bürkert
FLUID CONTROL SYSTEMS

Type 2060

2/2-way angle seat valve
2/2-Wege-Schrägsitzventil
Vanne à siège incliné 2/2 voies

Operating Instructions

Bedienungsanleitung
Manuel d'utilisation

MAN 1000295866 EN Version: - Status: RL (released | freigegeben) printed: 24.10.2016

Operating Instructions 1606/00_EU-ML_00810532 / Original DE

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1 OPERATING INSTRUCTION

The operating instructions describe the entire life cycle of the device. Keep these instructions in a location which is easily accessible to every user and make these instructions available to every new owner of the device.

Important safety information.

Failure to observe these instructions may result in hazardous situations.

- The operating instructions must be read and understood.

1.1 Definition of terms

In these instructions, the term “device” always refers to the angle seat valve Type 2060.

1.2 Symbols

DANGER!

Warns of an immediate danger.

- Failure to observe the warning may result in a fatal or serious injury.

WARNING!

Warns of a potentially dangerous situation.

- Failure to observe the warning may result in serious injuries or death.

CAUTION!

Warns of a possible danger.

- Failure to observe this warning may result in a moderate or minor injury.

NOTE!

Warns of damage to property.

Important tips and recommendations.

Refers to information in these operating instructions or in other documentation.

- designates an instruction to prevent risks.

→ designates a procedure which you must carry out.

2 AUTHORISED USE

Non-authorized use of the angle seat valve Type 2060 may be a hazard to people, nearby equipment and the environment.

- The device is designed for the controlled flow of liquid and gaseous media.
- In the potentially explosion-risk area the device may be used only according to the specification on the separate Ex type label. For use observe the additional information enclosed with the device together with safety instructions for the explosion-risk area.
- Devices without a separate Ex type label may not be used in a potentially explosive area.
- The admissible data, the operating conditions and conditions of use specified in the contract documents, operating instructions and on the type label are to be observed during use.
- Correct transportation, correct storage and installation and careful use and maintenance are essential for reliable and faultless operation.
- The device may be used only in conjunction with third-party devices and components recommended and authorized by Bürkert.
- Use the device only as intended.

3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not consider any contingencies or incidents which occur during installation, operation and maintenance.

The operator is responsible for observing the location-specific safety regulations, also with reference to the personnel.

Danger - high pressure.

- Before dismounting the lines and valves, turn off the pressure and vent the lines.

Risk of electric shock.

- Before reaching into the device, switch off the power supply and secure to prevent reactivation.
- Observe applicable accident prevention and safety regulations for electrical equipment.

Risk of burns or fire from hot device surface due to prolonged switch-on time.

- Do not touch the device with bare hands. Keep away from highly flammable substances and media.

Risk of injury of parts being ejected out when opening the actuator.

- Do not open the actuator.

Risk of injury from moving parts in the device.

- Do not reach into openings.

General hazardous situations.

To prevent injury, ensure:

- Secure system against unintentional activation.
- Installation, operation and maintenance may only be performed by qualified specialists.
- After an interruption in the power supply or pneumatic supply, ensure that the process is restarted in a defined or controlled manner.
- The device may be operated only when in perfect condition and in consideration of the operating instructions.
- Observe the general rules of technology.

To prevent damage to property of the device, ensure:

- Supply the media connections only with those media which are specified as flow media in the chapter entitled "Technical data".
- Do not put any loads on the valve.
- Do not make any modifications to the valves. Do not paint the body parts.

4 GENERAL INFORMATION

4.1 Contact address

Germany

Bürkert Fluid Control Systems
Sales Center
Christian-Bürkert-Str. 13-17
D-74653 Ingelfingen
Tel. + 49 (0) 7940 - 10-91 111
Fax + 49 (0) 7940 - 10-91 448
E-mail: info@de.buerkert.com

International

Contact addresses are found on the final pages of the printed operating manual.

Information on the Internet under: www.burkert.com

4.2 Warranty

The warranty is only valid if the device is used as authorized in accordance with the specified application conditions.

4.3 Information on the Internet

The operating instructions and data sheets for Type 2060 can be found on the Internet at: www.burkert.com

5 PRODUCT DESCRIPTION

5.1 Structure

The angle seat valve consists of a pneumatically actuated piston actuator and a 2/2-way valve body. It uses neutral gases or air to control the flow-rate of gaseous media such as water, alcohol, oil, fuel, saline solution, lye, organic solvent or steam.

The actuator is manufactured from stainless steel.

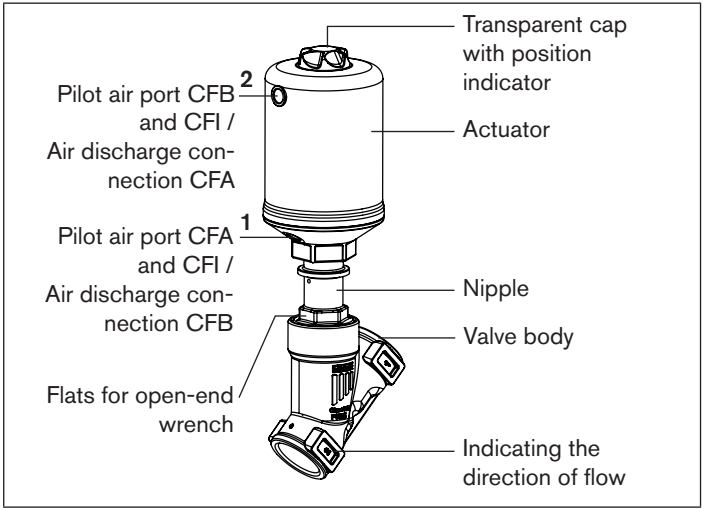


Fig. 1: Angle seat valve Type 2060, Structure and description

5.2 Application area

Observe the maximum pressure range according to the type label.

- Neutral gases and liquids up to 16 bar (Restriction: DN65 max. 12 bar).
- Steam up to 11 bar absolute / 185 °C.
- Aggressive media.

5.3 Properties

- High tightness by self-adjusting packing glands.
- High flow values by the streamlined valve body made of stainless steel.
- Actuator can be rotated steplessly through 360°.

5.3.1 Options

- Stroke limit (as max. or min./max. design)
  Adjusting screw used to limit open position of valve, thereby also limiting the flow rate.
- Feedback indicator
  Provides feedback on valve position using inductive proximity switch or type 8697 feedback indicator.

5.3.2 Devices versions

The angle seat valve is available for the following actuator sizes:
ø 50 mm, ø 70 mm, ø 90 mm, ø 130 mm.

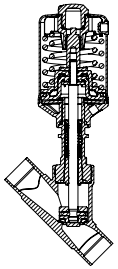
5.4 Function

Depending on the version, the seat of the valve is closed with or against the medium flow. Spring force (CFA) or pneumatic pilot pressure (CFB and CFI) generates the closing force on the swivel plate. The force is transferred via a spindle which is connected to the actuator piston.

5.4.1 Control functions (CF)

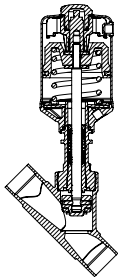
Control function A (CFA)

Normally closed by spring action



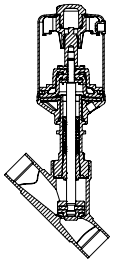
Control function B (CFB)

Normally open by spring action



Control function I (CFI)

Actuating function via reciprocal pressurization



5.4.2 Flow direction below seat

Depending on the version, the valve is closed against the medium flow with spring action (control function A, CFA) or with pilot pressure (control function B or I, CFB or CFI).
As the medium pressure is under the swivel plate, this pressure contributes to the opening of the valve.

WARNING!

Valve seat not leak-tight when control pressure too low or medium pressure too high.

If control pressure for control function B and control function I is too low or medium pressure is too high, this can cause the valve seat to leak.

- Comply with minimum control pressure and maximum medium pressure values.

5.4.3 Flow direction above the seat

The valve is closed by spring force (control function A, CFA) with the medium flow. As the medium pressure is over the swivel plate, it supports the closing process of the valve and also contributes to the sealing of the valve seat. The valve is opened by the pilot pressure.

WARNING!

Risk of injury from rupturing lines and device when incoming flow passing through seat.

With liquid media, a water hammer can cause lines and the device to burst.

- Do not use valves which handle the incoming flow through the seat for liquid media.

To ensure complete opening, the minimum pilot pressure must be used.

6 TECHNICAL DATA

6.1 Conformity

The Type 2060 conforms with the EC Directives according to the EC Declaration of Conformity.

6.2 Standards

The applied standards, which verify conformity with the EC Directives, can be found on the EC-Type Examination Certificate and / or the EC Declaration of Conformity.

According to Pressure Equipment Directive the following operating conditions must be observed:

Line connection orifice	Maximum pressure for compressible fluids of Group 1 (hazardous gases and vapors according to Art. 3 No. 1.3 Letter a first dash)
DN65	12 bar

6.3 Type label

WARNING!

Risk of injury from high pressure.

Excessive pressure can damage the device.

▸ Comply with pressure range values on the type label.

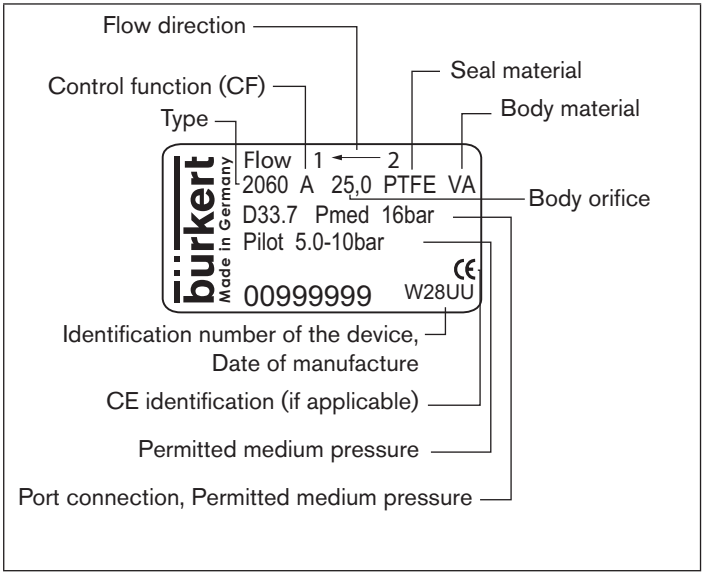


Fig. 2: Description of the type label (Example)

6.4 Operating conditions

6.4.1 Temperature ranges

Actuator size	Actuator material	Medium temperature (for PTFE seal)	Ambient temperature
ø 50 mm	Stainless steel	-10...+185 °C	0...+100 °C (at 150 °C Medium temperature) 0...+80 °C (at 150 °C > Tmed < 180 °C)
ø 70 mm			
ø 90 mm			
ø 130 mm			

Tab. 1: Temperature ranges

The angle seat valve is suitable for steam sterilization.

6.4.2 Pressure ranges

Actuator size	Maximum pilot pressure
ø 50 mm	10.5 bar
ø 70 mm	
ø 90 mm	
ø 130 mm	7.5 bar

Tab. 2: Pressure ranges

Medium and pilot pressure for control function A (CFA), flow direction below the seat (standard)

Orifice	Maximum medium pressure [bar]				Minimum pilot pressure [bar]			
	Actuator size ø [mm]				Actuator size ø [mm]			
	50	70	90	130	50	70	90	130
15	16	16	-	-	4	5	-	-
20	16	16						
25	9	16						
32	-	8.5	16	-	-		5	
40		6	16					
50		-	10	16				5
65			5	12		-		5.6

Tab. 3: Medium and pilot pressure for CFA, standard

Medium and pilot pressure for control function A (CFA), flow direction below the seat reduced pressure spring force (EC04)

Orifice	Maximum medium pressure [bar]				Minimum pilot pressure [bar]			
	Actuator size ø [mm]				Actuator size ø [mm]			
	50	70	90	130	50	70	90	130
15	10	16	-	-	2.7	2.5	-	-
20	4	12						
25	2.1	6						
32	-	3.5	9	-	-		2.5	2.5
40		2	6	16				
50		-	3.5	11		-		
65			-	7.5			-	3.2

Tab. 4: Medium and pilot pressure for CFA, reduced pressure spring force (EC04)

Required minimum pilot pressure depending on medium pressure

The following graphs illustrate the required minimum pilot pressure depending on the medium pressure for control functions A, B and I.

Control function A, flow direction above the seat

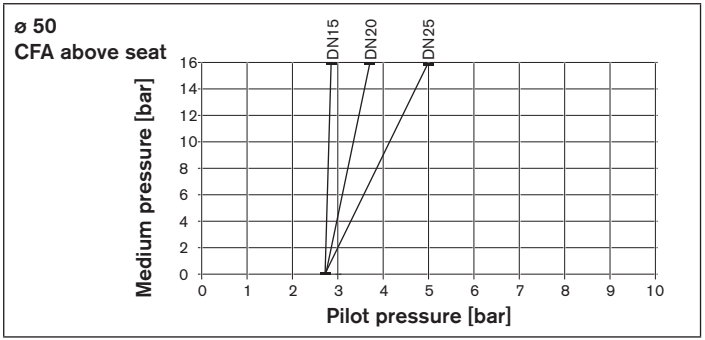


Fig. 3: Pressure graph, actuator ø 50 mm, control function A, flow direction above the seat

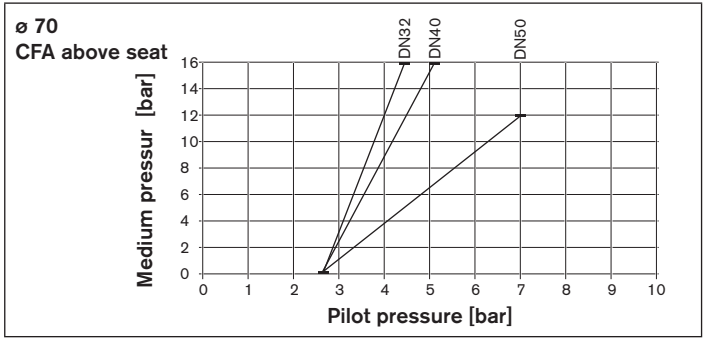


Fig. 4: Pressure graph, actuator ø 70 mm, control function A, flow direction above the seat

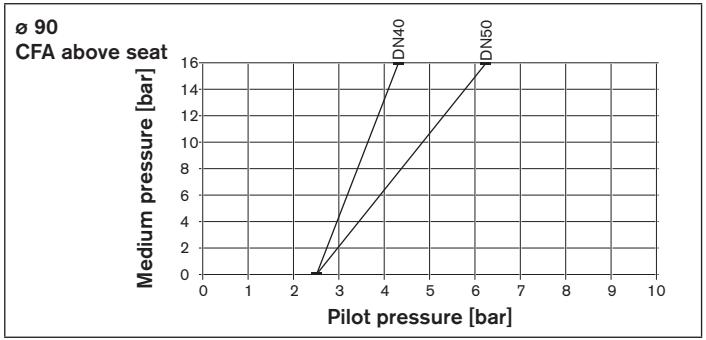


Fig. 5: Pressure graph, actuator ø 90 mm, control function A, flow direction above the seat

Control functions B and I, flow direction below the seat

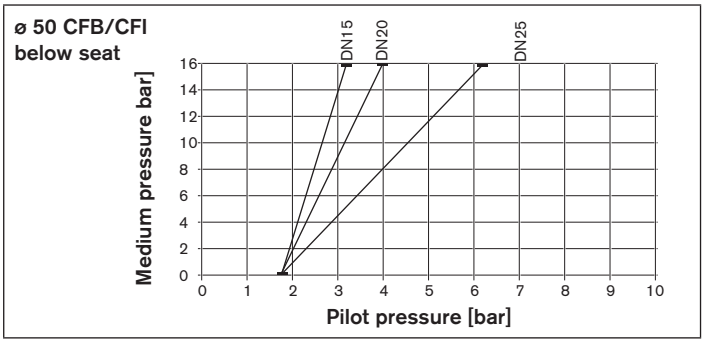


Fig. 6: Pressure graph, actuator ø 50 mm, control functions B and I, flow direction below the seat

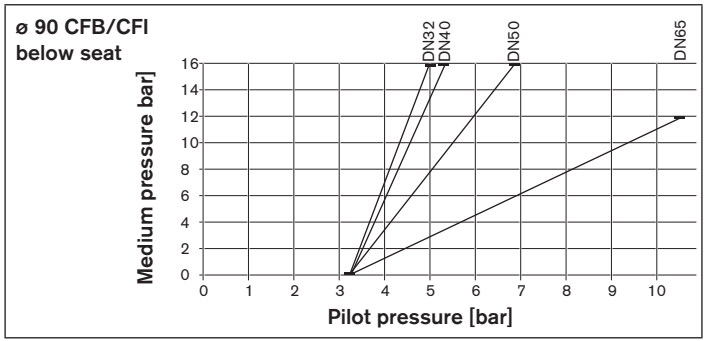


Fig. 8: Pressure graph, actuator ø 90 mm, control functions B and I, flow direction below the seat

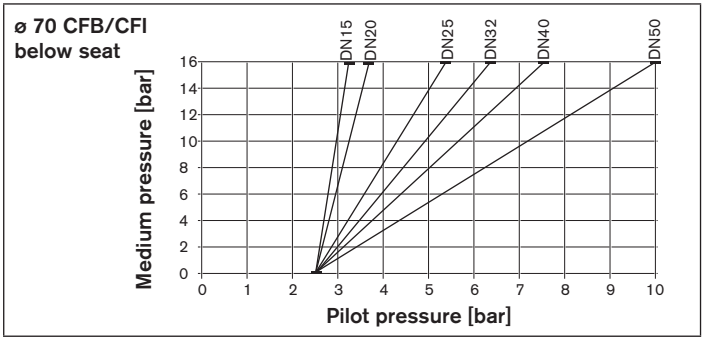


Fig. 7: Pressure graph, actuator ø 70 mm, control functions B and I, flow direction below the seat

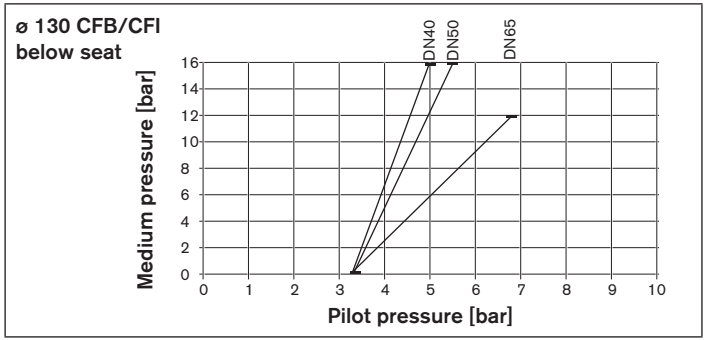


Fig. 9: Pressure graph, actuator ø 130 mm, control functions B and I, flow direction below the seat

6.5 General technical data

Actuator size	see type label
Control function	see type label. Description of control functions see chapter “5.4”
Installation	at will, preferably actuator in upright position
Media:	
Control media	Neutral gases, air
Flow media	Water, alcohol, fuel, hydraulic liquids, saline solutions, lye, organic solvents
Materials:	
Valve body	316L
Actuator	Stainless steel
Sealing elements	FKM and EPDM
Spindle sealing (with silicone grease)	PTFE V rings with spring compensation
Seat seal Swivel plate	PTFE (NBR, EPDM, FKM on request)
Spindle	1.4401 / 1.4404
Spindle guide	PEEK
Connections:	
Pilot air ports	Stainless steel threaded bushing G1/8
Medium connection	Socket: G½...G2½ (NPT, RC on request) Welded connection: in accordance with ISO 4200, DIN 11850 R2, other connections on request

7 INSTALLATION

DANGER!

Danger - high pressure.

- Before dismounting the lines and valves, turn off the pressure and vent the lines.

WARNING!

Risk of injury from improper installation.

- Installation may only be performed by qualified and trained personnel.
- Use an open-end wrench for the assembly.
- Following assembly, perform a controlled restart.

For control function I – Danger if pilot pressure fails.

For control function I control and resetting occur pneumatically. If the pressure fails, no defined position is reached.

- To ensure a controlled restart, first pressurize the device with pilot pressure, then switch on the medium.

Risk of injury from moving parts in the device.

- Do not reach into openings.

7.1 Preparatory work

- Ensure the lines are flush.
- Clean pipelines (sealing material, swarf, etc.).
- Observe direction of flow (see type label).

7.2 Remove the actuator from the valve body

→ Clamp the valve body in a holding device.

NOTE!

Damage to the seat seal or the seat contour.

- When removing the actuator, ensure that the valve is in open position.

→ Control function A pressurize the pilot air port 1 with compressed air: valve opens.

→ Using a suitable open-end wrench, place the wrench flat on the tube.

→ Unscrew the actuator from the valve body.

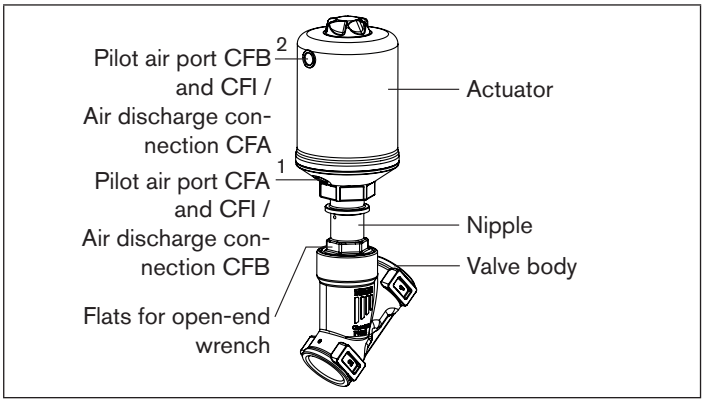


Fig. 10: Angle seat valve, Type 2060

7.3 Installation of the valve body

WARNING!

Risk of injury from improper installation.

- Installation may only be performed by qualified and trained personnel.
- For installation use an open-end wrench.
- Observe the tightening torque.

Dirt trap for devices with authorization in accordance with DIN EN 161

In accordance with DIN EN 161 „Automatic shut-off valves for gas burners and gas appliances“ a dirt trap must be connected upstream of the valve and prevent the insertion of a 1 mm plug gauge.

Applies the authorisation to stainless steel bodies:

→ Mount the dirt trap in front of angle seat valve.

Welded bodies:

→ Weld valve body in pipeline system.

Other bodies:

→ Connect body to pipeline.

7.4 Installation of the actuator (welded body)

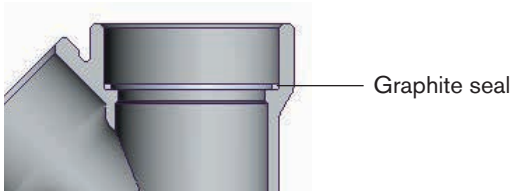


Fig. 11: Graphite seal

→ Check the graphite seal and if required, replace it.

WARNING!

Danger if incorrect lubricants used.

Unsuitable lubricant may contaminate the medium. In oxygen applications there is a risk of an explosion.

- In specific applications, e.g. oxygen or analysis applications, use appropriately authorised lubricants only.

→ Grease nipple thread before re-installing the actuator (e.g. with Klüber paste UH1 96-402 from Klüber).

NOTE!

Damage to the seat seal or the seat contour.

- When installing the actuator, ensure that the valve is in open position.

→ Control function A pressurize the pilot air port 1 with compressed air: valve opens.

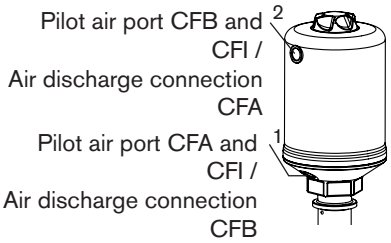


Fig. 12: Connections

→ Screw actuator into the valve body. Observe tightening torque "Tab. 5".

Orifice	Tightening torque [Nm]
15	45 ± 3
20	50 ± 3
25	60 ± 3
32	65 ± 3
40	
50	70 ± 3
65	100 ± 3

Tab. 5: Tightening torques of valve body / nipples

7.5 Mount accessories

For description, refer to documentation of corresponding accessories.

7.6 Rotating the actuator

The position of the connections can be aligned steplessly by rotating the actuator through 360°.

NOTE!

Damage to the seat seal or the seat contour.

- When rotating the actuator, ensure that the valve is in open position.

→ Clamp the valve body in a holding device (applies only to valves which have not yet been installed).

→ Control function A pressurize the pilot air port 1 with compressed air: valve opens.

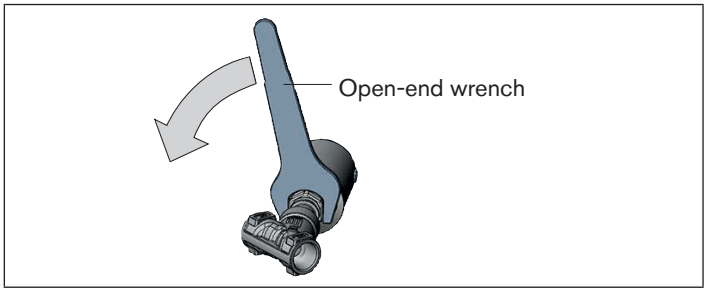


Fig. 13: Rotating with open-end wrench

→ Counter on the flats of the nipple with a suitable open-end wrench.

→ Place suitable open-end wrench on the hexagon of the actuator.

→ Move the actuator to the required position.

7.7 Pneumatic connection

WARNING!

Risk of injury from unsuitable connection hoses.

- Use only hoses which are authorized for the indicated pressure and temperature range.
- Observe the data sheet specifications from the hose manufacturers.

For control function I – Danger if pilot pressure fails.

For control function I control and resetting occur pneumatically. If the pressure fails, no defined position is reached.

- To ensure a controlled restart, first pressurize the device with pilot pressure, then switch on the medium.

7.7.1 Connection of the control medium

If the position of the pilot air ports for installation of the hoses is unfavorable, these can be aligned steplessly by rotating the actuator through 360°.

The procedure is described in the chapter entitled “7.6”.

Control functions A and B:

→ Connect the control medium to the pilot air port 1 of the actuator.

Control function I:

→ Connect the control medium to the pilot air port 1 and 2 of the actuator.
Pressure on connection 1 opens the valve.
Pressure on connection 2 closes the valve..

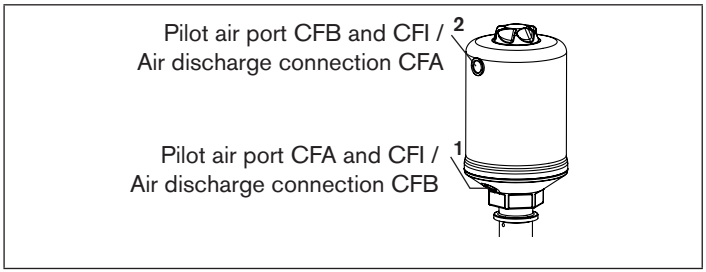


Fig. 14: Connections

Silencer[1)]

→ Bolt silencer in the exposed venting port.

If used in an aggressive environment, we recommend conveying all free pneumatic connections into a neutral atmosphere with the aid of a pneumatic hose.

Control air hose

6/4 mm or 1/4“ control air hoses can be used[2)].

1) *Silencers for reducing the loudness of the exhaust air can be ordered as an accessory.*
2) *Push-lock fittings can be ordered as accessories.*

8 REMOVAL

DANGER!

Risk of injury from discharge of medium and pressure.

It is dangerous to remove a device which is under pressure due to the sudden release of pressure or discharge of medium.

- Before removing a device, switch off the pressure and vent the lines.

→ Loosen the pneumatic connection.

→ Remove the device.

9 MAINTENANCE

DANGER!

Danger - high pressure.

- Before dismounting the lines and valves, turn off the pressure and vent the lines.

WARNING!

Risk of injury from improper maintenance.

- Maintenance may be performed by authorised technicians only.
- Maintenance work use only the appropriate tools.
- Following maintenance, perform a controlled restart.

9.1 Maintenance

9.1.1 Maintenance work

Actuator:

The actuator of the angle seat valve is maintenance-free.

Visual inspection:

Perform regular visual inspections according to the application conditions:

→ Check media connections for leaks.

→ Check release bore on the tube for leaks.

Fig. 15: Release bore

9.1.2 Cleaning

Commercially available cleaning agents can be used to clean the outside.

NOTE!

Avoid causing damage with cleaning agents.

- Before cleaning, check that the cleaning agents are compatible with the body materials and seals.

9.2 Replacing the spare parts

9.2.1 Replacing the valve set

The valve set consists of

- Swivel plate
- Pin
- Graphite seal

Before the valve set can be replaced, the actuator must be removed from the valve body.

Remove the actuator from the valve body:

→ Clamp the valve body in a holding device.
(Applies only to valves which have not yet been installed).

NOTE!

Damage to the seat seal or the seat contour.

- ▸ When removing the actuator, ensure that the valve is in open position.

→ Control function A pressurize the pilot air port 1 with compressed air: valve opens.

→ Using a suitable open-end wrench, place the wrench flat on the tube.

→ Unscrew the actuator from the valve body.

Replacing valve set

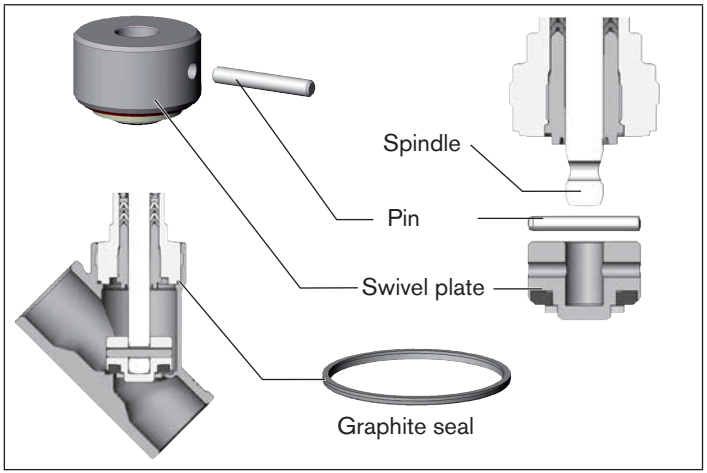


Fig. 16: Valve set

→ Support swivel plate on the cylindrical part with the aid of a prism or something similar.

→ Knock out the pin with a suitable pin punch.
Pin punch ø 3 mm, for spindle diameter 10 mm on the swivel plate.
Pin punch ø 5 mm, for spindle diameter 14 mm on the swivel plate.

→ Remove swivel plate.

→ Connect new swivel plate to the spindle.

→ Align bores of the swivel plate and spindle.

→ Support swivel plate on the cylindrical part with the aid of a prism or something similar.

→ Insert pin into the bore.

→ Swage pin bores on both sides of the swivel plate using a chisel or center punch.

Installing the actuator on the valve body

→ Check the graphite seal and if required, replace it.

WARNING!

Danger if incorrect lubricants used.

Unsuitable lubricant may contaminate the medium. In oxygen applications there is a risk of an explosion!

- In specific applications, e.g. oxygen or analysis applications, use appropriately authorised lubricants only.

→ Grease nipple thread before re-installing the actuator (e.g. with Klüber paste UH1 96-402 from Klüber).

NOTE!

Damage to the seat seal or the seat contour.

- When installing the actuator, ensure that the valve is in open position.

→ Control function A pressurize the pilot air port 1 with compressed air: valve opens.

→ Screw actuator into the valve body. Observe tightening torque "Tab. 6".

Orifice	Tightening torques [Nm]
15	45 ± 3
20	50 ± 3
25	60 ± 3
32	65 ± 3
40	
50	70 ± 3
65	100 ± 3

Tab. 6: Tightening torques of valve body / nipples

If the position of the pilot air ports for installation of the hoses is unfavorable, these can be aligned steplessly by rotating the actuator through 360°.

The procedure is described in the chapter entitled "7.6 Rotating the actuator".

9.2.2 Replacing the packing gland

DANGER!

Risk of injury from discharge of medium and pressure.

- Before removing a device, switch off the pressure and vent the lines.

WARNING!

Risk of injury if the wrong tools are used.

- To replace the packing gland, use a special installation wrench or a socket wrench.
- Observe tightening torques.

When using valves with actuator size D(50), or with a combination of actuator size M(70) with DN50, it is not possible to replace the packing gland.

The seal set for the packing gland contains:

- 1 support ring
- 7 chevron seals
- 2 pressure rings
- 1 pressure spring
- 1 spindle guide
- Graphite seal
- Lubricant

Before the packing gland can be replaced, the actuator must be removed from the valve body and the swivel plate removed.

Remove the actuator from the valve body

→ Clamp the valve body in a holding device (applies only to valves which have not yet been installed).

NOTE!

Damage to the seat seal or the seat contour.

- When removing the actuator, ensure that the valve is in open position.

→ Control function A pressurize the pilot air port 1 with compressed air: valve opens.

→ Using a suitable open-end wrench, place the wrench flat on the tube.

→ Unscrew the actuator from the valve body.

Removing the swivel plate

→ Knock out the pin with a suitable pin punch.
Pin punch ø 3 mm, for spindle diameter 10 mm on the swivel plate.
Pin punch ø 5 mm, for spindle diameter 14 mm on the swivel plate.

→ Remove swivel plate.

Replacing packing gland

→ Unscrew the spindle guide with the aid of a modified socket wrench[3)].

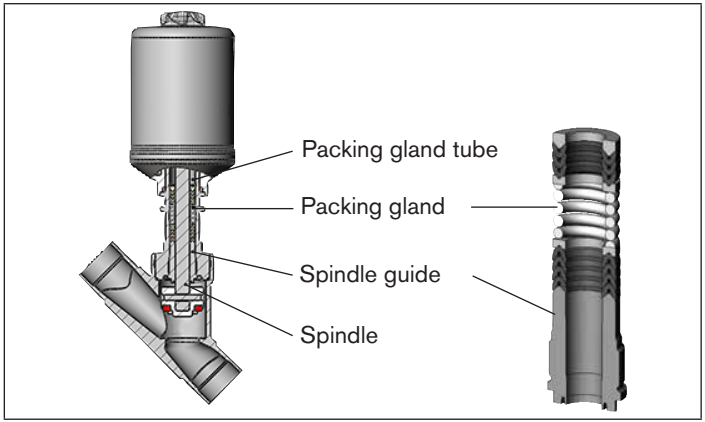


Fig. 17: Replacing the packing gland

3) *The modified socket wrench is available from your Bürkert sales office.*

WARNING!

Risk of injury from parts jumping out.

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

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

→ **Control function A and I** Pressurize pilot air port **1** with 6...8 bar.

→ **Control function B** Pressurize pilot air port **2** with 6...8 bar.

→ Grease the individual parts of the new packing gland with the upplied lubricant.

→ Connect the individual parts to the spindle in the specified direction and sequence.

→ Push the spindle into the packing gland tube.

→ Screw spindle guide back in using the installation tool. Observe torque “Tab. 7”.

Tightening torques of spindle	
Spindle diameter	**Tightening torque [Nm]**
10 mm	6
14 mm	15

Tab. 7: Tightening torques of spindle

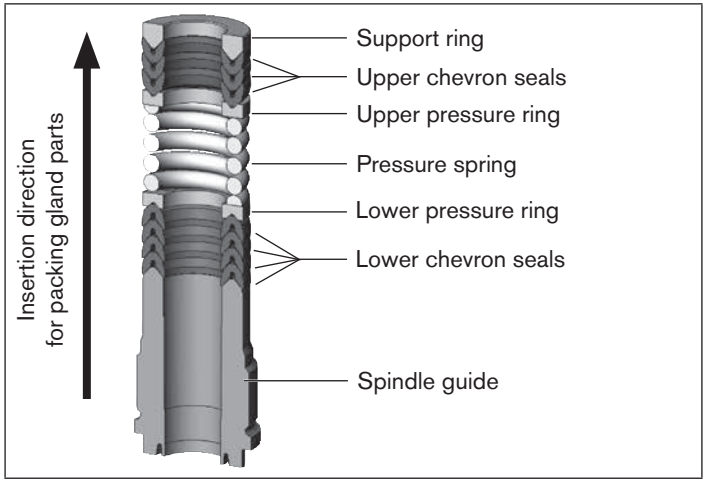


Fig. 18: Insertion direction for packing gland parts

Installing swivel plate

→ Connect swivel plate to the spindle.

→ Align bores of the swivel plate and spindle.

→ Support swivel plate on the cylindrical part with the aid of a prism or something similar.

→ Insert pin into the bore.

→ Swage pin bores on both sides of the swivel plate using a chisel or center punch.

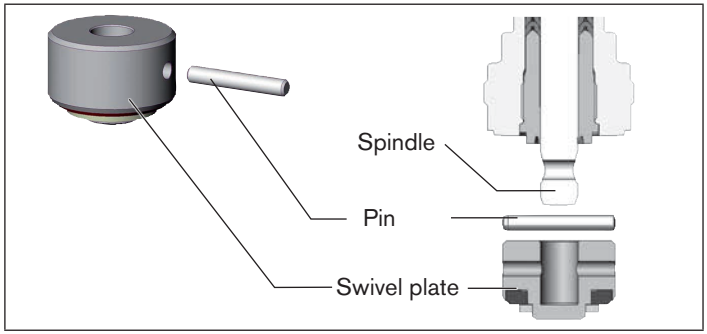


Fig. 19: Swivel plate

Installing the actuator on the valve body

For description see chapter entitled “Installing the actuator on the valve body”, page 21.

10 MALFUNCTION

Malfunction	Remedial action
Actuator does not switch	Pilot air port interchanged CFA Connecting pilot air port 1 CFB Connecting pilot air port 2 CFI Pilot air port 1: Open Pilot air port 2: Close
	Pilot pressure too low See pressure specifications on the type label.
	Medium pressure too high See pressure specifications on the type label.
	Flow direction reversed See direction arrow on the body.
Valve is not sealed	Dirt between seal and valve seat → Installing dirt trap.
	Seat seal worn → Installing new swivel plate.
	Flow direction reversed See direction arrow on the body.
	Medium pressure too high See pressure specifications on the type label.
	Pilot pressure too low See pressure specifications on the type label.
Valve is leaking on the release bore	Packing gland worn → Renew packing gland or replace actuator.

11 REPLACEMENT PARTS

CAUTION!

Risk of injury and damage by the use of incorrect parts.

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

- Use only original accessories and original replacement parts from Bürkert.

11.1 Replacement parts set

The following replacement part sets are available for the angle seat valve Type 2060:

- Valve set
  consists of swivel plate with PTFE seal, pin and graphite seal.
- Sealing set for packing gland
  consists of the individual parts of the packing gland, graphite seal and lubricant
  (the modified socket wrench is not included in the sealing set).

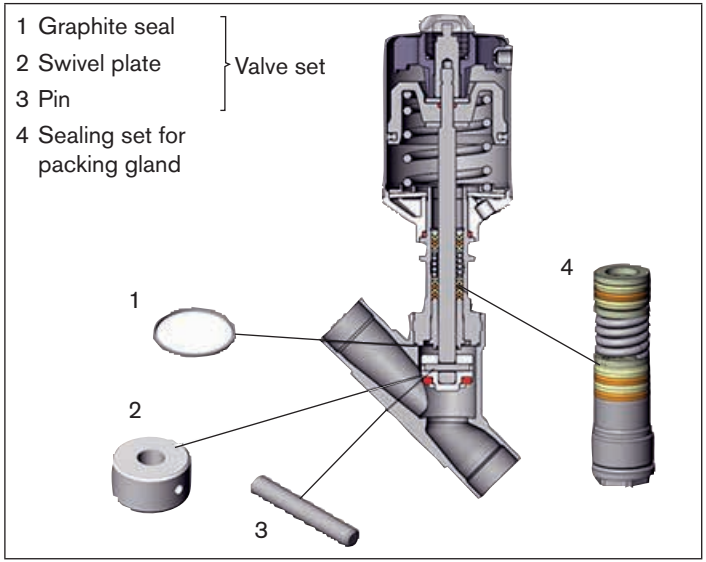


Fig. 20: Replacement parts

Valve set	
Orifice	**Order no.**
15	011 134
20	011 171
25	160 737
32	011 208
40	011 209
50	216 431
65	241 777

Tab. 8: Valve set with PTFE seal

Sealing set for packing gland			
Spindle ∅	**Orifice**	**Actuator size**	**Order no.**
10	15 - 40[4)]	∅ 50	216 433
		∅ 70	
14	32 - 65	∅ 90	216 435
		∅ 130	

Tab. 9: Sealing set for packing gland

4) *Replacement of the packing gland for DN50 spindle ∅ 10 not possible*

11.2 Installation tools

Modified socket wrench for packing gland				
	**Socket wrench**	**Orifice**	**AF**	**Order no.**
	Spindle ∅ 10 mm	15 - 40	19	683 221
	Spindle ∅ 14 mm	32 - 65	21	683 223

Tab. 10: Modified socket wrench

If you have any queries, please contact your Bürkert sales office.

12 TRANSPORT, STORAGE, REMOVAL

NOTE!

Transport damages.

Inadequately protected equipment may be damaged during transport.

- During transportation protect the device against wet and dirt in shock-resistant packaging.
- Avoid exceeding or dropping below the permitted storage temperature.

Incorrect storage may damage the device.

- Store the device in a dry and dust-free location.
- Storage temperature: -20...+65 °C.

Damage to the environment caused by device components contaminated with media.

- Dispose of the device and packaging in an environmentally friendly manner.
- Observe applicable regulations on disposal and the environment.

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