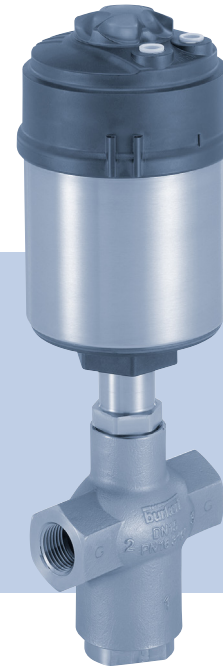


Type 2106

3/2 way globe valve



Quickstart

English

We reserve the right to make technical changes without notice.
Technische Änderungen vorbehalten.
Sous réserve de modifications techniques.

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Operating Instructions 1710/02_EU-EN_00810465 / Original DE

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1 QUICKSTART

Quickstart explains, for example, how to install and start-up the device. A detailed description of the device can be found in the operating instructions for Type 2106. 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.



The operating instructions can be found on the Internet at: www.burkert.com

Important Safety Information!

Read Quickstart carefully and thoroughly. Study in particular the chapters entitled „[Basic safety instructions](#)“ and „[Authorized Use](#)“.

- ▶ Quickstart must be read and understood.

1.1 Symbols



DANGER!

Warns of an immediate danger.



WARNING!

Warns of a potentially dangerous situation.



CAUTION!

Warns of a possible danger.

NOTE!

Warns of damage to property.



Designates additional significant information, tips and recommendations.



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

- ▶ designates instructions for risk prevention.

→ designates a procedure which you must carry out.

2 AUTHORIZED USE

Non-authorized use of the globe valve Type 2106 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 globe valve type 2106 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. These are described in the chapter entitled „[5 Technical Data](#)“.
- ▶ Protect device from damaging environmental influences (e.g. radiation, humidity, steam, etc.). If anything is unclear, consult the relevant sales office.
- ▶ The device may be used only in conjunction with third-party devices and components recommended and authorized by Bürkert.
- ▶ Correct transportation, correct storage and installation and careful use and maintenance are essential for reliable and faultless operation.
- ▶ The exhaust air may be contaminated with lubricants in the actuator.

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 (e.g. by means of a warning label on the device regarding the use of hot media).



DANGER!

Risk of injury from high pressure in the equipment or device!

- ▶ Before working on equipment or device, switch off the pressure and deaerate or drain lines.

Risk of injury from electric shock (when electrical component installed).

- ▶ 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!

**WARNING!****Risk of injury when opening the actuator!**

The actuator contains a tensioned spring. If the actuator is opened, there is a risk of injury from the spring jumping out!

- ▶ The actuator must not be opened.

Risk of injury from moving parts in the device!

- ▶ Do not reach into openings.

Danger due to loud noises.

- ▶ Depending on the operating conditions, the device may generate loud noises. More detailed information on the likelihood of loud noises is available from the relevant sales office.
- ▶ Wear hearing protection when in the vicinity of the device.

**CAUTION!****Risk of burns!**

The surface of the device may become hot during long-term operation.

- ▶ Do not touch the device with bare hands.

Leaking medium when the packing gland is worn.

- ▶ Regularly check relief bore for leaking medium.
- ▶ If the media is hazardous, protect the area surrounding the discharge point against dangers.

General hazardous situations.**To prevent injury, ensure:**

- ▶ That the system cannot be activated unintentionally.
- ▶ Installation and repair work may be carried out by authorized technicians only and with the appropriate tools.
- ▶ 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 safety regulations specific to the plant for application planning and operation of the device. Der Anlagenbetreiber ist für den sicheren Betrieb und Umgang mit der Anlage verantwortlich.
- ▶ The general rules of technology apply to application planning and operation of the device.

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 „5 Technical Data“.
- ▶ Do not put any loads on the valve (e.g. by placing objects on it or standing on it).
- ▶ Do not make any external modifications to the valves. Do not paint the body parts or screws.
- ▶ Do not transport, install or remove heavy devices without the aid of a second person and using suitable auxiliary equipment.



The device was developed with due consideration given to accepted safety rules and is state-of-the-art. However, dangers can still arise.

3.1 Definitions of terms

The term „device“ used in these instructions applies to the type 2106 3/2 way globe valve described in these instructions.

In these instructions, the abbreviation “Ex” stands for “explosion-proof”.

4 GENERAL INFORMATION

4.1 Contact addresses

Germany

Bürkert Fluid Control System
Sales Center
Christian-Bürkert-Str. 13-17
D-74653 Ingelfingen
Phone + 49 (0) 7940 - 10 91 111
Fax + 49 (0) 7940 - 10 91 448
Email: info@burkert.com

International

Contact addresses can be found on the final pages of the printed operating instructions.

And also on the Internet at: www.burkert.com

4.2 Warranty

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

4.3 Conformity

The device conforms to the EU directives according to the EU Declaration of Conformity (if applicable).

4.4 Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU Prototype Examination Certificate and/or the EU Declaration of Conformity (where applicable).

5 TECHNICAL DATA

5.1 Type label



WARNING!

Risk of injury from high pressure and hot media.

Excessively high pressure or high temperatures can damage the device and cause leaks.

- ▶ Adhere to the pressure and media temperature values specified on the type label.

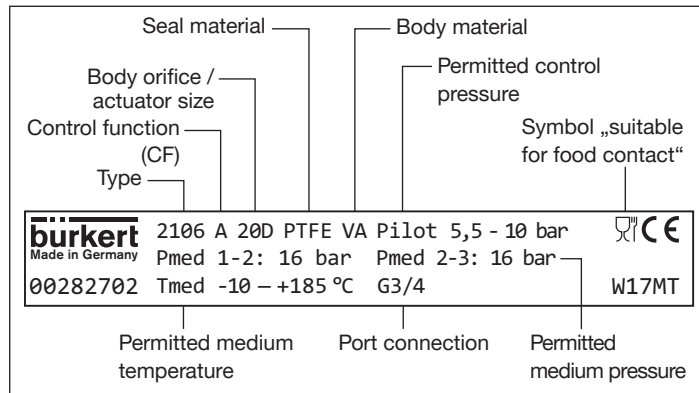


Fig. 1: Sample type label for type 2106 globe valve

5.2 General technical data

Actuator size	See type label
Control function	See type label

Media

Control medium	Neutral gases, air
Flow media	Water, alcohol, fuels, hydraulic fluids, saline solutions, lyes, organic solvents

Materials

Valve body	Stainless steel 316L
Actuator	PPS and stainless steel
Sealing elements	FKM and EPDM
Spindle sealing (with silicone grease)	PTFE V-rings with spring compensation
Closing body seat seal	PTFE
Spindle	1.4401 / 1.4404
Spindle guide	PEEK

Connections

Control air connection	Plug-in hose connector 6/4 mm or resp. 1/4", others on request
Port connection	Fitting G1/2...G2 (NPT, RC on request)

Degree of protection

IP67 in accordance with IEC 529/EN 60529

5.3 Operating conditions

5.3.1 Temperature ranges

Actuator material	Medium (with PTFE seal)	Ambient temperature ¹⁾	
		Pilot air ports as plug-in hose connectors	Pilot air ports as threaded bushings
PPS	-10...+185 °C	-10...+60 °C	-10...+100 °C

Tab. 1: Temperature ranges (all actuator sizes)

1) If a pilot valve is used, the max. ambient temperature is +55 °C.



The globe valve is suitable for steam sterilization.

5.3.2 Pressure Ranges

Control pressure (for standard spring force)

Actuator size [ø in mm]	Required minimum control pressure [bar]	Maximum control pressure [bar]
50 (D)	5.5	10
70 (M)	4.5	
90 (N)	5.1	
130 (P)	≤DN 50: 4.9	7

Tab. 2: Control pressure

Required minimum control pressure depending on medium pressure (Flow direction 1→2)

Valve seat orifice [mm]	Actuator size [ø in mm]	Flow direction 1→2	
		Maximum medium pressure [bar]	Required minimum control pressure [bar]
15	50 (D)	16	5.5
15	70 (M)	16	4.5
20	50 (D)	16	5.5
20	70 (M)	16	4.5
25	50 (D)	9	5.5
25	70 (M)	16	4.5
32	70 (M)	8	4.5
32	90 (N)	11	5.1
40	70 (M)	7	4.5
40	90 (N)	12	5.1
50	90 (N)	9	5.1
50	130 (P)	16	4.9

Required minimum control pressure depending on medium pressure (Flow direction 2→3 and 2→1)

Valve seat orifice [mm]	Actuator size [ø in mm]	Flow direction 2→3 Flow direction 2→1	
		Maximum medium pressure [bar]	Required minimum control pressure [bar]
15	50 (D)	16	6.2
15	70 (M)	16	4.5
20	50 (D)	16	6.5
20	70 (M)	16	4.7
25	50 (D)	11	6.2
25	70 (M)	16	5.0
32	70 (M)	11	6.0
32	90 (N)	16	6.2
40	70 (M)	11	6.0
40	90 (N)	16	6.2
50	90 (N)	8	6.0
50	130 (P)	16	6.0

6 INSTALLATION



DANGER!

Risk of injury from high pressure in the system.

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



WARNING!

Risk of injury from improper assembly.

- ▶ Installation may only be carried out by authorized specialist personnel and using the appropriate tools.

Risk of injury from unintentional activation of the system and uncontrolled restart.

- ▶ Secure system against unintentional activation.
- ▶ Following assembly, ensure a controlled restart.

Risk of injury due to moving parts in the device.

- ▶ Don't reach into openings.



CAUTION!

Risk of injury due heavy devices!

- ▶ During transport or during assembly, a heavy device may fall and cause injury.
- ▶ Do not transport, install or remove heavy devices without the aid of a second person and using suitable auxiliary equipment.
- ▶ Use appropriate tools.

6.1 Preparatory work

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

6.2 Install the valve body

Any installation position is possible, preferably with actuator face up.

- Connect housing to pipeline.

6.3 Install the control unit



Refer to the installation capital of the corresponding control unit operating instruction for a description.

6.4 Rotating the actuator

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



WARNING!

Risk of injury due to discharge of medium and pressure release.

If the direction of rotation is wrong, the housing interface may become detached.

- ▶ Only turn the actuator in the specified sense of direction (see „Fig. 3“).

NOTE!

Damage to the seat seal or the seat contour!

- ▶ The valve must be in the center position when turning the actuator.

- Clamp the valve body into a holding device (applies only to valves not yet installed).
- Apply compressed air to control air connection 1:
3.5 bar for actuator size 50 (D) and 70 (M)
4.0 bar for actuator size 90 (N) and 130 (P)
- Using a suitable open-end wrench, counter the wrench flat on the fitting.
- Place a suitable open-end wrench on the hexagonal bolt of the actuator.
- Move the actuator to the required position by turning it counter-clockwise (viewed from below).

Type 2106 Installation

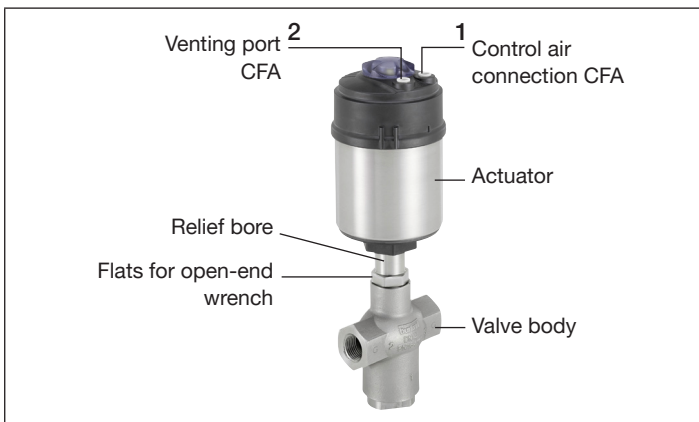


Fig. 2: 3/2 way globe valve type 2106

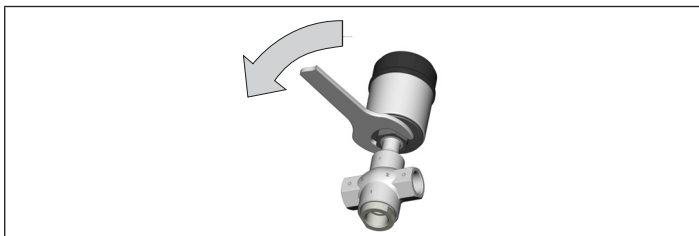


Fig. 3: Rotating the actuator

6.5 Pneumatic connection



DANGER!

Risk of injury from high pressure in the system.

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



WARNING!

Risk of injury from unsuitable connection hoses.

Hoses which cannot withstand the pressure and temperature range may result in hazardous situations.

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



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 „6.4 Rotating the actuator“.

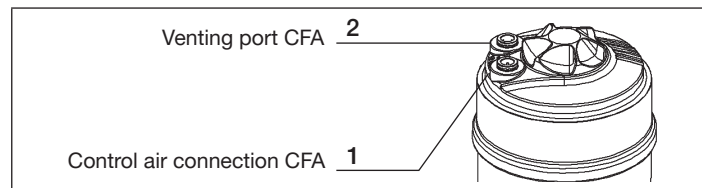


Fig. 4: Pneumatic Connection

→ Connect control medium to control air connection 1 of the actuator (see „Fig. 4“).

Silencer

On versions with plug connection, the silencer to reduce the exhaust air noise is supplied as a separate item.

→ Plug the silencer into the free air venting port 2 (see „Fig. 4“).



If used in a corrosive environment, we recommend running a pneumatic hose from all free pneumatic connections to a neutral atmosphere.

Control air hose:

Control air hoses of sizes 6/4 mm or 1/4“ can be used.

Optionally a control air connection is possible via a G 1/8 thread.

7 DISASSEMBLY



DANGER!

Risk of injury due to discharge of medium and pressure release!

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

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

→ Loosen the pneumatic connection.

→ Remove device.

8 TRANSPORT, STORAGE, PACKAGING

NOTE!

Transport damage.

Inadequately protected devices may be damaged during transportation.

- ▶ Protect the device against moisture and dirt in shock-resistant packaging during transportation.
- ▶ Prevent the temperature from 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 disposal and environmental regulations.



Observe the national waste disposal regulations.

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