

# Type 6027

2/2-way solenoid valve



## Operating Instructions

# 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 mm<sup>2</sup>/s.
- ▶ 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 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](http://www.burkert.com) → Type 6027

## 4 TECHNICAL DATA

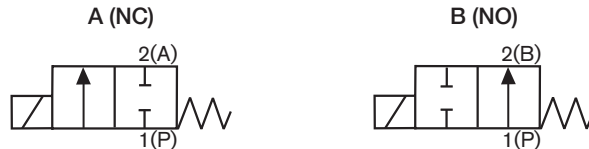
### 4.1 Operating conditions



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 2518

## 4.2 Application conditions

Ambient temperature: max. +55 °C

Permitted medium temperature depending on coil material and sealing material:

Variant	Coil material	Seal material	Medium temperatur
Standard	Epoxid (NA38)	FKM (FF)	-10...+140 °C
		EPDM (AA)	-30...+120 °C
		NBR (BB)	-10...+80 °C
		PTFE + FKM (EP)	-10...+140 °C
		PTFE + EPDM (EA)	-30...+120 °C
		PTFE + PEEK (EP)	-40...+180 °C
		Hochdruck MX31 & MX32	
PEEK + EPDM (TA)	-30...+80 °C		
PEEK + PEEK (TT)	-40...+80 °C		
PUR + FKM (PC)	-10...+100 °C		
AC07			
AC10 / AC07	Polyamid	alle	-10...+100 °C

### HINWEIS!

- Important note for WWB (NO) devices with alternating voltage: Maximum medium temperature +100°C.

Permitted medium temperature and ambient temperature depending on sealing material:

Temperatures for valves with UL/UR approval		
	seal 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](http://www.burkert.com))

### 4.3 Conformity

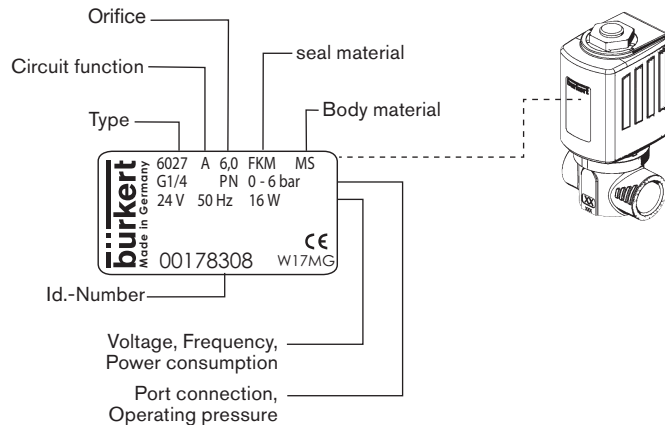
In accordance with the EC Declaration of conformity, Type 6027 is compliant with the EC Directives.

### 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 authorised 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 ( $\leq 0.3$  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 variant

Procedure:

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



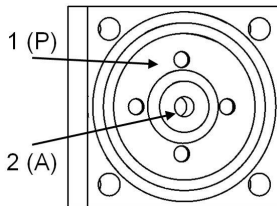
Valve body must not be installed under tension.  
Sealing material must not get into the device.

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

## 5.4 Installation – flange variant

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



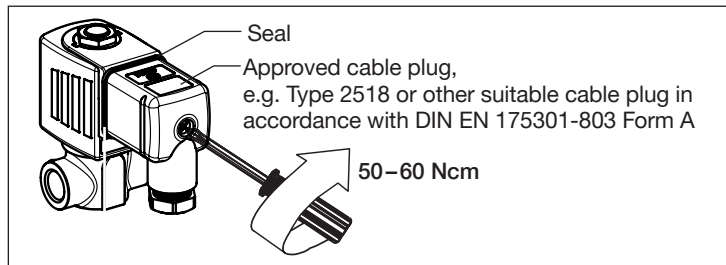
**WARNING!**

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.





- Tighten cable plug (for permitted types see data sheet), observing max. torque 50-60 Ncm.
- 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 twist lock (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.

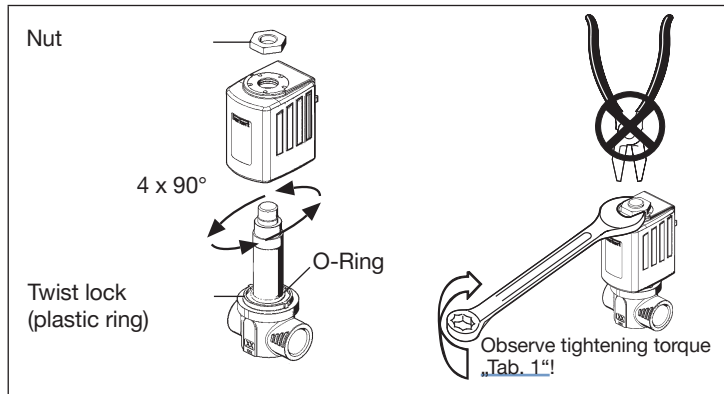


Fig. 1: Installation of coil

Solenoid type	Solenoid sizes	Tightening torque [Nm]
AC19 (Standard)	K (42mm), L (65mm)	max. 15 Nm
AC10	5 (32mm), 6 (40mm)	max. 5 Nm
AC07	2 (20mm)	max. 2.8 Nm

Tab. 1: Tightening torques, solenoid mounting, solenoid types

## 6 MAINTENANCE, TROUBLESHOOTING

### 6.1 Safety instructions



#### WARNING!

Risk of injury from improper maintenance.

- ▶ Maintenance may be carried out by authorised 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.**

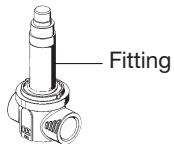
Incorrect accessories and unsuitable spare parts may cause injuries and damage the device and the surrounding area.

- ▶ 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](http://www.burkert.com)  
Bedienungsanleitungen und Datenblätter im Internet: [www.buerkert.de](http://www.buerkert.de)  
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