

## Type 2006

Spare parts / Ersatzteile / Pièces de rechange

Actuator size / Antriebsgröße / Taille d'actionneur

D (50 mm)

E (63 mm)

F (80 mm)

G (100 mm)

H (125 mm)

## Replacement Instructions

Austauschanleitung

Instructions de remplacement



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Manuals and data sheets on the Internet:

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Instructions de service et fiches techniques sur

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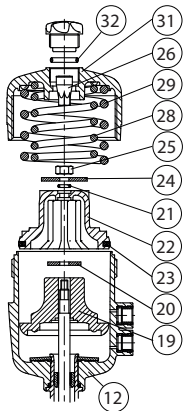
Replacement Instructions 1707/00\_EU-EN\_00810492 /

Original DE

# EXPLODED DRAWINGS / EXPLOSIONSZEICHNUNGEN / DESSINS ÉCLATÉS

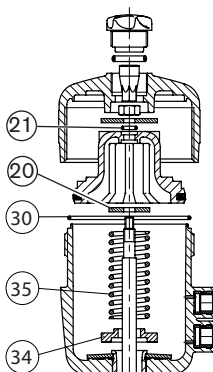
Control function  
Steuerfunktion  
Fonction

**A**



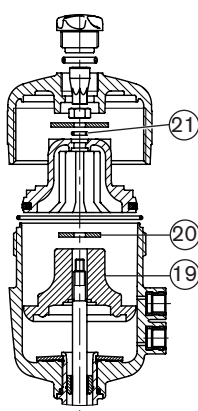
Control function  
Steuerfunktion  
Fonction

**B**

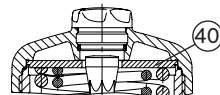


Control function  
Steuerfunktion  
Fonction

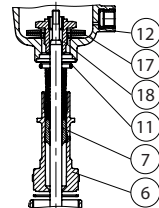
**I**



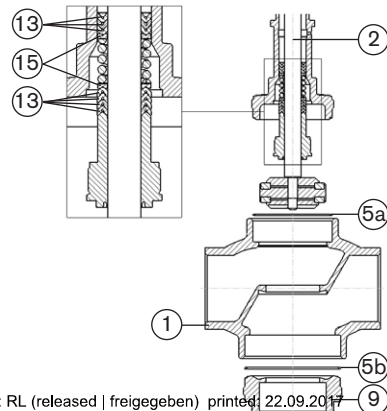
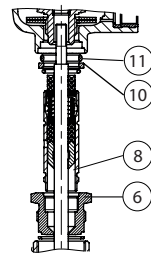
Actuator size  
Antriebsgröße  
taille d'actionneur  
**G + H**



Actuator size / Antriebsgröße  
taille d'actionneur  
**E + F**



Actuator size / Antriebsgröße  
taille d'actionneur  
**D**



# SYMBOLS

→ designates a procedure which you must carry out.

▶ designates instructions for risk prevention.

## Warning of injuries:



### DANGER!

Immediate danger! Serious or fatal injuries.



### WARNING!

Possible danger! Serious or fatal injuries.



### CAUTION!

Danger! Moderate or minor injuries.

## Warning of damage:

### NOTE!

# SPARE PARTS



### CAUTION!

#### Risk of injury and/or damage due to the use of incorrect parts.

Incorrect accessories and unsuitable spare parts may cause injuries and damage the device and the surrounding area.

- ▶ Use original accessories and original spare parts from Bürkert only.
- ▶ Only trained technicians may perform installation and maintenance work.

# Tools

Special tools are required to replace the spare parts. These are available from your Bürkert sales office.

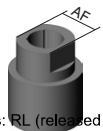
## Installation wrench for actuator cover

Actuator size	Order no.	Actuator size	Order no.
D (50 mm)	639 175	G (100 mm)	639 172
E (63 mm)	639 170	H (125 mm)	639 173
F (80 mm)	639 171		

## Assembly sleeve for spindle thread

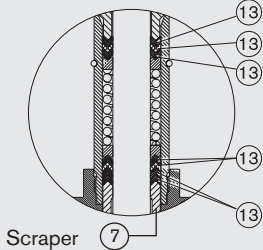
Actuator size	DN (mm)	Ø spindle (mm)	Order no.
D (50 mm)	15...25	8	639 166
E (63 mm)	20...50	10	639 167
F (80 mm)	25...65	10	639 168
G (100 mm)	32...65	14	639 169
H (125 mm)			

## Modified socket wrench

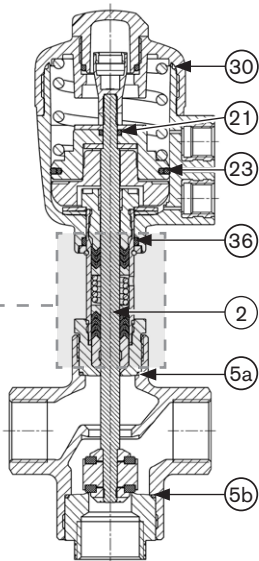
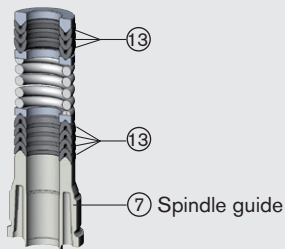
	Actuator size	DN (mm)	Ø spindle (mm)	AF	Order no.
	G (100 mm)	32...65	14	21	683 223
	H (125 mm)				

# OVERVIEW OF SPARE PARTS

**Packing gland for valves in actuator sizes D, E and F**



**Packing gland for valves in actuator sizes G and H**



## Seal set for actuator (SET 5)

Item	Description
30	O-ring
21	O-ring
23	Piston seal
36	O-ring
13	Gaskets (7 pcs.)
7	Scraper / spindle guide
5a/5b	Graphite seals (packed)

## Valve set (SET 6)

Item	Description
2	Spindle (complete with closing body)
5a/5b	Graphite seals (packed)

# CHANGING THE VALVE SET



## DANGER!

### Danger – high pressure!

- ▶ Turn off the pressure and vent the lines before loosening lines or valves.

### Risk of injury from improper maintenance work.

- ▶ Maintenance may be performed by authorized technicians only.
- ▶ To screw in or unscrew the valve body or actuator, use an open-end wrench, never a pipe wrench.  
Observe tightening torques.

### Danger due to taut springs.

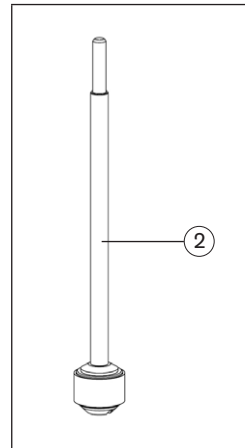
- ▶ Carefully open piston actuator.

- Mount valve on the housing (1).
- Pressurize the lower control air connection to 4 bar.
- Unscrew lower seat (9) (connecting nipple at the bottom of the housing).
- Remove control air again.
- Remove old graphite seal (5b).
- Unscrew cover (31) using installation wrench (see [Page 3](#)), countering the hexagon on the actuator housing (12).
- **For actuator sizes G and H only:** remove disk (40).
- **For control function A only:** remove pressure springs (28) (29).
- Remove position indicator (26) with Allen key.

- Loosen nut (25) (Attention, nut is secured with Loctite!).
- Remove piston (22) with O-ring (21) and support disk (24).
- **For control functions A and I only:**  
remove packing material (19) with shim washer (20).
- **For control function B only:**  
remove pressure spring (35) with shim washer (20).

- Pull out spindle (2) with closing body downwards through housing.
- Lubricate new spindle (2) sparingly with silicone grease OKS 1110-3 and insert suitable assembly sleeve (see [Page 3](#)) over spindle thread.
- Insert spindle with closing body through nipple (6) into actuator and remove assembly sleeve.
- **For control functions A and I only:**  
place packing material (19) with shim washer (20) on spindle.
- **For control function B only:**  
insert pressure spring (35) with shim washer (20).

Fig. 1: Spindle (complete with closing body)



- Grease inside of actuator housing surface (12), lubricant Amblygon TA.
- Insert piston (22) with lightly greased O-ring (21) and support disk (24).
- Wet spindle thread (2) with special adhesive LOCTITE 274, screw on nut (25) and tighten.
- Attach position indicator (26).
- Pressurize the lower control air connection to 4 bar.
- Insert new graphite seal (5b).
- Attach lower seat (9) (connecting nipple at the bottom of the housing). Observe tightening torques ("Tab. 1").
- Remove control air again.
- **For control function A only:** insert pressure springs (28) (29).
- **For actuator sizes G and H only:** insert disk (40).
- Attach cover (31) and screw tightly using installation wrench.
- Check the valve for function and leaks.

DN (mm)	15	20	25	32	40	50
Tightening torque (Nm)	60	60	65	70	70	70

Tab. 1: Valve body tightening torques

## CHANGING THE SEAL SET

### NOTE!

To replace all the seals, completely remove the actuator. A special Bürkert assembly sleeve is required to mount the packing gland (see [Page 3](#)).



Do not use any pointed or sharp-edged instruments.

- Mount valve on the housing (1).
- Pressurize the lower control air connection to 4 bar.
- Unscrew lower seat (9) (connecting nipple at the bottom of the housing).
- Remove control air again.
- Remove old graphite seal (5b).
- Unscrew cover (31) using installation wrench (see [Page 3](#)), countering the hexagon on the actuator housing (12).
- **For actuator sizes G and H only:** remove disk (40).
- **For control function A only:** remove pressure springs (28) (29).
- Remove position indicator (26) with Allen key.
- Loosen nut (25) (Attention, nut is secured with Loctite!).
- Remove piston (22) with O-ring (21) and support disk (24).
- **For control functions A and I only:** remove packing material (19) with shim washer (20).

- For control function B only:  
remove shim washer (20) and pressure spring (35).
- Pull out spindle (2) with closing body downwards through housing.
- Place a suitable open-end wrench on the wrench flat of the nipple (6).
- Screw actuator on the nipple (6) out of the valve body (1).

## Changing the packing gland valves actuator sizes D, E, F

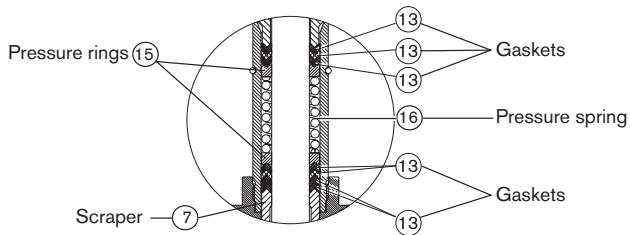
- Clamp actuator on the nipple hexagon (6).

**!** For actuator size D (50 mm) the pipe (8) is screwed and sealed in the nipple (6).

- Release and remove screw (18) with socket spanner.
- Remove disk springs (17), remove actuator housing (12).

**!** For actuator size D (50 mm) the reinforcing ring (10) remains on the pipe.

- Pull packing gland set (7), (13), (15), (16) carefully out of the pipe (8).  
Ensure that the pipe is not damaged.
- After removal thoroughly clean individual parts which are still required.
- Liberally lubricate packing gland set (7), (13), (15), (16) with silicone grease OKS 1110-3, assemble in correct sequence (see drawing) in the pipe (8).
- Press packing gland set all the way into the pipe (8); to do this, clamp nipples (6) and screw in packing gland set using screw (18). Remove screw again.



- Replace O-ring (36).
- Mount actuator housing (12), disk springs (17) and screw (18) on the pipe (8).
- Tighten screw (18) with socket wrench, ensuring that the disk springs (17) are in a central position.
- Replace graphite seal (5a).
- Lubricate nipple thread (6) with Klüber paste UH1 96-402.
- Screw in nipple (6) with actuator in valve body (1).
- Lubricate spindle (2) sparingly with silicone grease OKS 1110-3 and insert suitable assembly sleeve (see Page 3) over spindle thread.
- Insert spindle through nipple (6) into actuator and remove assembly sleeve.
- **For control functions A and I only:** place packing material (19) on spindle.
- **For control function B only:** insert pressure spring (35).
- Place shim washer (20) and lightly lubricated O-ring (21) on spindle.

## Changing the packing gland valves actuator sizes G, H



### DANGER!

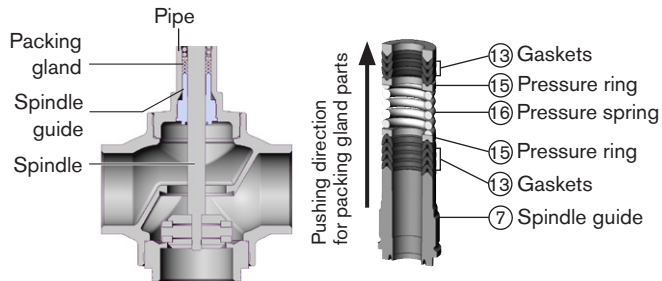
#### Risk of injury from discharge of medium and pressure release.

- ▶ Before removal, switch off the pressure and vent the lines.

#### Risk of injury from ejected parts.

When the spindle opening is exposed, the individual parts of the packing gland are pressed out at an undefined speed when the control air connection is pressurized.

- ▶ Before pressurizing with control air, safeguard the ambient area of the discharge opening (e.g. place spindle on a firm base).



- Unscrew spindle guide (7) with the aid of a modified socket wrench (see [Page 3](#)).

- Insert spindle (2) through nipple (6) again into actuator.
- Place shim washer (20) on spindle.
- Insert piston (22), lightly greased O-ring (21) and support disk (24), lightly grease actuator housing surface.
- Attach and tighten nut (25) and attach position indicator (26).
- Attach cover (31) and screw tightly using installation wrench.
- Pressurize the lower control air connection to 4 bar.
- Unscrew cover (31) again.
- Unscrew position indicator (26) and nut (25).
- Remove support disk (24), O-Ring (21), piston (22) and shim washer (20).
- Pull out spindle (2) downwards again and remove individual parts of the old packing gland.
- Thoroughly clean individual parts which are still required.
- Liberally lubricate individual parts of the new packing gland with the supplied lubricant and connect to the spindle (2) in the specified direction and sequence.
- Insert gland packing with spindle (2) into the pipe and press in forcefully.
- Screw in spindle guide 1 to 2 turns using modified socket wrench.
- Pull out spindle (2) downwards again.
- Tighten spindle guide using modified socket wrench. Observe a tightening torque of 15 Nm.



- Replace graphite seal (5a).
- Lubricate nipple (6) with Klüber paste UH1 96-402.
- Screw nipple (6) with actuator into valve body (1).
- Lubricate spindle (2) and closing body sparingly with silicone grease OKS 1110-3 and insert suitable assembly sleeve (see [Page 3](#)) over spindle thread.
- Insert spindle through nipple (6) into actuator and remove assembly sleeve.
- **For control functions A and I only:** place packing material (19) on spindle.
- **For control function B only:** insert pressure spring (35).
- Place shim washer (20) on spindle.

### The following steps must be performed on all valves:

- Remove old piston seal (23) from piston (22). Clean groove and lubricate sparingly with lubricant Amblygon TA.
- Insert new piston ring (23).
- Lightly grease inside of actuator housing surface.
- Place lightly greased O-ring (21) on spindle.

- Insert piston (22) and support disk (24).
- Wet spindle thread (2) with special adhesive LOCTITE 274.
- Attach nut (25).
- Mount valve on the housing (1).
- Screw nut (25) tightly and mount position indicator (26).
- Replace graphite seal (5b).
- Attach lower seat (9) (connecting nipple at the bottom of the housing). Observe tightening torque (see ["Tab. 1"](#)).

Pressurize the lower control air connection to 4 bar.

- **For control function A only:** insert pressure springs (28) (29).
- Remove control air again.
- **For actuator sizes G and H only:** insert disk (40).
- **For control functions B and I only:** replace O-ring (30).
- Replace O-ring (32); to do this, unscrew transparent hood.
- Lightly grease cover thread, lubricant Amblygon TA.
- Attach cover (31) and screw tightly using installation wrench.
- Check the valve for function and leaks.

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