

## Type 0142 Magnetventil

2/2-Way Solenoid Valve  
2/2-Wege-Magnetventil  
Électrovanne à 2/2 voies



## Operating Instructions

Bedienungsanleitung

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[www.burkert.com](http://www.burkert.com)

Manuals and data sheets on the Internet:

[www.burkert.com](http://www.burkert.com)

Bedienungsanleitungen und Datenblätter im Internet:

[www.buerkert.de](http://www.buerkert.de)

Manuel d'utilisation et fiches techniques sur Internet :

[www.buerkert.fr](http://www.buerkert.fr)

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## 1 OPERATING INSTRUCTIONS

The operating instructions contain important information.

- ▶ Read the instructions carefully and follow the safety instructions in particular, and also observe the operating conditions.
- ▶ Instructions must be available to each user.
- ▶ The liability and warranty for Type 0142 are void if the operating instructions are not followed.

## 2 SYMBOLS

→ designates a procedure which you must carry out.

Warning of serious or fatal injuries:



**DANGER!**

In case of imminent danger.



**WARNING!**

In case of potential danger.

Warning of minor or moderately severe injuries:



**CAUTION!**

Warns of damage to property:

**NOTE!**

## 3 INTENDED USE

Non-authorized use of the solenoid valve type 0142 may be a hazard to people, nearby equipment and the environment.

- ▶ The device is designed to control, shut off and meter neutral and aggressive media up to a viscosity of 21 mm<sup>2</sup>/s.
- ▶ Provided the cable plug is connected and installed correctly, e.g. Bürkert type 2508, the device satisfies protection class IP65 in accordance with DIN EN 60528 / IEC 60529.
- ▶ Use according to the permitted data, operating conditions and conditions of use specified in the contract documents and operating instructions. These are described in the chapter entitled “Technical data”.
- ▶ Correct transportation, correct storage and installation and careful use and maintenance are essential for reliable and problem-free operation.
- ▶ Use the device only as intended.

## 4 BASIC SAFETY INSTRUCTIONS

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



### **Danger – high pressure!**

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

### **Risk of electric shock!**

- ▶ Before reaching into the system, 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.

### **Risk of injury due to malfunction of valves with alternating current (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 connection lines together.

### **To prevent injury, ensure that:**

- ▶ Do not make any external modifications to the device bodies. 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.
- ▶ Do not put any loads on the body.
- ▶ The device may be operated only when in perfect condition and in consideration of the operating instructions.

## 5 TECHNICAL DATA

### 5.1 Operating conditions

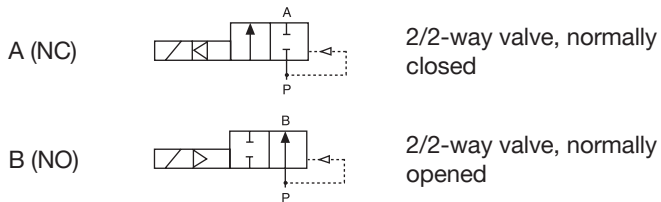


The following values are indicated on the type label:

- ▶ Voltage (Tolerance  $\pm 10\%$ ) / Current type
- ▶ Coil power consumption (active power in W - at operating temp.)
- ▶ Pressure range
- ▶ Body material: PVC (PV) or PVDF (PD)
- ▶ Seal material: FKM, EPDM

Protection class: IP65 with accordance with DIN EN 60529 / IEC 60529 with cable plug, e. g. Bürkert Type 2508

Operating principle:



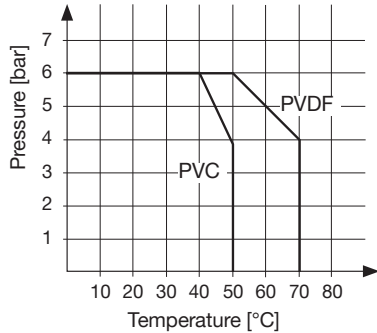
### 5.2 Application conditions

Ambient temperature: PVC 0 - +40 °C  
 PVDF 0 - +55 °C

Permitted medium temperature depending on body material:

| Body material | Medium temperature |
|---------------|--------------------|
| PVC           | 0 °C ... +50 °C    |
| PVDF          | 0 °C ... +70 °C    |

## Pressure - Temperature Diaphragm for PVC and PVDF:



Permitted media depending on seal material:

| Seal material | Permitted media   |
|---------------|---|
| FKM           | Oxidizing acids and substances, water   |
| EPDM          | Alkalis, alkaline washing and bleaching lyes, water, oil- and grease-free media |

## Operating duration

Unless otherwise indicated on the type label, the solenoid system is suitable for continuous operation.



Important information for functional reliability during continuous operation!

If standstill for a long period at least 1-2 activations per day are recommended.

## Service life

High switching frequency and high pressures reduce the service life.

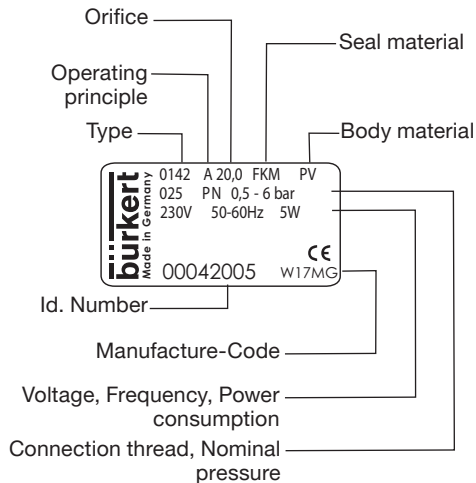
## 5.3 Conformity

In accordance with the EU Declaration of conformity, the solenoid valve Type 0142 is compliant with the EU Directives.

## 5.4 Standards

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

## 5.5 Type label



## 6 INSTALLATION

### 6.1 Safety instructions



#### **DANGER!**

##### **Risk of injury from high pressure in the equipment!**

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

##### **Risk of injury due to electrical shock!**

- ▶ Before reaching into the system, 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 be carried out by authorized technicians only and with the appropriate tools!

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

- ▶ Secure system from unintentional activation.
- ▶ Following installation, ensure a controlled restart.

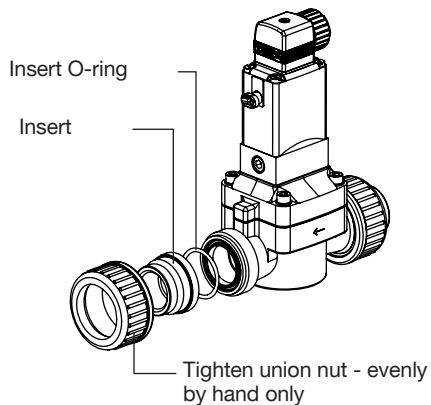
## 6.2 Before installation

Installation position: any, actuator preferably upwards.

### Procedure:

- Check pipelines for dirt and clean.
- Install a dirt filter before the valve inlet ( $\leq 500 \mu\text{m}$ ).

## 6.3 Installation



### NOTE!

#### Caution risk of breakage!

- Do not use the coil as a lifting arm.

- Body with welded sleeve: Use PVDF.
- Body with bonded sleeves: Use Tangit special adhesive.



Valve body must not be installed under tension.

- Observe direction of flow:  
The arrow on the body indicates the direction of flow (no function in opposite flow direction).

## 6.4 Manual emergency actuation



### CAUTION!

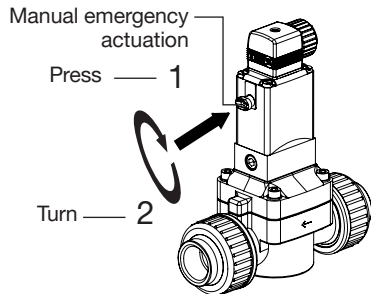
Discharge of medium due to loss of the O-rings!

- ▶ If the O-rings are lost, the valve will leak. Medium may be discharged.

### NOTE!

#### Caution!

- When the manual emergency actuation is locked, the valve can no longer be actuated electrically.



## 6.5 Electrical connection of the cable plug



### WARNING!

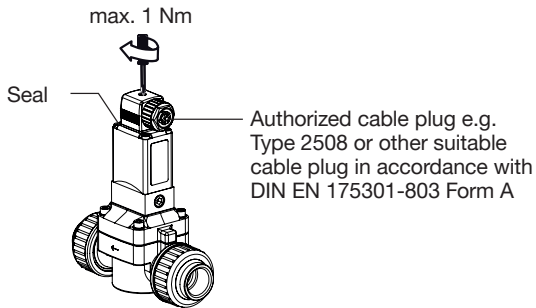
Risk of injury due to electrical shock!

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

If the protective conductor contact between the coil and body is missing, there is danger of electrical shock!

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



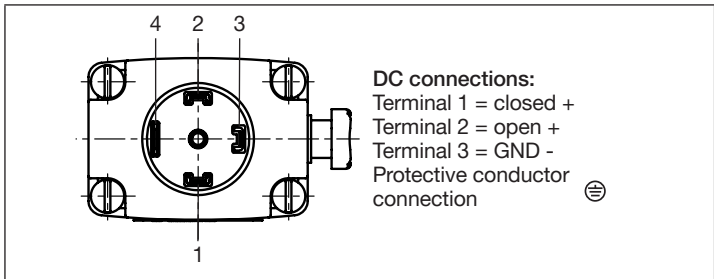


**!** Note the voltage and current type as specified on the type label.

**Procedure:**

- Tighten cable plug (for permitted types see data sheet), observing max. torque 1 Nm.
- Check that seal is fitted correctly.
- Connect protective conductor and check electrical continuity between coil and body.

**6.5.1 Electrical connection - Pulse**



**!** The connection terminals in the cable plug are identified with the numbers 1 to 3 according to the terminals on the valve.

**Procedure:**

- Connect the pulse valves (variable code CF 02).
- For direct current versions connect negative terminal to terminal 3.

**NOTE!****Important information:**

- ▶ Avoid emitting pulses simultaneously to both coil windings.
- ▶ Do not switch any other consumers (relays, etc.) at the same time as the terminals.
- ▶ The coil connection, to which voltage is not applied, must be galvanically isolated (open).
- ▶ If two or more valves are switched in parallel, ensure that this requirement is met by using 2-pole or multi-pole switches.

## 7 MAINTENANCE, TROUBLESHOOTING

### 7.1 Safety instructions

**WARNING!****Risk of injury from improper maintenance!**

- ▶ Maintenance may be carried out by authorized technicians only and with the appropriate tools!

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

- ▶ Secure system from unintentional activation.
- ▶ Following maintenance, ensure a controlled restart.

### 7.2 Malfunctions

If malfunctions occur, check:

- 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.

### Valve does not switch

Possible cause:

- Short-circuit or coil interrupted.
- Medium pressure outside the permitted pressure range.
- Manual emergency actuation locked.

### Valve does not close

Possible cause:

- Internal space of the valve is dirty.
- Manual emergency actuation locked.
- Flow restrictor (valve inlet) or pilot holes (valve inlet / outlet) dirty.

## 8 SPARE PARTS



### CAUTION!

**Risk of injury and/or damage by the use of incorrect parts!**

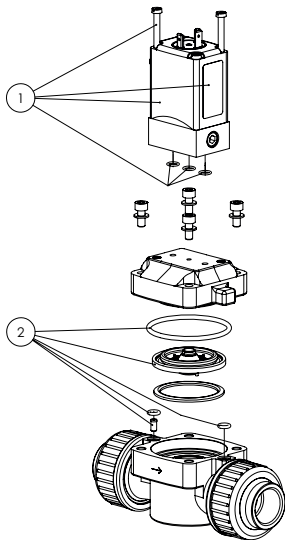
Incorrect accessories and unsuitable spare parts may cause injuries and damage the device and the surrounding area.

- ▶ Use only original accessories and original spare parts from Bürkert.

### 8.1 Ordering spare parts

Order the spare-part sets specifying the positions (Pos. 1: Pilot control set, Pos. 2: Wearing part set) and the identification number of the device.

## 8.2 Overview of spare parts



## 9 TRANSPORT, STORAGE, DISPOSAL

### 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 allowable storage temperature.
- Protect electrical interfaces of the coil and the pneumatic connections from damage with protective caps.

#### Incorrect storage may damage the device.

- Store the device in a dry and dust-free location!
- Storage temperature: -10 °C ... +50 °C (PVC)  
-10 °C ... +70 °C (PVDF).

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

- Observe applicable regulations on disposal and the environment.



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