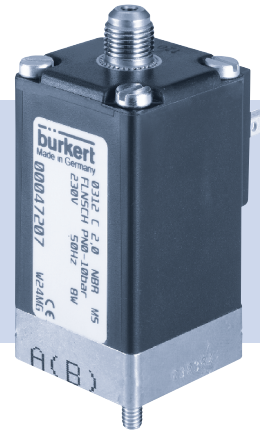


Type 0312

3/2-way solenoid valve
3/2-Wege-Magnetventil
Électrovanne 3/2 voies



Operating Instructions

Bedienungsanleitung
Manuel d'utilisation

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1 THE OPERATING INSTRUCTIONS

The operating instructions contain important information.

- ▶ Read the instructions carefully and follow the safety instructions.
- ▶ Keep the instructions in a location where they are available to every user.

The liability and warranty for Type 0312 are void if the operating instructions are not followed.

1.1 Symbols



DANGER!

Immediate danger! Serious or fatal injuries.



WARNING!

Possible danger! Serious or fatal injuries.



CAUTION!

Danger! Moderate or minor injuries.

NOTE!

Warns of damage to property.



Important 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.

1.2 Definitions of terms

In these instructions, the term “device” always refers to the Type 0312.

2 AUTHORIZED USE

The Type 0312 is designed for blocking, dosing, filling and venting neutral gaseous and liquid media.

- ▶ Use according to the authorized data, operating conditions and conditions of use specified in the contract documents and operating instructions.

The Type 0312

- ▶ In a potentially explosive area, the device may be used only in accordance with the specification on the type label. For the use, observe the supplementary instructions manual enclosed with the device 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 enclosed UL instructions must be followed in the UL area.
- ▶ used only in conjunction with third-party devices and components recommended and authorised by Bürkert.
- ▶ when in perfect condition and always ensure proper storage, transportation, installation and operation.
- ▶ use the device only as intended.

2.1 Restrictions

If exporting the device, observe any existing restrictions.

2.2 Approvals

The approval mark indicated on the Bürkert type labels refers to the Bürkert products.

e 1

03 5791

Devices which must bear the type approval mark were approved at the Kraftfahrtbundesamt under the type approval number

e1*72/245*2006/96*5791*00

and are put into circulation with the indicated type approval mark. You can obtain an extract of the type approval from the address below.

Bürkert Werke GmbH
Zulassungsbeauftragter,
Christian-Bürkert-Str. 13-17,
D-74653 Ingelfingen

3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not make allowance for any contingencies and events which may arise during assembly, operation and maintenance.



Risk of injury from high pressure in the system/device.

- ▶ Before working on the system or device, switch off the pressure and vent/drain lines.

Risk of injury due to electrical shock.

- ▶ Before working on the system or device, 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 for a prolonged switch-on time through hot device surface.

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

Risk of injury due to malfunction of valves with alternating voltage (AC).

Sticking core causes coil to overheat, resulting in a malfunction.

- ▶ Monitor process to ensure function is in perfect working order.

Risk of short-circuit/escape of media through leaking screw joints.

- ▶ Ensure seals are seated correctly.
- ▶ Carefully screw valve and pipelines together.

General hazardous situations.

To prevent injuries:

- ▶ Supply only with media which are specified as flow media in chapter „5“.
- ▶ Do not carry out any external or internal modifications and do not subject the device to mechanical loads (e.g. by placing objects on it or standing on it).
- ▶ Secure the device against unintentional activation.
- ▶ Only trained technicians may perform installation and maintenance work.
- ▶ The valves must be installed in accordance with the regulations applicable in the country.
- ▶ After an interruption in the power supply, ensure that the process is restarted in a controlled manner.
- ▶ Observe the general rules of technology.

4 PRODUCT DESCRIPTION

Type 0312 is a direct acting 3/2-way solenoid valve with flange valve body for blocking, dosing, filling and venting neutral gaseous and liquid media. The device can be installed individually or in a block on the multiple manifold.

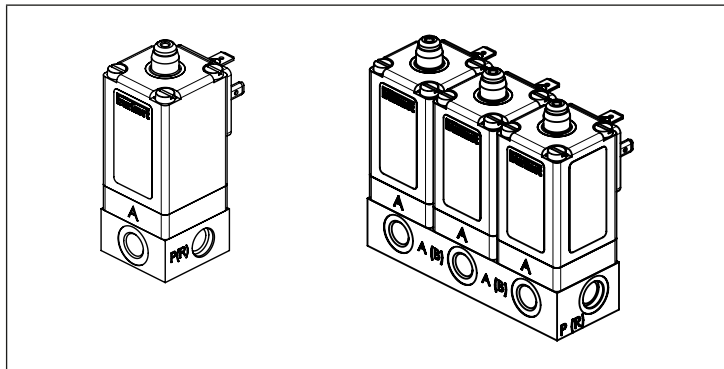


Fig. 1: Product description

5 TECHNICAL DATA



The following values are indicated on the type label:

- **Voltage** (tolerance $\pm 10\%$) / **current type**
- **Coil power consumption** (active power in W - at operating temperature)
- **Pressure range**
- **Circuit function**
- **Orifice**
- **Body material** (MS = brass, VA = stainless steel)
- **Sealing material** (FKM, EPDM, NBR)

5.1 Conformity

The solenoid valve, Type 0312 is compliant with the EC Directives according to the EC Declaration of Conformity..

5.2 Standards

The applied standards, which are used to demonstrate compliance with the EC Directives, are listed in the EC type test certificate and/or the EC Declaration of Conformity.

5.3 Operating conditions



WARNING!

Risk of injury from discharge of medium and pressure.

- ▶ If the device is used outdoors, do not expose it unprotected to the weather conditions.
- ▶ Avoid heat sources which may cause the allowable temperature range to be exceeded.

Ambient temperature -10 – +55 °C

Degree of protection IP65 in accordance with DIN EN 60529 / IEC 60529 with correctly connected and installed cable plug, e.g. Bürkert Type 2508

5.4 Mechanical data

Dimensions see data sheet

Coil material epoxide

5.5 Fluidic data

Media neutral, gaseous and liquid media, which do not attack body and sealing materials. (see resistance table at www.buerkert.de)

Medium temperature -10 – +50 °C

Viscosity max. 21 mm²/s

Circuit functions (CF)		
C (NC)		3/2-way valve; closed in rest position, output A unloaded
D (NO)		3/2-way valve, in rest position, output B pressurized
E		3/2-way mixing valve; in rest position, pressure port P2 connected to output A, P1 closed
F		3/2-way distribution valve, in rest position, pressure port P connected to output B

5.6 Electrical data

Connections DIN EN 175301-803 (DIN 43 650), form A

Nominal operating mode 100 % continuous operation

for block installation 5 W continuous operation on request
8 W intermittent operation 60 % (30 min)

5.7 Type label

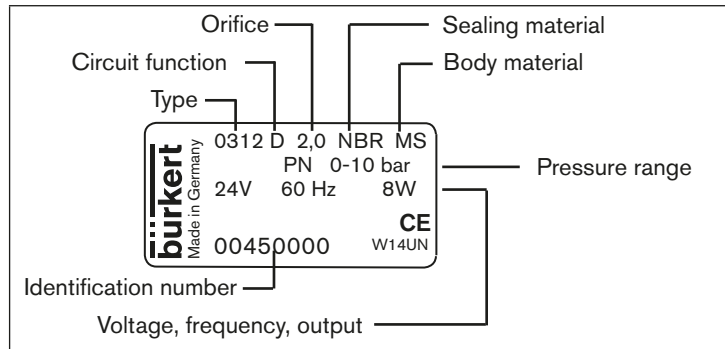


Fig. 2: Description of the type label (example)

6 INSTALLATION



DANGER!

Risk of injury from high pressure in the system/device.

- ▶ Before working on the system or device, switch off the pressure and vent/drain lines.

Risk of injury due to electrical shock.

- ▶ Before working on the system or 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 from improper installation.

- ▶ The installation may be carried out only by trained technicians and with the appropriate tools.
- ▶ Secure system against unintentional activation.
- ▶ Following assembly, ensure a controlled restart.

6.1 Fluid installation



DANGER!

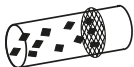
Risk of injury from high pressure in the equipment/device.

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

The installation position is optional, preferably coil at the top.

→ Prior to installation check pipelines for dirt and clean if necessary.

→ If required, install a dirt trap to prevent malfunctions.



Mesh size:
0,2 – 0,4 mm

Manifold fastening:

From above with M4 cylinder head screws (before mounting the valves) or from below using M5 screws.

→ Remove the cover plate.



Do not mount valves with CFC (NC) and CFD (NO) together onto a manifold.



WARNING!

Risk of injury due to escaping medium.

- ▶ Make certain the seals included with delivery are properly seated in the valve.
- ▶ Ensure that the manifold is even.
- ▶ Ensure that the surface quality of the manifold is adequate.
- ▶ Do not seal the top port to coil.

→ Observe flow direction. Labelling for port A or B on valve to be on same side as labelling A(B) on manifold.

→ Screw via supplied screws M4 x 60 on basic devices or manifold (tightening torque: max. 2 Nm).

→ Seal off connections on the manifold that are not required using plugs.

→ Seal off the top port using polytetrafluoroethylene (PTFE) tape on the cone or the thread or connect to a suitable bolted connection (tightening torque: max. 5 Nm).



Manifolds can be mounted side by side using the nipples.

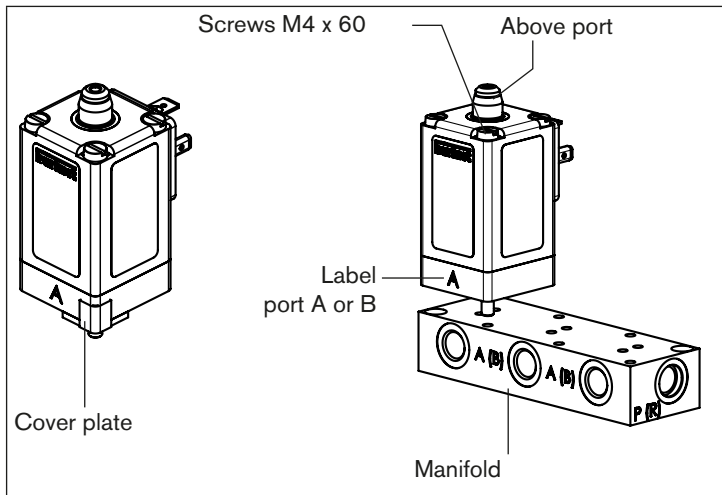


Fig. 3: Installation on manifold

6.2 Electrical installation



DANGER!

Risk of injury due to electrical shock.

- ▶ Before working on the system or device, switch off the power supply and secure to prevent reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.

If the protective conductor is not connected, there is a risk of electric shock.

- ▶ Always connect protective conductor and check electrical continuity between coil and body.

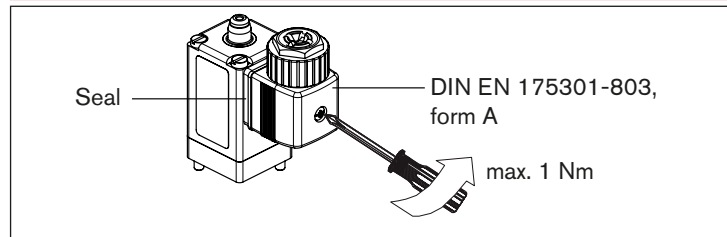


Fig. 4: Electrical installation with cable plug



The cable plug insert can be rotated through 4 x 90°.

- Connect terminals.
- Connect protective conductor.
- Attach seal and check for correct fit.
- Tighten cable plug (DIN EN 175301-803 (DIN 43 650), Form A); while doing so, observe the maximum torque of 1 Nm.
- Check electrical continuity between coil and body (protective conductor function).

7 MAINTENANCE, TROUBLESHOOTING



DANGER!

Risk of injury from high pressure in the system/device.

- ▶ Before working on the system or device, switch off the pressure and vent/drain lines.

Risk of injury due to electrical shock.

- ▶ Before working on the system or device, 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 for a prolonged switch-on time through hot device surface.

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

Risk of injury from improper maintenance work.

- ▶ Maintenance may be carried out only by trained technicians and with the appropriate tools.
- ▶ Secure system against unintentional activation.
- ▶ Following maintenance, ensure a controlled restart.

7.1 Malfunctions

If malfunctions occur, check whether:

- the device has been installed according to the instructions,
- the electrical and fluid connections are correct,
- the device is not damaged,
- all screws have been tightened,
- the voltage and pressure have been switched on,
- the pipelines are clean.

Malfunction	Possible cause
Valve does not switch	Short circuit or coil interrupted
	Medium pressure outside the permitted pressure range
Valve does not close	Inner compartment of the valve is dirty

If the valve still does not switch, please contact your Bürkert Service.

8 DISASSEMBLY



DANGER!

Risk of injury from high pressure in the system/device.

- ▶ Before working on the system or device, switch off the pressure and vent/drain lines.

Risk of injury due to electrical shock.

- ▶ Before working on the system or device, switch off the power supply and secure to prevent reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.

Risk of injury from improper disassembly.

- ▶ Disassembly may be carried out only by trained technicians and with the appropriate tools.

- Turn off the pressure and vent the lines.
- Switch off the power supply.
- Loosen the cable plug.
- To remove the valve, remove the two unmarked screws only.

9 TRANSPORTATION, STORAGE, DISPOSAL

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 -40 – +80°C.

Damage to the environment caused by parts contaminated with media.

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

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Bedienungsanleitungen und Datenblätter im Internet: www.buerkert.de

Manuels d'utilisation et fiches techniques sur Internet: www.buerkert.fr

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