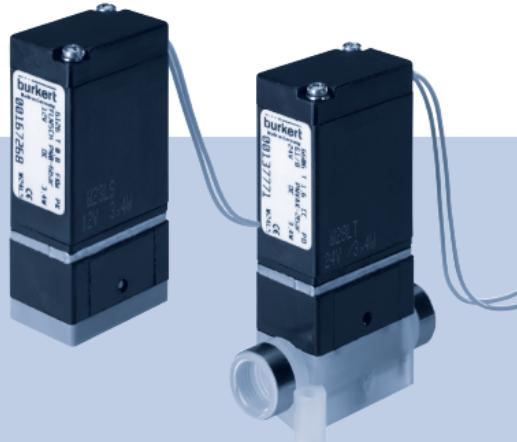


# Type 6126, Type 6606 Rocker solenoid valve

2/2 or 3/2-way solenoid valve



## Operating Instructions

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# 1 THE OPERATING INSTRUCTIONS

The operating instructions contain important information.

- ▶ Read the instructions carefully and follow the safety instructions in particular.
- ▶ Keep the instructions and provide them to every user.
- ▶ The liability and warranty do not apply if the procedures in the operating instructions are not followed.

## 1.1 Symbols

- Designates a procedure which you must carry out.
- ▶ Highlights instructions to avoid a danger.

**Warning of injuries:**



**DANGER!**

Immediate danger! Serious or fatal injuries.



**WARNING!**

Possible danger! Serious or fatal injuries.



**CAUTION!**

Danger! Moderate or minor injuries.

**Warning of damage:**

**NOTE!**

## 2 INTENDED USE

Non-intended use of the solenoid valves Type 6126 and Type 6606 can be dangerous to people, nearby equipment and the environment.

- ▶ The solenoid valves Type 6126 and Type 6606 are designed for use in analytical, medical and laboratory technology. They can be used primarily for the metering, filling, mixing and distribution of small amounts.
- ▶ Do not use the device outdoors.
- ▶ Use according to the authorized data, operating conditions and conditions of use specified in the contract documents and operating instructions. These are described in the chapter entitled "“6 Technical Data”".
- ▶ The device may be used only in conjunction with third-party devices and components recommended and authorized by Burkert.
- ▶ Correct transportation, correct storage and installation and careful use and maintenance are essential for reliable and faultless operation.
- ▶ Use the device only as intended.

## 3 BASIC SAFETY INSTRUCTION

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



### DANGER!

#### 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 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.



## WARNING!

**Leaking medium when the diaphragm is worn.**

- ▶ Regularly check for leaking medium.
- ▶ If the media is hazardous, protect the environment from danger.

### 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.
- ▶ 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 minimise or avoid the possibility of damage caused by sudden electrostatic discharge!
- Also ensure that you do not touch the electronic components when the power supply voltage is present!



The solenoid valves Type 6126 and Type 6606 were developed with due consideration given to the accepted safety rules and are state-of-the-art. Nevertheless, dangerous situations may occur. 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 GENERAL INFORMATION

### 4.1 Scope of Supply

Check immediately upon receipt of the delivery that the contents are not damaged and that the type and scope agree with the delivery note and packing list.

If there are any discrepancies, please contact us immediately.

#### Germany

Contact address:

Bürkert Fluid Control Systems  
Sales Center  
Chr.-Bürkert-Str. 13-17  
D-74653 Ingelfingen  
Tel.: + 49 (0) 7940 - 10 91 111  
Fax: + 49 (0) 7940 - 10 91 448  
E-mail: [info@buerkert.com](mailto:info@buerkert.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](http://www.burkert.com) → Bürkert → Company → Locations

### 4.2 Warranty

This document contains no promise or guarantee. Please refer to our general terms of sales and delivery. The warranty is only valid if the device is used as intended in accordance with the specified application conditions.



The warranty extends only to defects in the solenoid valves Type 6126 and Type 6606 and their components.  
We accept no liability for any kind of collateral damage which could occur due to failure or malfunction of the device.

### 4.3 Information on the Internet

Operating instructions and data sheets for Types 6126 and 6606 can be found on the Internet at:

[www.burkert.com](http://www.burkert.com) → Documentation → Type

## 5 SYSTEM DESCRIPTION

### 5.1 Intended Application Area

The solenoid valves Type 6126 and Type 6606 are designed for use in analytical, medical and laboratory technology. They can be used primarily for the metering, filling, mixing and distribution of small amounts.

### 5.2 General Description

The solenoid valves Type 6126 and Type 6606 are direct-acting rocker solenoid valves. They have a minimum dead volume and a non-split, easy-to-rinse inner contour. The medium comes into contact with the body material and the seals only. The heat transfer into the medium is minimal, as the body is also separated from the coil by a stainless steel plate.

#### Modularity

The valve is modular in design and can be supplied with different port connections according to the application case. It can be used individually and also in blocks.

## 6 TECHNICAL DATA

### 6.1 Operating Conditions



#### WARNING!

##### Risk of injury

Malfunction if used outside!

- ▶ Do not use Type 6126 and Type 6606 outdoors and avoid heat sources which may cause the allowable temperature range to be exceeded.

Ambient temperature: max. +55 °C

Medium temperature:

Nominal width	Seal material	Temperature range
DN 0,8	FFKM	+5...+50 °C
DN 0,8	FKM	0...+50 °C
DN 0,8	EPDM	-5...+50 °C
DN 1,2 und 1,6	FFKM	+10...+50 °C
DN 1,2 und 1,6	FKM	+5...+50 °C
DN 1,2 und 1,6	EPDM	0...+50 °C

Media:

neutral and aggressive, gaseous and liquid media which do not attack body and seal materials

see Burkert Chemical Resistance Chart  
([www.burkert.com](http://www.burkert.com))

Protection class:

IP65 with flying leads or cable plug  
IP30 with rectangular plug

## 6.2 Conformity

The solenoid valves type 6126 and type 6606 conform to the EU directives according to the EU declaration of conformity (if applicable).

## 6.3 Standards

The applied standards, which are used to demonstrate compliance with the EU Directives, are listed in the EU type test certificate and/or the EU declaration of conformity (if applicable).

## 6.4 Mechanical data

Dimensions

See data sheet

Body material

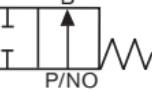
PPS, PVDF, ETFE, PEEK  
Brass, stainless steel

Seal material

FKM, FFKM, EPDM

## 6.5 Pneumatic data

### Circuit functions

A		2/2-way valve, direct-acting, normally closed
B		2/2-way valve, direct-acting, normally open
T		3/2-way valve, direct-acting, universal function



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

Pressure range

Vac ... 2 bar

Port connections

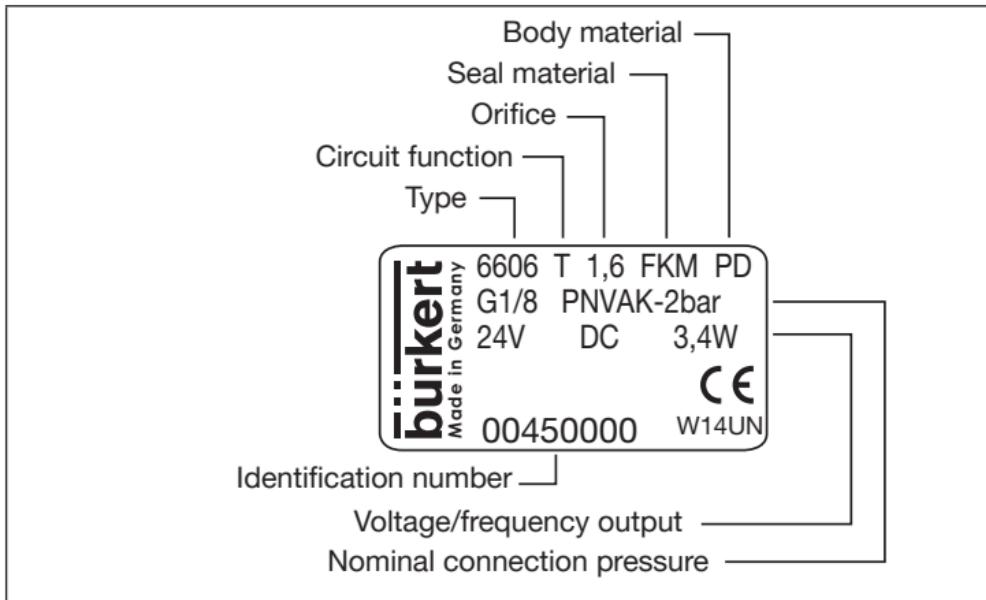
Threaded connection G1/8, M5  
NPT1/8 or UNF1/4-28

Flange connection

Tube hose connection

## 6.6 Label

Example:



## 6.7 Electrical Data

Connections:	Spade connection in accordance with DIN 43650 C for cable plug Type 2516 on top or on side Rectangular plug for Type 2505 2 FEP flying leads, AWG24, 500 mm long
Power supply:	12 V DC 24 V DC 110 – 120 V UC 230 – 240 V UC
Voltage tolerance	±10 % - Residual ripple 10 %
Nominal output	12 – 24 V 3.4 W 110 – 240 V 4.0 W
Nominal operating mode for block installation	100 % continuous operation if temperatures of media or surrounding area above +40 °C: Intermittent duty 40 % (10 min)



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

## 7 INSTALLATION

### 7.1 Safety instructions



#### 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 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 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.

## 7.2 Fluid Installation



#### DANGER!

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

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

Installation position: any, actuator preferably upwards.

## Installation

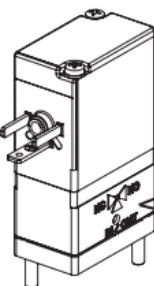
- Before installation, clean any possible dirt off the pipelines and flange connections.
- If required, install a dirt trap to prevent malfunctions.

Mesh size: 5 µm



Pay attention to the flow direction of the valve.

Circuit function (CF)\*



A und T  
B

Identification of the valve connections on the body:

NC	Normally Closed	Connection normally closed, for CFA
NO	Normally Open	Connection normally open, for CFB
IN/OUT	for pressure connection (distributor) or working connection (mixer), for CFT	

! The valve body must not be twisted by the fastening screws or by screwing in the connecting nipples too far!

The bodies with threaded or hose connection have fixing eyelets for the screw connection from above with M3 and from below with self-tapping screws BZ 3.9 x ... DIN 7971.

\* see also the description of the circuit functions in the chapter entitled "7.4. Pneumatic data"

### **Body with threaded connection:**

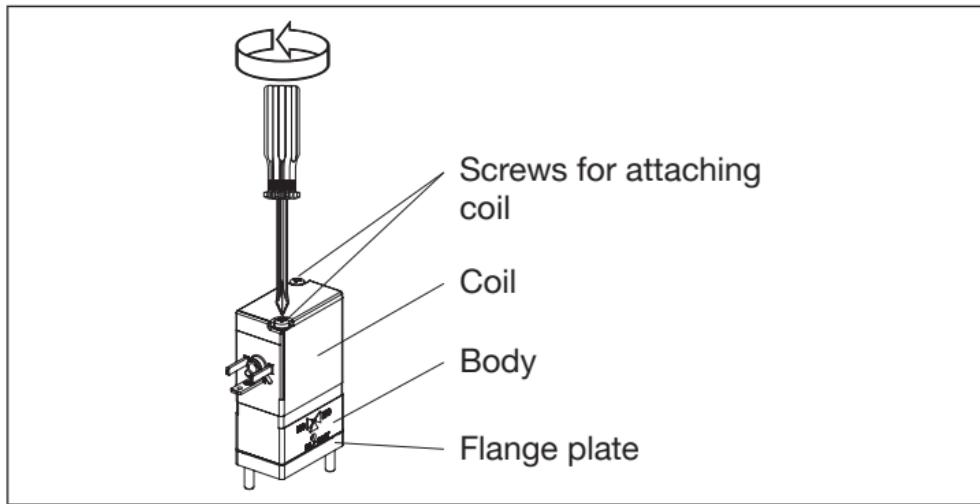
- Use PTFE tape as sealing material
- Screw in the connecting thread by hand only

### **Body with hose connection:**

- Use flexible silicone hose with 1.6 – 2 mm inner diameter

**!** To ensure functional reliability, operate the valve with the coil installed ex works only!

### **Valve with flange connection:**



### **NOTE!**

**Malfunction / damage to device when detaching the flange plate!**

The valve features a pressed-in membrane which may be damaged when the flange plate is detached.

- Do not loosen the flange plate!

- Loosen the screws which attach the coil and remove the coil from the body.

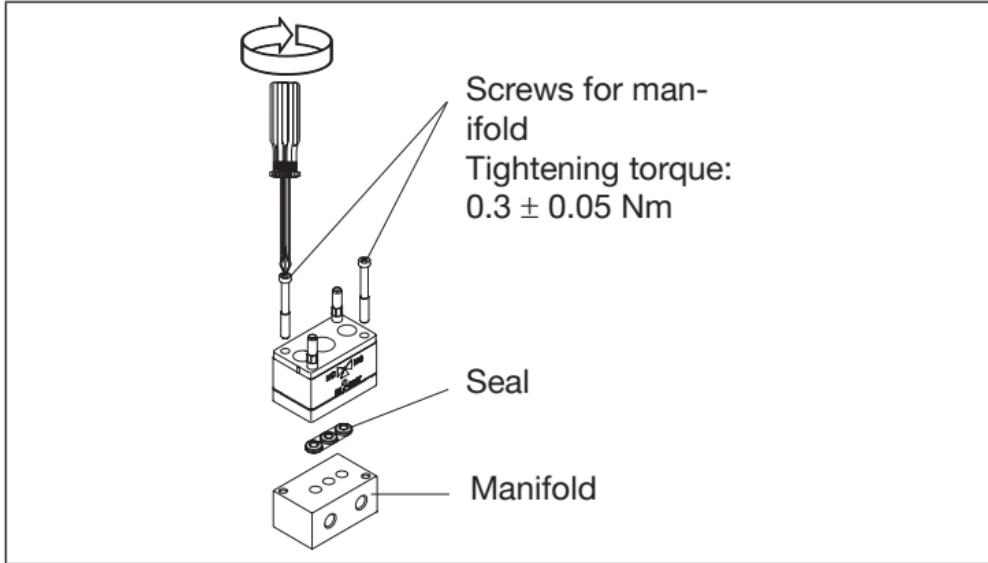


## WARNING!

### Danger - escaping medium!

Leaking connections if seals not fitted properly, if manifold uneven or if surface quality of the manifold inadequate.

- ▶ Make certain the seals included with delivery are properly fitted in the valve.
- ▶ Ensure that the manifold is even.
- ▶ Ensure that the surface quality of the manifold is adequate.



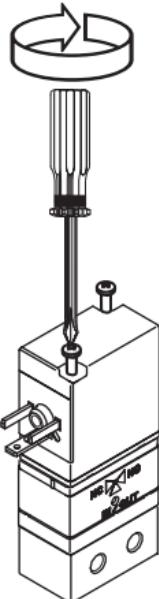
→ Insert the seal into the valve.

### NOTE!

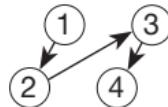
If the tightening torque is too great, the device may be damaged! Observe the maximum tightening torque of the screws!

→ Attach valve to manifold:

Screw in screws at  $0.3 \pm 0.05$  Nm.



1st step      2nd step



$0.1 \pm 0.05$  Nm       $0.2 \pm 0.05$  Nm

Tighten screws alternately, in two steps:

1st step:

Tightening torque  $0.1 \pm 0.05$  Nm

2nd step:

Tightening torque  $0.2 \pm 0.05$  Nm

→ Attach coil to body.

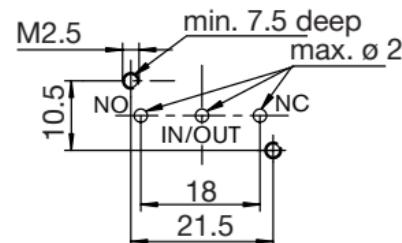


## DANGER!

Risk of electric shock if the protective conductor function is defective!

- After installing the coil, check the functionality of the protective conductor (see chapter entitled “[7.3 Electrical Installation](#)”).

Dimensional drawing for manifold:



Arrangement of the bores:

3-way	2-way PVDF and virtually dead storage version	2-way PEEK / PPS

## 7.3 Electrical Installation



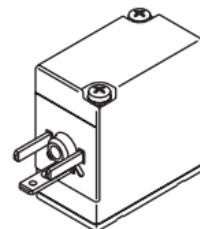
### DANGER!

Risk of injury due to electrical shock!

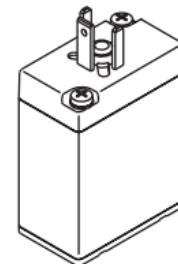
Before reaching into the device or the equipment, switch off the power supply and secure to prevent reactivation!

- Observe applicable accident prevention and safety regulations for electrical equipment!

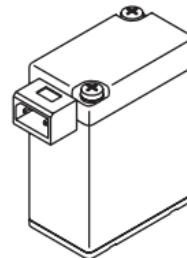
Types of electrical connections:



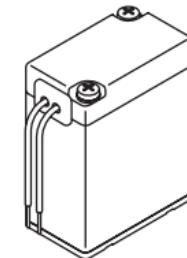
Connection at side



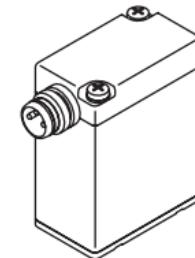
Connection above



Rectangular connector



Flying leads



Circular connector



To ensure functional reliability, operate the valve with the coil installed ex works only!

Note the voltage and current type as specified on the type plate. Voltage tolerance  $\pm 10\%$

### Valves with flange body:



#### DANGER!

Risk of electric shock if the protective conductor function is defective!

- After installing the coil, check the functionality of the protective conductor.

→ Check functionality of the protective conductor.

Resistance	Test voltage	Test current
max. 0.1 Ω	12 V	1 A

### Connection to cable plug:



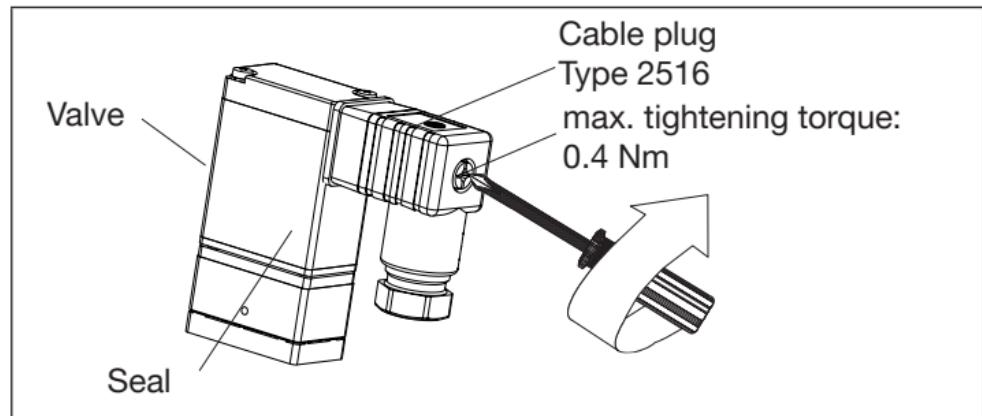
#### DANGER!

Risk of electric shock if protective conductor not connected!  
Always connect protective conductor!

Earthing connection (if fitted): Middle spade connection



Ensure that the seal is fitted correctly for the electrical connection to the cable plug.



## **NOTE!**

If the tightening torque is too great, the device may be damaged!

- ▶ Observe the maximum tightening torque of the screws!

→ Screw cable plug to the valve at a maximum tightening torque of 0.4 Nm.

## **8 MAINTENANCE, TROUBLESHOOTING**

→ Regularly check for leaking medium.

The valve is maintenance-free under normal operating conditions.

### **8.1 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 device or the equipment, switch off the power supply and secure to prevent reactivation!
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment!



## 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 device or the equipment, switch off the power supply and secure to prevent reactivation!
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment!

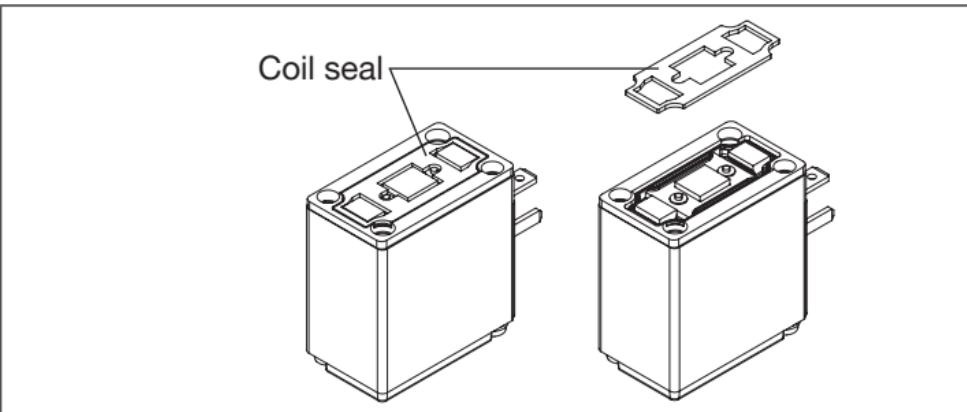
## 8.2 MAINTENANCE WORK

### Malfunctions

If malfunctions occur, check

- the port connections: the correct configuration of the fluid connections according to the circuit functions (see chapter entitled “8.2. Fluid Installation”)
- whether the operating pressure is within the permitted range.
- the power supply and valve control

→ the location of the coil seal: the seal must not cover the metallic areas of the coil.



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

## 9 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 Burkert only.

Accessories and spare parts available on request.

## 10 PACKAGING, TRANSPORT, STORAGE

### 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 the electrical interfaces of the coil from damage.

#### Incorrect storage may damage the device.

- Store the device in a dry and dust-free location!
- Storage temperature -40 – 55 °C.

## 11 DISPOSAL

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

### 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.

Bürkert Fluid Control Systems  
Sales Center  
Christian-Bürkert-Str. 13-17  
D-74653 Ingelfingen  
Tel. + 49 (0) 7940 - 10 91 111  
Fax + 49 (0) 7940 - 10 91 448  
E-mail: [info@burkert.com](mailto:info@burkert.com)



### **International address**

[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)

Manuels d'utilisation et fiches techniques sur Internet : [www.burkert.fr](http://www.burkert.fr)

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