

Operating Instructions

Type SC02

ID: 00682639 / ID: 00682640 / ID: 00230971 / ID:
00230977 / ID: 00230980 / ID: 00230986 / ID:
00683478 / ID: 00230974 / ID: 00244898

Adaption set for Positioners Type 8691/ Type 8692/ Type 8693/
Type 8694 / Type 8681 for Bardiani

Operating instructions:

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1 Operating Instructions

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.



WARNING!

The operating instructions contain important safety information!

Failure to observe these instructions may result in hazardous situations.
The operating instructions must be read and understood.

1.1 Symbols



DANGER!

Warns of an immediate danger!

Failure to observe the warning will 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!

Failure to observe the warning may result in damage to the device or the equipment.



Important additional information, tips and recommendations.

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

→ Designates a section which you must carry out.

2 Authorized Use



WARNING!

General hazard information

Non-authorized use of the device may be dangerous to people, nearby equipment and the environment.

The authorized data, the operating conditions and conditions of use specified in the contract documents and operating instructions must be observed when using the device!

Adaption sets Type SC02

is designed as mechanical adaption of the positioner and the adaption of spindle to the positioner

may be used only for intended use.

may not be used in outside areas.

may be used only in conjunction with third-party devices and components recommended and authorized by Bürkert.

may be used only as authorized.

Correct transportation, storage, and installation, as well as careful use and maintenance are essential for reliable and faultless operation.

2.1 Restrictions

Explosion protection approval

The explosion protection approval is only valid if you use the modules and components authorized by Bürkert, as described in these operating instructions.

The electronic modules may only be used in combination with the pneumatic valve types that have been approved by Bürkert. Otherwise, the explosion protection approval will expire!

If you make unauthorized changes to the system, the modules or components, the explosion protection approval will also be void.

3 Basic Safety Instructions

These safety instructions do not make allowance for any

- contingencies and events which may arise during the assembly, operation and maintenance of the devices.
- local safety regulations – the operator is responsible for observing these regulations, also with reference to the installation personnel.



DANGER!

Danger – high pressure!

Before loosening lines and valves, turn off the pressure and vent the lines!

Risk of electric shock!

Before reaching into the device or the equipment, switch off the power supply and secure to prevent reactivation!

Observe applicable accident prevention and safety regulations for electrical equipment!

Risk of burns/risk of fire if used continuously through hot device surface!

Keep the device away from highly flammable substances and media and do not touch with bare hands!

General hazardous situations!

To prevent injuries, ensure the following:

- Do not physically stress the housing (e.g. by placing objects on it or standing on it).
- Do not cover the ventilation slots of the housing.
- Do not make any internal or external changes on the device.
- That the system cannot be activated unintentionally.
- Only trained technicians may perform installation and maintenance work.
- 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.
- The general rules of technology apply to application planning and operation of the device.

NOTE!

Electrostatic sensitive components / modules

The device contains electronic components, which react sensitively to electrostatic discharge (ESD). Contact with electrostatically charged persons or objects is hazardous to these components. In the worst case scenario, they will be destroyed immediately or will fail after start-up

Observe the requirements in accordance with EN 61340-5-1 and 5-2 to minimize/avoid the possibility of damage caused by a sudden electrostatic discharge!

Also, ensure that you do not touch electronic components when the power supply voltage is present!



The device was developed with due consideration given to the accepted safety rules and is state-of-the-art. Nevertheless, dangerous situations may occur. Operate the device only when it is in perfect condition and in accordance with the operating instructions.

4 General Information

4.1 Contact address

Bürkert Fluid Control Systems
Sales Center
Christian-Bürkert-Straße 13-17

Tel. + 49 (0) 7940 – 10 91 111
Fax + 49 (0) 7940 – 10 91 448
E-mail: info@de.buerkert.com
www.buerkert.de

4.2 Warranty

The warranty is only valid if the adaption set Type SC02 is used as authorized in accordance with the specified application conditions.

4.3 Information on the Internet

The operating instructions and data sheets for Types 8691/8692/ 8693/ 8694 / 8691 can be found on the Internet at:

www.burkert.com

www.burkert.com → documentation → manuals → type XXXX

www.burkert.com → documentation → datasheets → type XXXX

5 System Description

5.1 Intended application area

The adaption sets type SC02 is designed to connect Bürkert positioners Types 8691 /8692 / 8693 / 8694 / 8691 and Bardiani valves.

5.2 General description

5.3 Functions

The adaption sets type SC02 enables the mechanical adaption of the positioner and the adaption of spindle to the positioner.

For configuration and function of the positioner Types 869X and Type 8681 please see manual and datasheets.

6 Technical Data

6.1 Operating conditions and technical data



WARNING!

Solar radiation and temperature fluctuations may cause malfunctions or leaks.

If the device is used outdoors, do not expose it unprotected to the weather conditions. Ensure that the permitted ambient temperature does not exceed the maximum value or drop below the minimum.

See manual of

Control Head Type 8691

Digital electropneumatic Positioner Type 8692

Digital electropneumatic Process Controller Type 8693

Digital electropneumatic Positioner Type 8694

Positioner SideControl Type 8791 / 8792

Process controller SideControl Type 8793

Control Head for hygienic process valves Type 8681

For further information and technical data about Bardiani Valves please see datasheets and manuals of relevant valve types.

7 Assembly

7.1 Safety instructions



DANGER!

Risk of injury from high pressure in the equipment!

Before loosening lines and valves, turn off the pressure and vent the lines!

Risk of injury due to electrical shock!

Before reaching into the device or the equipment, switch off the power supply and secure to prevent reactivation!

Observe applicable accident prevention and safety regulations for electrical equipment!



WARNING!

Risk of injury from improper assembly!

Installation may only be carried out by authorized technicians with the appropriate tools!

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

Secure system from unintentional activation.

Following assembly, ensure a controlled restart!

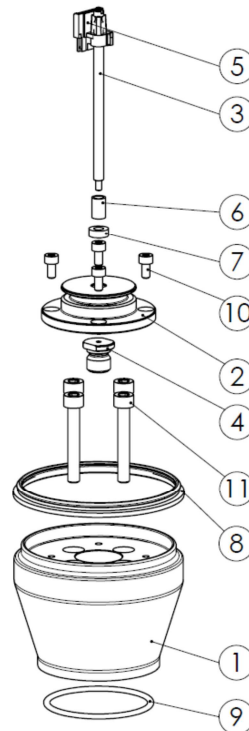
7.2 Assembly of adaption set Type SC02

Preparation of actuators:

First, remove or unscrew the safety caps at the top of actuator. In addition please remove the spindle / stem extension.

The kind of adaptation set Type SC02 depends on the Bardiani actuator or valve type and onare different depending on actuator and valve type, size of actuator and positioner used. In the following descriptive the assembly procedure and the single installation steps are explained in detail.

7.2.1 Assembly of ID: 682639, ID: 682640, ID: 230971, ID: 230977, ID: 230980 und ID: 230986 – Adaption sets 8691-94



procedure:

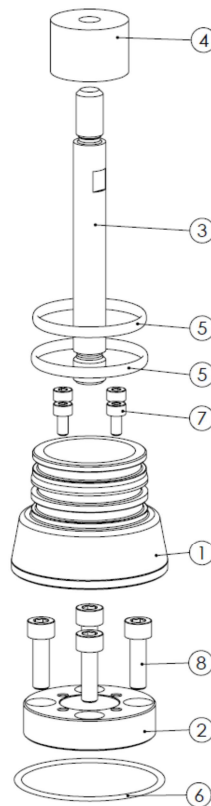
- screw **spindle adaption POS4** into the spindle of the valve actuator (torque 1,5 Nm). It is recommended to secure the switch spindle, apply some screw locking paint (Loctite 290)
- Screw **spindle POS 3** into **spindle adaption POS4**. It is recommended to secure the switch spindle, apply some screw locking paint (Loctite 290)
- Put the **o-ring POS8** into bottom side of **adapter POS1**.
- Attach the assembly to the valve actuator and fix the adaptor including the o-ring with **screws POS 10** (torque 2,5 Nm). It is recommended to secure the switch spindle, apply some screw locking paint (Loctite 290).
- Assemble the **adaption POS 2** using the **screw POS 10** (torque 2,5 Nm). It is recommended to secure the switch spindle, apply some screw locking paint (Loctite 290). Remark: POS 6 and POS 7 are already mounted.
- Pull the **form seal POS7** onto the **adaption POS 1**.
- Install **puck holder/ sensor pad POS 5** onto the **spindle POS 3** until it engages.

- Install the positioner by aligning the puck holder and the control head the puck holder can be inserted into the guide rail of the control head. Push the control head, without turning it, onto the adaption until no gap is visible on the form seal. Attach control head to the actuator using the two side fastening screws. In doing so, tighten the screws only hand-tight (max. torque: 0.5 Nm).

You can find a detailed installation and assembly description in the manual of the used Control Head, Positioners or Process Controller.

- It is recommended to use teach function. Teach function is used to automatically determine and read in the end positions of the valve.

7.2.2 Assembly of ID: 00683478 – Adaption set 8681 VA



procedure:

- screw **spindle POS3** into the spindle of the valve actuator (torque 1,5 Nm). It is recommended to secure the switch spindle, apply some screw locking paint (Loctite 290)
- Put the **o-ring POS 6** into bottom side of **adapter POS2** and fix the adaptor including the o-ring with **screws POS 8** (torque 1,5 Nm). It is recommended to secure the switch spindle, apply some screw locking paint (Loctite 290)
- Put **adapter POS 1** on the assembly and fix it with **screws POS 7** (torque 1,5 Nm). It is recommended to secure the switch spindle, apply some screw locking paint (Loctite 290)
- Pull the **o-rings POS 5** onto the **Adaptor POS 1**.
- screw **target POS 4** onto the **spindle POS 3**.
- Mount the control head on the hub flange (seamlessly 360° rotatable).
- Secure the control head with the two locking screws (shoulder screws M5) in the middle groove of the adaption flange to prevent pulling off from the hub flange – tightening torque: max. 3.2 Nm

You can find a detailed installation and assembly description in the manual of the used Control Head, Positioners or Process Controller.

- It is recommended to use teach function. Teach function is used to automatically determine and read in the end positions of the valve.

7.3 Recommended auxiliary materials

- Multi silicone grease OKS 1110 for lubing o-ring seals
- LOCTITE 290 to secure thread connections.

8 Installation

8.1 Safety instructions



DANGER!

Risk of injury from high pressure in the equipment!

Before loosening lines and valves, turn off the pressure and vent the lines!

Risk of injury due to electrical shock!

Before reaching into the device or the equipment, switch off the power supply and secure to prevent reactivation!

Observe applicable accident prevention and safety regulations for electrical equipment!



WARNING!

Risk of injury from improper installation!

Installation may only be carried out by authorized technicians with the appropriate tools!

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

Secure system from unintentional activation.

Following installation, ensure a controlled restart!

8.2 Pneumatic installation



DANGER!

Risk of injury from high pressure in the equipment!

Before loosening lines and valves, turn off the pressure and vent the lines!

8.3 Electrical installation



DANGER!

Risk of injury due to electrical shock!

Before reaching into the device or the equipment, switch off the power supply and secure to prevent reactivation!

Observe applicable accident prevention and safety regulations for electrical equipment!

9 Start-Up

9.1 Safety instructions



WARNING!

Risk of injury from improper operation!

Improper operation may result in injuries as well as damage to the device and the area around it!

Before start-up, ensure that the operating personnel are familiar with and completely understand the contents of the operating instructions.

Observe the safety instructions and intended use.

Only adequately trained personnel may start up the equipment/the device.

For Start-Up of the assembly - adaption set,

Control Head Type 8691,

Digital electropneumatic Positioner Type 8692,

Digital electropneumatic Process Controller Type 8693,

Digital electropneumatic Positioner Type 8694,

Positioner SideControl Type 8791 / 8792,

Process controller SideControl Type 8793 or

Control Head for hygienic process valves Type 8681 and

the valve - please inform yourself in advance using the manual of Bürkert positioner and manual of the of relevant valve types.

10 Operation and Function

10.1 Safety instructions



WARNING!

Risk of injury from improper operation!

Improper operation may result in injuries as well as damage to the unit and the area around it!

The operating personnel must know and have understood the contents of the operating instructions.

Observe the safety instructions and intended use.

Only adequately trained personnel may operate the equipment/the device.

10.2 Operation and Function

See manual

Control Head Type 8691

Digital electropneumatic Positioner Type 8692

Digital electropneumatic Process Controller Type 8693

Digital electropneumatic Positioner Type 8694

Positioner SideControl Type 8791 / 8792

Process controller SideControl Type 8793

Control Head for hygienic process valves Type 8681

For further information and technical data about Bardianni Valves please see datasheets and manuals of relevant valve types.

10.3 Recommended auxiliary materials

for operation, maintenance and repair:

| Type of auxiliary material | Product designation | Manufacturer and Internet address |
|------------------------------|--------------------------------|--|
| Liquid adhesive | LOCTITE 290 | Henkel Loctite Deutschland GmbH www.loctite.de |
| Sealer and anti-seize agents | Multi silicone grease OKS 1110 | OKS Schmierstoffe GmbH www.oks-germany.com |

11 Spare Parts

CAUTION!

Risk of injury and/or damage by 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!

12 Shutdown

12.1 Safety instructions

DANGER!

Risk of injury from high pressure in the equipment!

Before loosening lines and valves, turn off the pressure and vent the lines!

Risk of injury due to electrical shock!

Before reaching into the device or the equipment, switch off the power supply and secure to prevent reactivation!

Observe applicable accident prevention and safety regulations for electrical equipment!

WARNING!

Risk of injury from improper removal!

The disassembly may be carried out by authorized technicians only, who are provided for work in an explosive environment, and with the appropriate tools!

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

Secure system from unintentional activation.

Following assembly, ensure a controlled restart!

13 Packaging and Transport

NOTE!

Transport damage!

Inadequately protected equipment may be damaged during transportation.

- During transportation protect the device against moisture and dirt in shock-resistant packaging.
- Do not allow the temperature to exceed or drop below the permitted storage temperature.

14 Storage

NOTE!

Storage damage!

Incorrect storage may damage the device.

- Store the device in a dry and dust-free location
- **Permitted storage temperatures:**. 0 ... +55 °C.

15 Disposal

NOTE!

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

Observe applicable regulations on disposal and the environment!

- Observe national waste disposal regulations!

→ Dispose of the device and packaging in an environmentally friendly manner.