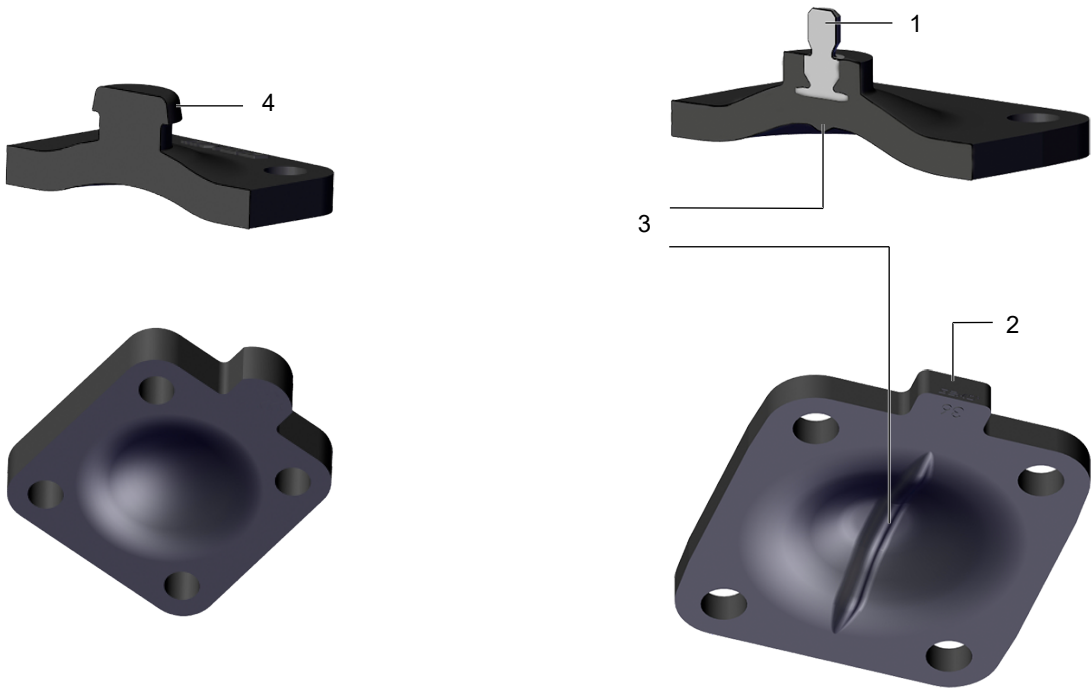
Each application must be analysed before the selection of the diaphragm material. Since the most varied operating conditions often prevail within a plant at different locations, it can be necessary to use different valves and materials. In particular, the chemical properties and the temperature of the 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 vulcanized in place with integrated screw-in stop |
| 2 | Tab |
| 3 | Sealing bead for reliable sealing on the valve weir |
| 4 | 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" (see order data).

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.

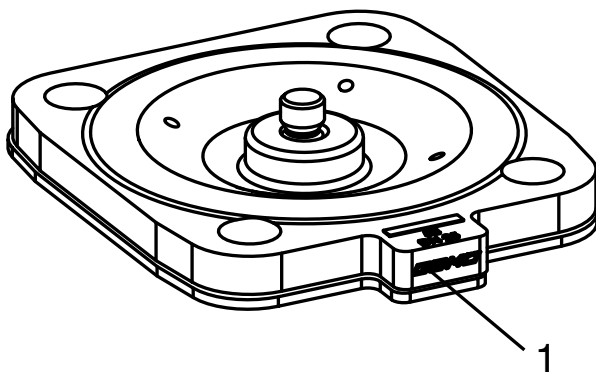


Fig. 1: Diaphragm RFID chip

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 | 3A |
| EPDM | 13 |
| 5 Packaging unit | Code |
| without | |

| 5 Continuation of 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 |
| 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

| Order option | Code | Description |
|-------------------------|------|---|
| 1 Type | 600 | Diaphragm |
| 2 Diaphragm size | 10 | Diaphragm size 10 |
| 3 Replacement diaphragm | M | Replacement diaphragm |
| 4 Diaphragm material | 13 | EPDM |
| 5 Packaging unit | | without |
| 6 Type of design | | without |
| 7 Special version | S | Special version for oxygen, maximum medium temperature: 60 °C |
| 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 body and diaphragm material.
Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the diaphragm material.

Temperature

Media temperature: Standard: -10 °C to 100 °C
Special version for oxygen 0 °C to 60 °C

Sterilisation temperature: max. 150 °C¹⁾, max. 60 min²⁾ per cycle
1) The sterilisation temperature is only valid for steam (saturated steam) or superheated water.
2) 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.

Storage temperature: -10 °C to 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: We hereby certify that this GEMÜ EPDM 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

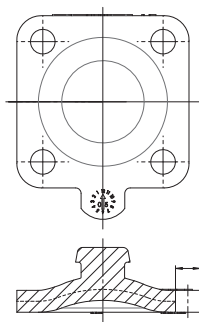
Unused components: Natural or synthetic latex
Asbestos

Mechanical data

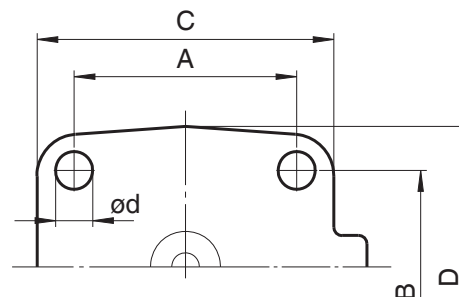
Service life: Max. recommended service life, 8 years
The service life is the sum of the storage life and operating life.
Note the Technical Information "Service life, storage and marking of GEMÜ diaphragms".

Dimensions

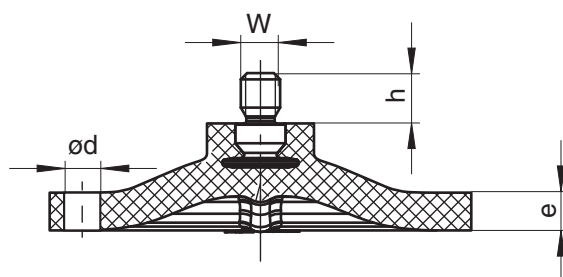
EPDM diaphragm



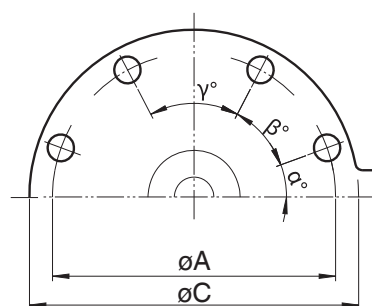
MG 8



MG 8 bis 80



MG 10 bis 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 | 5.5 | 9.0 | M4 | - | - | - | 4 |
| 25 | 15 - 25 | 1/2" - 1" | 54.0 | 46.0 | 72.0 | 67.0 | 9.0 | 7.0 | 8.0 | 1/4" | - | - | - | 4 |
| 40 | 32 - 40 | 1 1/4" - 1 1/2" | 70.0 | 65.0 | 100.0 | 90.0 | 11.0 | 8.0 | 8.0 | 1/4" | - | - | - | 4 |
| 50 | 50 | 2" | 82.0 | 78.0 | 124.0 | 106.0 | 12.7 | 8.0 | 7.0 | 1/4" | - | - | - | 4 |
| 80 | 80 | 3" | 127.0 | 114.0 | 186.0 | 156.0 | 18.0 | 11.5 | 8.0 | 5/16" | - | - | - | 4 |
| 100 | 100 | 4" | 196.2 | - | 230.0 | - | 13.0 | 11.0 | 9.0 | 5/16" | 28.0° | 42.0° | 40.0° | 8 |

Dimensions in mm, MG = diaphragm size

n = number of bolt holes

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



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