

Type 6027

2/2-way solenoid valve
2/2-Wege-Magnetventil
Électrovanne 2/2 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 6027 can be dangerous to people, nearby equipment and the environment.

- ▶ The device is designed to control, shut off and meter neutral media up to a viscosity of 21 mm²/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 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 Type 6027.

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.
- ▶ For models with ATEX or UL approval follow the safety instructions in the ATEX manual or on the respective supplementary sheet.
- ▶ 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 6027 can be found on the internet at:

www.burkert.com → Type 6027

4 TECHNICAL DATA

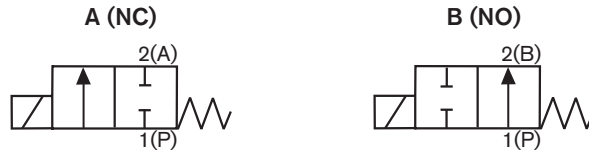
4.1 Operating conditions



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: Brass (MS), Stainless steel (VA)
- Sealing material: EPDM, PTFE, FKM, PEEK, NBR
- Port connection

Circuit function 2/2-way valve:



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

4.2 Application conditions

Ambient temperature: max. +55 °C

Permitted medium temperature depending on coil material and sealing material:

Circuit function	Coil material	Frequency	Sealing material	Medium temperature
Control function A (NC)	Polyamide (AC10)	AC/DC/UC	FKM (FF)	-10...+100 °C
			FKM (FF)	-10...+140 °C
			EPDM (AA)	-30...+120 °C
			NBR (BB)	-10...+80 °C
Control function B (NO)	Epoxide	AC	PTFE + PEEK (EP)	-40...+180 °C
			FKM (FF)	-10...+100 °C
			EPDM (AA)	-30...+100 °C
			PTFE + PEEK (EP)	-40...+100 °C
		DC/UC	PTFE + FKM (EF)	-10...+140 °C
			PTFE + PEEK (EP)	-40...+180 °C
			EPDM (AA)	-30...+120 °C
			FKM (FF)	-10...+140 °C
CF A (NC) / CF B (NO)		AC/DC/UC	PEEK + FKM (TF)	-10...+80 °C

Permitted medium temperature and ambient temperature depending on sealing material:

Temperatures for valves with UL/UR approval		
	Sealing material	
Ambient temperature	EPDM (AA) PTFE + EPDM (EA) PTFE + FKM (EF) PTFE + PEEK (EP) FKM (FF)	-10...+55 °C
Medium temperature	EPDM (AA)	-30...+120 °C
	PTFE + EPDM (EA)	
	PTFE + FKM (EF)	-10...+140 °C
	PTFE + PEEK (EP)	-40...+140 °C
	FKM (FF)	-10...+140 °C

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.

Medium: neutral gases and liquids which do not attack the body material, the inner parts of the valves or the sealing material. Check resistance in individual cases (www.burkert.com)

4.3 Conformity

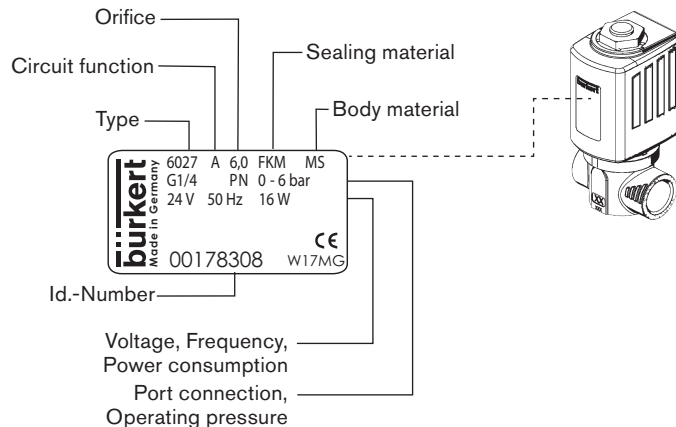
In accordance with the EC Declaration of conformity, Type 6027 is compliant with the EC Directives.

4.4 Standards

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

4.5 Type label

Example:



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 Before installation

Installation position: any, actuator preferably upwards.

Procedure:

- Check pipelines for dirt and clean.
- Install a dirt filter before the valve inlet (≤ 0.3 mm).



WARNING!

Medium leaking through damaged connections.

- ▶ Do not damage sealing surfaces of the body connections during installation.

Danger due to unsuitable screw connections.

- ▶ At high pressures and temperatures ensure that the thread length (load-bearing thread turns) is adequate for each pairing of materials.

NOTE!

Caution risk of breakage.

- Do not use the coil as a lever arm.

5.3 Installation – body design

Procedure:

→ Hold the device with a open-end wrench on the body and screw into the pipeline.



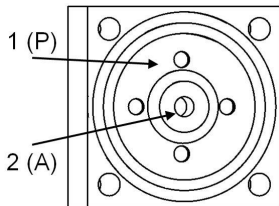
Valve body must not be installed under tension.
Sealing material must not get into the device.

→ Observe direction of flow: from 1 → 2 (from P → A),
or CF B from P → B.

5.4 Installation – flange design

Procedure:

- Loosen nut and remove coil.
- Insert seal into body.
- Screw body onto connection plate.
- Install coil (see chapter „5.6“).
- Observe direction of flow:
from 1 → 2 (from P → A),
or CF B from P → B.



5.5 Electrical connection of the cable plug



WARNING!

Risk of injury due to electrical shock.

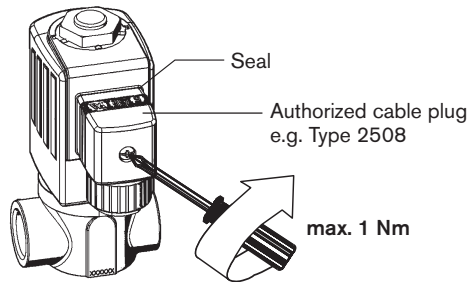
- ▶ Before reaching into the system, switch off the power supply and secure to prevent reactivation.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.

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

- ▶ Always connect protective conductor and check electrical continuity.

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.



5.6 Installation of coil



WARNING!

Risk of escape of media.

When a sticking nut is loosened, medium may escape.

- ▶ Do not tighten sticking nut any further.

Risk of injury due to electrical shock.

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

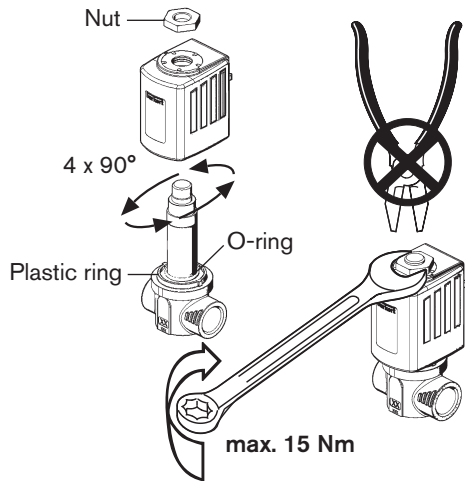
- ▶ During installation insert the plastic ring into the body journal. The plastic ring must not project over the octagonal nipple.
- ▶ Check protective conductor contact after installing the coil.

Overheating, risk of fire.

If the coil is connected without a pre-installed valve, the coil will overheat and be destroyed.

- ▶ Connect the coil with a pre-installed valve only.

Installation of coil:



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.

If the magnet is not attracting

Possible causes:

- Short circuit or coil interrupted,
- core or core area dirty.

7 SPARE PARTS



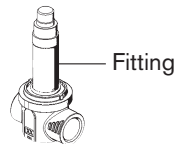
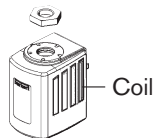
CAUTION!

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.
- ▶ Do not open the fluidic part of the device without the consent of the manufacturer.

7.1 Ordering spare parts



Wearing part set can be requested via the sales offices by quoting the identification number of the device.

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.

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 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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Manuals and data sheets on the Internet: www.burkert.com
Bedienungsanleitungen und Datenblätter im Internet: www.buerkert.de
Manuel d'utilisation et fiches techniques sur Internet : www.buerkert.fr

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