

GEMÜ 514, 532

Pneumatically operated angle seat globe valve

EN

Assembly instructions

Replacement of the gland packing



All rights including copyrights or industrial property rights are expressly reserved.

Keep the document for future reference.

© GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
14.03.2024

Contents

1	General information	4
1.1	Information	4
1.2	Symbols used	4
1.3	Definition of terms	4
1.4	Warning notes	4
2	Safety information	5
3	Construction	6
4	Installing/removing the gland packing	7
4.1	Disassembly of actuator and gasket 30	7
4.2	Replacing the gland packing	8
4.3	Replacing seat seal	9
4.4	Assembly of actuator and gasket 30	9
4.5	Replacing gasket 4	9
5	Disposal	9

1 General information

1.1 Information

- The descriptions and instructions apply to the standard versions. For special versions not described in this document the basic information contained herein applies in combination with any additional special documentation.
- Correct installation, operation, maintenance and repair work ensure faultless operation of the product.
- Should there be any doubts or misunderstandings, the German version is the authoritative document.
- Contact us at the address on the last page for staff training information.

1.2 Symbols used

The following symbols are used in this document:

Symbol	Meaning
●	Tasks to be performed
▶	Response(s) to tasks
-	Lists

1.3 Definition of terms

Working medium

The medium that flows through the GEMÜ product.

1.4 Warning notes



Wherever possible, warning notes are organised according to the following scheme:


SIGNAL WORD	
Possible symbol for the specific danger	Type and source of the danger <ul style="list-style-type: none"> ▶ Possible consequences of non-observance. ● Measures for avoiding danger.

Warning notes are always marked with a signal word and sometimes also with a symbol for the specific danger.





The following signal words and danger levels are used:

 DANGER	
	Imminent danger! <ul style="list-style-type: none"> ▶ Non-observance can cause death or severe injury.
 WARNING	
	Potentially dangerous situation! <ul style="list-style-type: none"> ▶ Non-observance can cause death or severe injury.

 CAUTION	
	Potentially dangerous situation! <ul style="list-style-type: none"> ▶ Non-observance can cause moderate to light injury.

NOTICE	
	Potentially dangerous situation! <ul style="list-style-type: none"> ▶ Non-observance can cause damage to property.

The following symbols for the specific dangers can be used within a warning note:

Symbol	Meaning
	The equipment is subject to pressure.
	Corrosive chemicals!
	Hot plant components!
	The actuator cover is under spring pressure!

2 Safety information

The safety information in this document refers only to an individual product. Potentially dangerous conditions can arise in combination with other plant components, which need to be considered on the basis of a risk analysis. The operator is responsible for the production of the risk analysis and for compliance with the resulting precautionary measures and regional safety regulations.

The document contains fundamental safety information that must be observed during commissioning, operation and maintenance. Non-compliance with these instructions may cause:

- Personal hazard due to electrical, mechanical and chemical effects.
- Hazard to nearby equipment.
- Failure of important functions.
- Hazard to the environment due to the leakage of dangerous substances.

The safety information does not take into account:

- Unexpected incidents and events, which may occur during installation, operation and maintenance.
- Local safety regulations which must be adhered to by the operator and by any additional installation personnel.

Prior to commissioning:

1. Transport and store the product correctly.
2. Do not paint the bolts and plastic parts of the product.
3. Carry out installation and commissioning using trained personnel.
4. Provide adequate training for installation and operating personnel.
5. Ensure that the contents of the document have been fully understood by the responsible personnel.
6. Define the areas of responsibility.
7. Observe the safety data sheets.
8. Observe the safety regulations for the media used.

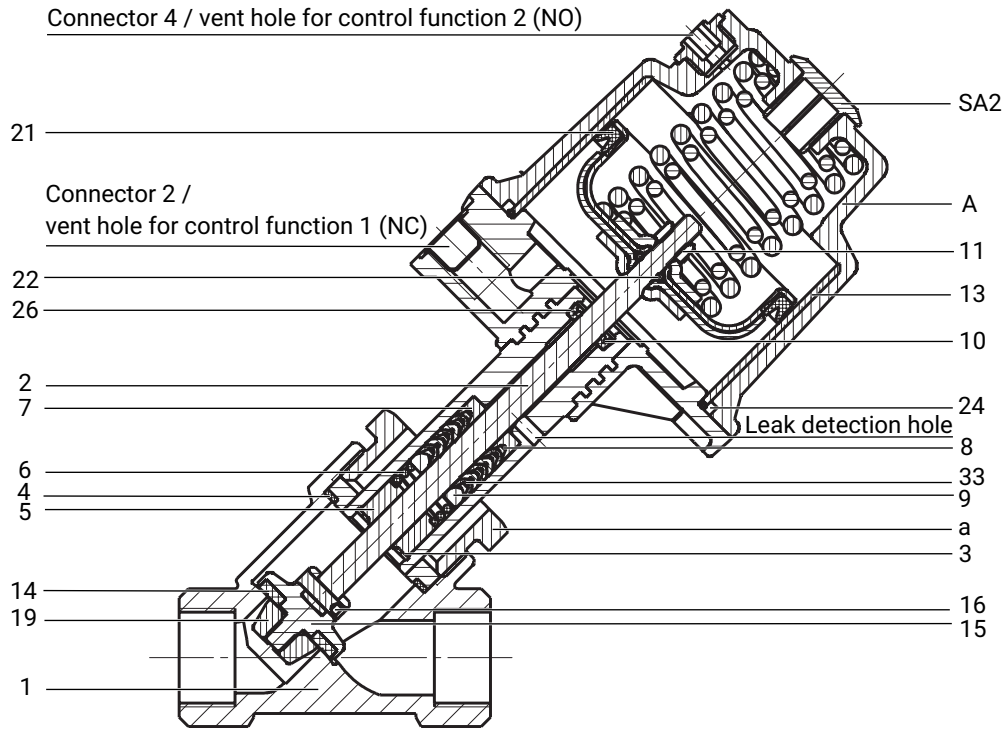
During operation:

9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not described in this document without consulting the manufacturer first.

In cases of uncertainty:

15. Consult the nearest GEMÜ sales office.

3 Construction



Item		Name
1		Valve body
2		Spindle
4		Gasket
5		Distance piece
10		Hexagon nut
13		Piston sleeve
14		Seat seal
15		Valve plug
16		Cylindrical pin
19		Retaining washer
21		Lip ring
22		O-ring
24		O-ring
26		Lip ring
A		Actuator
a		Union nut
SA2		Sealing plug
3	Gland packing	Circlip
5		Guide bush
6		Compression spring
7		Support ring
8		Chevron packing
9		Pressure ring
33		Chevron packing

4 Installing/removing the gland packing

⚠ DANGER



The equipment is subject to pressure.

- ▶ Risk of severe injury or death
- Depressurize the plant.
- Completely drain the plant.

⚠ WARNING



Corrosive chemicals!

- ▶ Risk of caustic burns
- Wear appropriate protective gear.
- Completely drain the plant.

⚠ CAUTION



Hot plant components!

- ▶ Risk of burns
- Only work on plant that has cooled down.

⚠ CAUTION

Use as step!

- ▶ Damage to the product
- ▶ Risk of slipping-off
- Choose the installation location so that the product cannot be used as a foothold.
- Do not use the product as a step or a foothold.

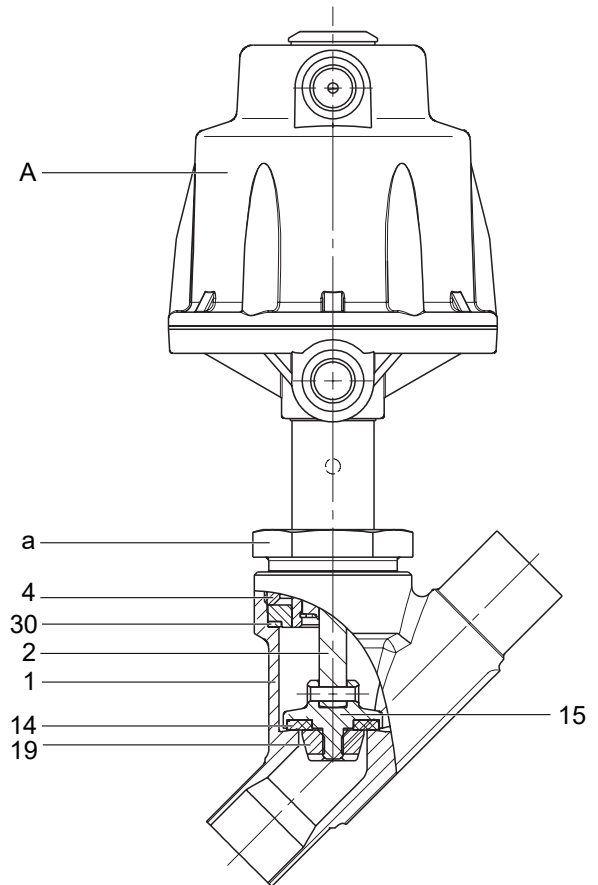
⚠ CAUTION

Exceeding the maximum permissible pressure!

- ▶ Damage to the product
- Provide precautionary measures against exceeding the maximum permitted pressures caused by pressure surges (water hammer).

NOTICE

- ▶ Please refer to GEMÜ 514 installation, operating and maintenance instructions – chapter 11.1 "Installing the valve" and chapter 20 "Sectional drawings and spare parts".



Item	Name
1	Valve body
2	Spindle
4	Gasket
14	Seat seal
15	Valve plug
19	Retaining washer
30	Gasket
A	Actuator
a	Union nut

4.1 Disassembly of actuator and gasket 30

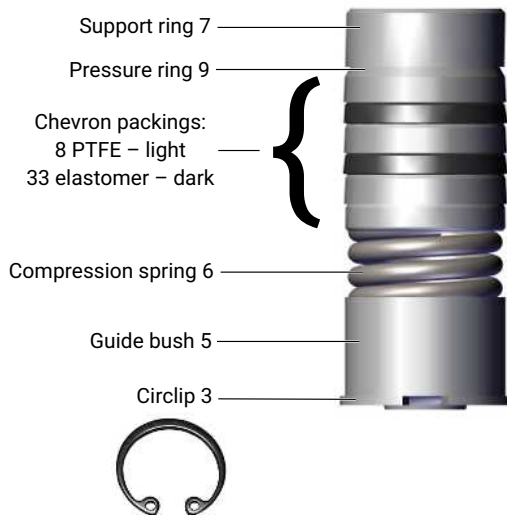
NOTICE

Important:

- ▶ Clean all parts of contamination (do not damage the parts during cleaning) following removal. Check parts for potential damage; replace if necessary (only use genuine parts from GEMÜ).

1. Move actuator **A** to the open position.
2. Undo actuator **A** from valve body **1** using a wrench.
3. Lift the actuator **A** with actuator flange off valve body flange.
4. Move the actuator **A** to the closed position.
5. Remove gasket **30** from the valve body flange.

4.2 Replacing the gland packing



⚠ WARNING



The actuator cover is under spring pressure!

- ▶ Risk of severe injury or death!
- Do not open the actuator.

1. Disassemble actuator **A** as described in chapter 4.1, points 1–5.
2. Clamp actuator **A** in a press.

⚠ CAUTION

Actuator cover will break if pressure is too high!

- ▶ Only use minimum required pressure.

3. Undo actuator **A** from valve body **1** using a wrench.
4. Slowly release the press. Release and open actuator **A**.
5. Remove compression springs and O-ring **24** from piston sleeve **13**.
6. Pull piston sleeve **13** from cover of actuator **A** and lubricate with Tunap TUNGREASE ST/3 .
7. Undo hexagon nut **11** of the piston-spindle joint in the base of actuator **A**.
8. Remove lip ring **21** from piston cover.
9. Remove O-ring **22** between piston and piston cover.
10. Pull out the spindle **2** downwards from the base of the actuator **A**.
11. Remove lip ring **26** from base of actuator **A**.
12. Remove circlip **3** in the base of actuator **A** with an appropriate tool (e.g. circlip pliers).
13. Pull out the components from the pipe in the base of actuator **A** in the following order: Guide bush **5**, compression spring **6**, pressure ring **9**, chevron packings **8** and **33** and support ring **7**.

14. Insert the new gland packing into the pipe in the base of actuator **A** in the following order:

1. Support ring **7**
2. Chevron packings **8** and **33** PTFE (not included with actuator size 2) / elastomer / PTFE / elastomer / PTFE (lubricate beforehand with Tunap TUNGREASE ST/3)

NOTICE

- ▶ Arrange the sharp-edged sides of chevron packings **8** and **33** in the direction of the valve body, otherwise it will not be possible to achieve sealing tightness.

3. Pressure ring **9**
4. Compression spring **6**
5. Guide bush **5**
15. Lock the gland packing in place using the circlip **3**.
16. Insert new lip ring **26** in base of actuator **A**.
17. Push spindle **2** through the base of actuator **A**.
18. Insert O-ring **22** between piston and piston cover.
19. Insert new lip ring **21** in piston cover.
20. Fix the piston-spindle joint in the base of actuator **A** with hexagon nut **11**.
21. Press piston sleeve **13** into cover of actuator **A**.
22. Insert the O-ring **24** and compression springs into the piston sleeve **13**.
23. Push the cover and base of the actuator **A** together and insert the connecting bolts.
24. Clamp the actuator **A** in a press and press the cover and base of the actuator **A** flush together.

⚠ CAUTION

Actuator cover will break if pressure is too high!

- ▶ Only use minimum required pressure.

25. Tighten connecting screws between cover and base of actuator **A** diagonally.
26. Slowly release the press.
27. Assemble the actuator **A** as described in chapter 4.4, points 1-5.

4.3 Replacing seat seal

NOTICE

Important:

- ▶ After disassembly, clean all parts of contamination (do not damage the parts during cleaning). Check parts for potential damage, replace if necessary (only use genuine parts from GEMÜ).

1. Disassemble actuator **A** as described in chapter 4.1, points 1–5.
2. Undo the retaining washer **19** on the spindle **2** (hold the spindle **2** in place using an appropriate tool that will not damage the spindle surface).
3. Remove the seat seal **14**.
4. Clean all parts; do not scratch or damage the parts during cleaning.
5. Insert new seat seal **14**.
6. Apply appropriate thread locking compound to the thread of the valve plug **15**.
7. Position retaining washer **19** (hold spindle **2** in place using an appropriate tool that will not damage the spindle surface) and tighten it.
8. Assemble the actuator **A** as described in chapter 4.4, points 1–5.

4.4 Assembly of actuator and gasket 30

NOTICE

- ▶ Replace the gasket **30** each time the actuator is disassembled/assembled.

1. Move actuator **A** to the open position.
2. Insert new gasket **30** in valve body flange.
3. Place the actuator **A** with actuator flange on valve body flange.
4. Screw in the mounting parts hand-tight and tighten screws with a suitable wrench.
5. Move actuator **A** to the closed position. With the valve fully assembled, check that it is working correctly and that it is leak-tight.

4.5 Replacing gasket 4

NOTICE

- ▶ Replace the gasket **4** each time the actuator is disassembled/assembled.

1. Move actuator **A** to the open position.
2. Undo the union nut **a**.
3. Lift actuator **A** off the actuator flange.
4. Remove gasket **4** from the actuator flange.
5. Clean all parts; do not scratch or damage the parts during cleaning.
6. Check all parts for potential damage. Replace damaged parts (only use genuine parts from GEMÜ).
7. Insert new gasket **4** in actuator flange.
8. Place actuator **A** on the actuator flange so that the control medium connectors are approx. 90° before the end position. Tighten the union nut **a**. This causes the actuator to turn by approx. 90° until it reaches the desired position.
9. Move actuator **A** to the closed position. With the valve fully assembled, check that it is working correctly and that it is leak-tight.

5 Disposal

1. Pay attention to adhered residual material and gas diffusion from penetrated media.
2. Dispose of all parts in accordance with the disposal regulations/environmental protection laws.



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany
Tel. +49 (0)7940 123-0 · info@gemue.de
www.gemu-group.com

Subject to alteration

03.2024 | 88910687