

## Type 0212 B

2/2-Way solenoid valve

## 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!

#### Important Safety Information!

Failure to observe these instructions may result in hazardous situations.

- ▶ **The operating instructions must be read and understood.**

## 2 SYMBOLS

The following symbols are used in these instructions.



### **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 a serious or fatal injury.



### **CAUTION!**

Warns of a possible danger!

- ▶ Failure to observe this warning may result in a moderately severe or minor injury.

### **CAUTION! (without hazard symbol)**

Warns of damage to property!



Important tips and recommendations for safe and problem-free operation of the device.

→ designates a procedure which you must carry out.

## 3 INTENDED USE



### **WARNING!**

Incorrect use of the solenoid valve Type 0212 may be dangerous to people, nearby equipment and the environment.

- ▶ When using the device, always observe the permissible data specified in the Operating Instructions and on the rating plates as well as conditions for operation and use.
- ▶ Correct transportation, correct storage and installation, and careful operation and maintenance are essential for reliable and problem-free operation.
- ▶ Use the solenoid valve Type 0212 only as intended.

## 4 GENERAL SAFETY INSTRUCTIONS



### DANGER!

**Danger of injury - high pressure.**

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

**Risk of electric shock.**

Risk of electric shock when reaching into the equipment.

- ▶ Before starting work, always switch off the power supply and safeguard to prevent re-activation!
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment!

**Danger of burns/danger of fire during long-term operation!**

The device may become very hot during long-term operation.

- ▶ A device that has already been in operation for an extended period of time must only be handled with safety gloves.
- ▶ 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.
- ▶ Keep readily flammable materials and media away from the device.
- ▶ Do not introduce any aggressive or flammable media into the system's media connections.



### WARNING!

**Risk of injury from unintentional activation.**

- ▶ Take appropriate measures to prevent unintentional activation!



### WARNING!

**Risk of injury during installation and maintenance work.**

- ▶ This work may be carried out by authorised 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!



### CAUTION!

**The general rules of technology apply to application planning and operation of the device!**

Failure to observe these rules may result in injuries and/or damage to the device, and possibly its environment as well.

- ▶ Observe the general rules of technology!



Operate the device only when it is in perfect condition and in accordance with the operating instructions.

Failure to observe this operating manual and its operating instructions as well as unauthorised tampering with the device release us from any liability and also invalidate the warranty covering the device and accessories!

## 4.1 Designs with Explosion Protection



### **DANGER!**

#### **Danger of explosion!**

Improper use in hazardous explosive areas will result in danger of explosion.

Observe the information in the Declaration of Conformity as well.

- ▶ For designs with ATEX approval, the information in the prototype examination certificate and ATEX manual must also be observed.

## 5 TECHNICAL DATA

### 5.1 Design and Function

#### 5.1.1 Structure

Type 0212-B is a direct action 2/2-way lifting armature solenoid valve based on working method B (NO = opened with no current) with a flange housing for installation on machine parts or connection plates.

#### 5.1.2 Function

The valve is opened by spring force when no current is present. When power is turned on, the core moves downward with the spindle against the spring force and the valve closes.

### 5.2 Operating Conditions

Ambient temperature 0 ... +55 °C

Medium temperature depending on sealant

NBR, FKM -10 ... +90 °C

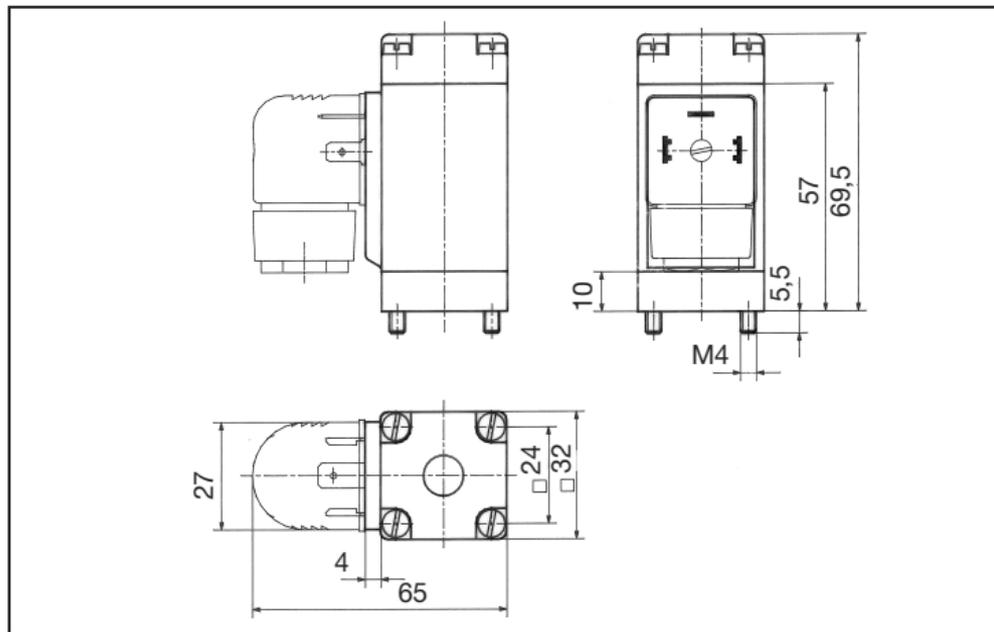
EPDM -40 ... +90 °C

Media Neutral gases and liquids that do not adversely affect the housing and sealant material

Protection class IP65 with device socket

## 5.3 Mechanical Data

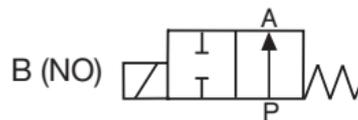
### Dimensions



Housing material	Brass, stainless steel, polyamide
Internal parts of valve	1.4105, 1.4571
Sealing material	NBR, EPDM, FKM

## 5.4 Pneumatic Data

Operating principle 2/2-way valve, direct action



Pressure range

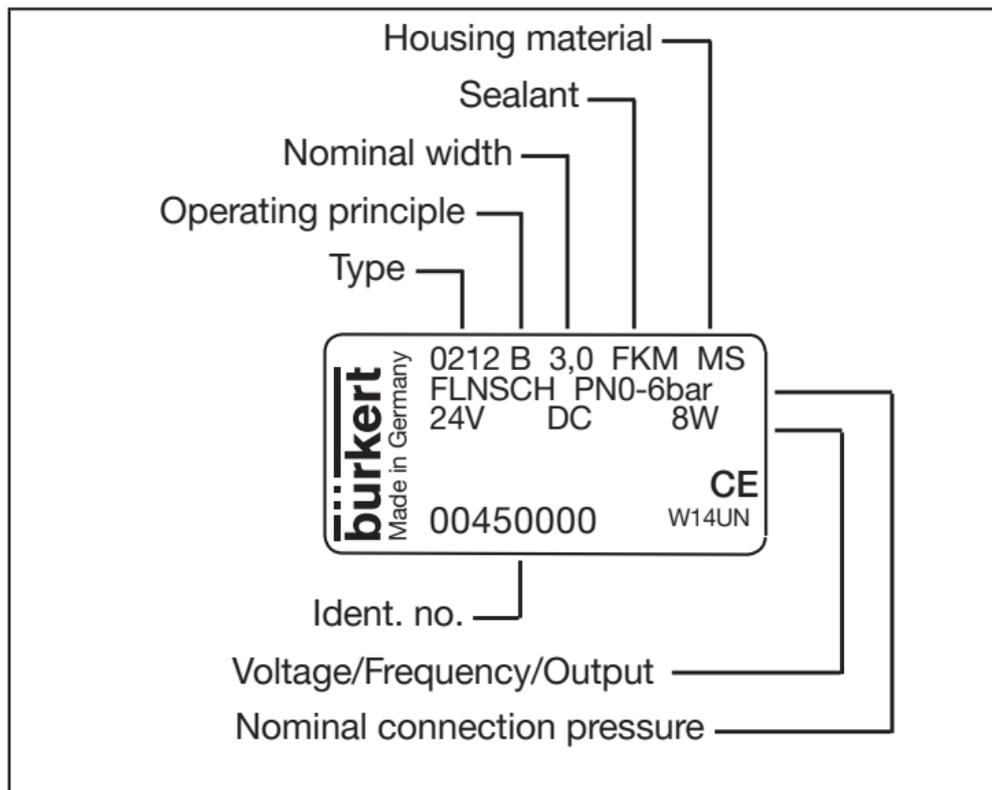
Nominal width	Pressure range for AC [bar]	Pressure range for DC [bar]
1,0	0-12	0-12
2,0	0-12	0-12
2,5	0-12	0-10
3,0	0-10	0-6

Line connections Bürkert flange 001-01-06 (32×32)



Note the information specified on the rating plate for voltage, type of current, and pressure.

## Rating plate (example)



## 5.5 Electrical Data

Operating voltage	12 V DC
	24 V DC
	24 V 50 - 60 Hz
	110 V 50 - 60 Hz
	120 V 60 Hz
	230 V 50 - 60 Hz
	240 V 50 - 60 Hz
Voltage tolerance	± 10 %
Coil power consumption	AC 21 VA (closed), 12 VA / 8 W (operation)
	DC 8 W
Nominal operating mode	in continuous operation ED 100%, with block installation ED 60%

## 6 INSTALLATION

### 6.1 Safety Instructions



#### WARNING!

Risk of injury when installing the valve.

- ▶ This work may be carried out by authorised 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!

### 6.2 Fluid Installation



#### DANGER!

Danger - high pressure!

Danger of severe injuries from reaching into the system.

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

Installation position: any position, preferably with the drive facing up.



To ensure a longer service life for the device, we recommend an installation position with the magnet system pointing up, since this will prevent falling materials from getting into the core area.

#### Installation on a connection plate:

- Before installation, clean any possible dirt off the pipelines and flange connections.
- Install a dirt trap in front of the valve to protect it from malfunctions caused by dirty media.

Mesh size: 0,2 ... 0,4 mm



#### WARNING!

Danger - escaping medium!

Leaky connections with seals not properly seated.

- ▶ Make certain the seals included with delivery are properly seated in the valve.

- Insert the seal into the valve.

Two pass-through holes for M4×60 cylinder head screws are used for fastening.



Note the direction of flow indicated on the housing: The valve output is identified by A.

- Connect valve output A with connection A (B) of the connection plate: Either screw the valves onto the connection plate and then fasten the connection plate from below with M5 screws or fasten the connection plate from above with M4 cylinder head screws and then screw on the valves.
- Seal the connection holes on the plate that are not needed with plugs (order No.: 005041).



The connection plates can be arranged in rows with nipples (order No.: 005040).

## 6.3 Electrical Installation



### DANGER!

**Risk of electric shock when reaching into the equipment!**

- ▶ Before starting work, always switch off the power supply and safeguard to prevent re-activation!
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment!



Note the voltage and current type as specified on the rating plate

Voltage tolerance  $\pm 10\%$

Connection with Bürkert cable plug Type 2508, protection class IP65, with cable  $3 \times 0.75 \text{ mm}^2$ . The flat pin is the earthing connection. The cable plug insert can be turned  $4 \times 90^\circ$ .



### WARNING!

**Danger due to electrical shock!**

If the protective conductor contact between the coil and housing are missing, there is danger of electrical shock.

- ▶ Always connect the protective conductor contact!
- ▶ Check the protective conductor contact after installation!

The tightening torque for the cable head is 1 Nm.

## 7 MAINTENANCE / MALFUNCTIONS

The valve is maintenance-free under normal operating conditions.

### 7.1 Malfunctions

If malfunctions occur, check

- the line connections
- the operating pressure
- the power supply and valve control

Magnet does not attract

- Short circuit or coil interrupted
- Core or core area dirty



An immovable core causes the coil to overheat with alternating current.

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

## 8 REPLACEMENT PARTS



### CAUTION!

Using the wrong accessories or replacement parts may be dangerous!

The wrong accessory or unsuitable replacement parts may cause injuries and damage to the device or the area around it.

- ▶ Use only original accessories and original replacement parts from Bürkert GmbH & Co. KG.

Accessories and replacement parts available on request.

## 9 PACKAGING, TRANSPORT, STORAGE

### NOTE!

#### Transport and storage damage!

- Protect the device against moisture and dirt in shock-resistant packaging during transportation and storage.
- Permitted storage temperature: -20...+55°C.

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

- Ensure the device and packaging are disposed of in an environmentally sound manner.
- Observe applicable regulations on disposal and the environment.

- Dispose of the device and packaging in an environmentally friendly manner.
- Observe national waste disposal regulations.

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