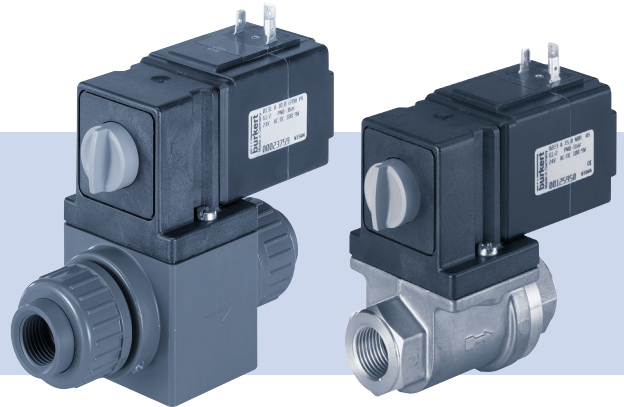


Type 0131

2/2- or 3/2-way solenoid valve
2/2- oder 3/2-Wege-Magnetventil
Électrovanne 2/2 ou 3/2 voies



Operating Instructions

Bedienungsanleitung
Manuel d'utilisation

1 OPERATING INSTRUCTIONS

The operating instructions contain important information.

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

1.1 Symbols

- ▶ Designates an instruction to prevent risks.
- designates a procedure which you must carry out.

Warning of injuries:



DANGER!

Imminent danger! Serious or fatal injuries.



WARNING!

Potential danger! Serious or fatal injuries.



CAUTION!

Danger! Minor or moderately severe injuries.

Warns of damage to property:

NOTE!

2 INTENDED USE

Incorrect use of the solenoid valve Type 0131 can be dangerous to people, nearby equipment and the environment.

- ▶ The device is designed to control, shut off and meter of neutral media, PVC variants also aggressive media.
- ▶ Provided the cable plug is connected and installed correctly, e.g. Bürkert Type 2518, the device satisfies protection class IP65 in accordance with DIN EN 60529 / IEC 60529.
- ▶ Use according to the permitted data, operating conditions and conditions of use specified in the contract documents and operating instructions.
- ▶ 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.

2.1 Definition of term

In these operating instructions, the term “device” always refers to the solenoid valve Type 0131.

3 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.

General hazardous situations.

To prevent injury, ensure that:

- ▶ Do not make any internal or external changes. 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.
- ▶ Do not put any loads on the body.
- ▶ The general rules of technology apply to application planning and operation of the device.

3.1 Warranty

The warranty is only valid if the device is used as intended in accordance with the specified application conditions.

3.2 Information on the internet

The operating instructions and data sheets for type 0131 can be found on the internet at:

www.burkert.com → Type 0131

4 TECHNICAL DATA

4.1 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 Brass (MS)
- Seal material: FKM, EPDM, NBR

Circuit functions

A		2/2-way valve; closed in rest position
B		2/2-way valve; opened in rest position
C		3/2-way valve; closed in rest position, output A unloaded
D		3/2-way valve; in rest position output A pressurized
E		3/2-way valve; in rest position, pressure connection P2 connected to output A. P1 closed
F		3/2-way valve; in rest position, pressure connection P connected to output B

Electrical operating conditions

	With kick-and-drop electronic	Without electronics 50 Hz, 60 Hz
Ambient temperature (intermittent duty „Fig. 2“)	max. +70 °C	max. +55 °C
Operatingmode (according to DIN VDE 0580)	Long-term operation Intermittent duty (Determination of the permitted operating parameters see „Fig. 1“ und „Fig. 2“)	Long-term operation Intermittent duty
Temperature protection switch	Device has a resettable temperature protection switch which switches the device off if unacceptable heating occurs during intermittent duty. Switches on again only after cooling down and after a new switching request.	without

Tab. 1: Electrical operating conditions

Intermittent operation for variant with kick-and-drop electronic

Characteristic values (according to DIN VDE 0580)

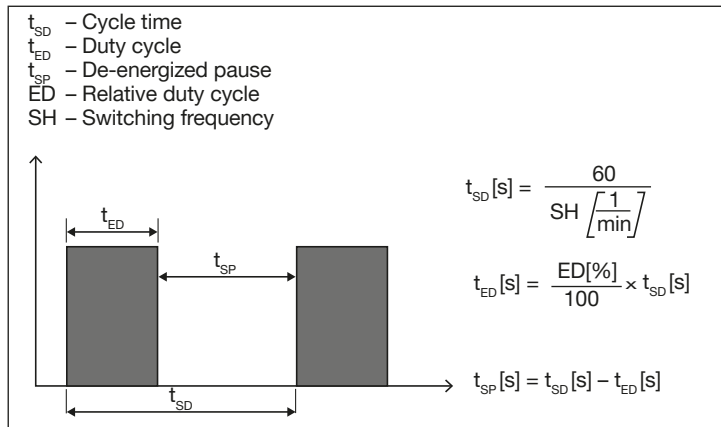


Fig. 1: Characteristic values intermittent operation for variant with kick-and-drop electronic

Permitted operating parameters

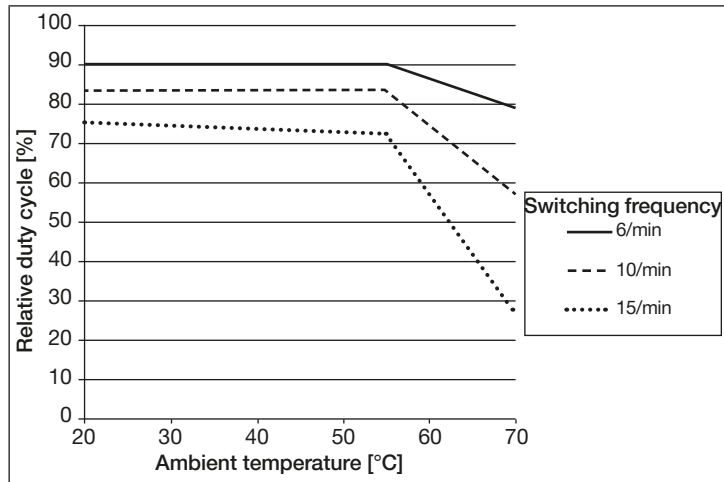



Fig. 2: Relative duty cycle (ED) depending on switching frequency and ambient temperature

4.2 Application conditions

Ambient temperature max. +50 °C

Protection class IP65 in accordance with DIN EN 60529 / IEC 60529 with cable plug, e.g. Bürkert Type 2518

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

NOTE!

In the case of liquids with high differential pressure and high flow velocity, high pressure surges can occur.

4.2.1 Permitted temperature

Permitted medium temperature depending on body material and seal material:

PVC Variant

Seal material	Permitted temperature
FKM	-10 ... +50 °C
EPDM	-10 ... +50 °C

Brass Variant

Seal material	Variant with kick-and-drop electronic ¹⁾	Variant without electronic 50 Hz, 60 Hz ¹⁾
NBR	-10 ... +90 °C	-10 ... +90 °C
FKM	-10 ... +90 °C	-10 ... +130 °C
EPDM	-30 ... +90 °C	-30 ... +130 °C

Viscosity: 37 mm²/s

¹⁾ see description on the type label

4.2.2 Permitted media

Permitted media depending on body material and seal material:

PVC Variant

Seal material	Permitted media
FKM	Oxidizing acids and substances, salt solution
EPDM	Alkalis, alkaline washing and bleaching lyes

Brass Variant

Seal material	Permitted media
NBR	Neutral media, technical vacuum
FKM	Per-solutions, hot oils without additives, diesel and heating oil without additives, detergent solution, technical vacuum
EPDM	Oil and grease-free liquids, cold and hot water, technical vacuum

4.2.3 Flow velocity

Permissible flow velocities depending on the nominal diameters.

NOTE!

- ▶ Depending on the differential pressure, do not exceed the flow velocities.

Nominal diameter	Flow velocity
10.0	2.0 m/s
15.0	2.5 m/s
20.0	3.0 m/s

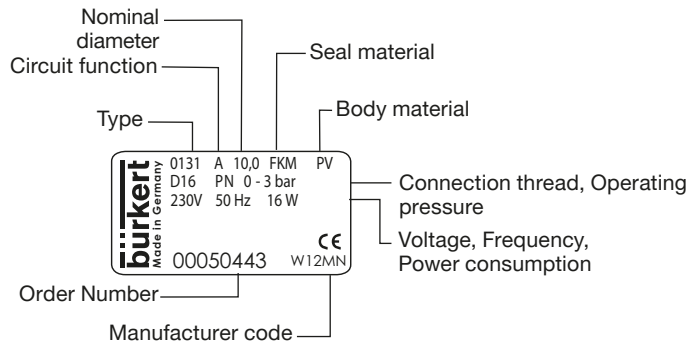
4.4 Conformity

The device complies with the EU directives according to the EU declaration of conformity.

4.5 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.

4.6 Type label



5 INSTALLATION

5.1 Safety instructions



DANGER!

Risk of injury from high pressure in the equipment.

- ▶ Before loosening the pipes 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 assembly, ensure a controlled restart.

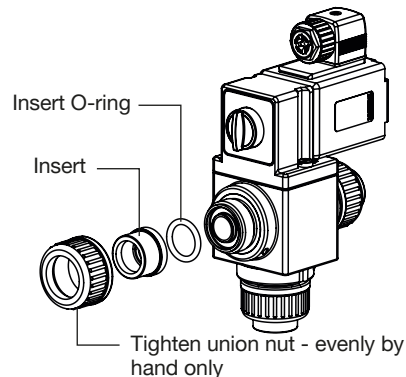
5.2 Preparatory work

Installation position: any, actuator preferably upwards.

→ Check pipelines for dirt and clean.

→ Install a dirt filter before the valve inlet ($\leq 500 \mu\text{m}$).

5.3 Installation



NOTE!

Caution risk of breakage.

- ▶ Do not use the coil as a lever arm.

→ Body with welded sleeve: Use PVDF.

→ Body with PVC bonded sleeves: Use Tangit special adhesive.



Valve body must not be installed under tension.

Seal material must not get into the device.

→ Observe direction of flow:

The arrow or letter on the body indicates the direction of flow:
from P → A (NC) or from P → B (NO).

5.4 Manual control



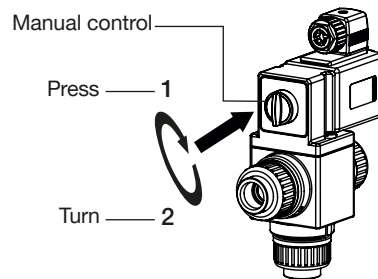
CAUTION!

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 control is locked, the valve can no longer be actuated electrically.



5.5 Electrical connection of the cable plug



WARNING!

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.

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

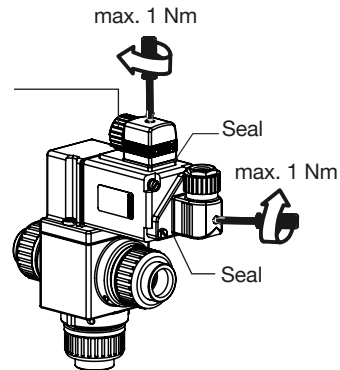
- ▶ Always connect protective conductor and check electrical continuity.



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

- 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.

Authorized cable plug
e.g. Type 2518 or other suitable
cable plug in accordance with
DIN EN 175301-803 Form A



6 MAINTENANCE, TROUBLESHOOTING

6.1 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.

6.2 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
	Manual control locked
Valve does not close	Internal space of the valve is dirty
	Manual control locked

7 SPARE PARTS

7.1 Safety instructions



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.

7.2 Ordering spare parts

Order the spare-part sets specifying the positions (Pos. 1: coil set, Pos. 2: actuator set, Pos. 3: wearing part set) and the order number of the device.

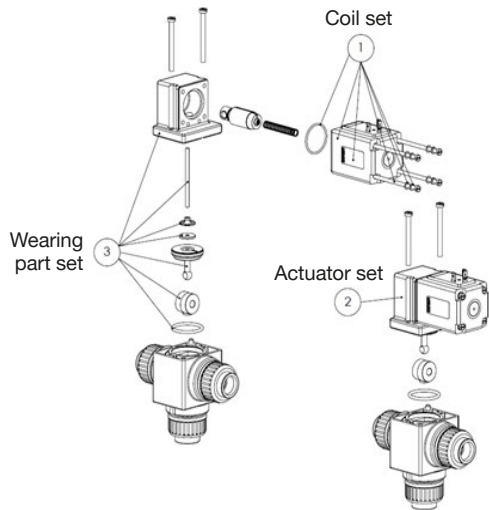


Fig. 3: Spare parts overview

8 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)

-30 °C - +80 °C (Brass)

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

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

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Bedienungsanleitungen und Datenblätter im Internet: www.buerkert.de
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