

## Type 0340, 0343, 0344

3/2-way solenoid valve  
3/2-Wege-Magnetventil  
Électrovanne 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 product / 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 0340, 0343 and 0344 can be dangerous to people, nearby equipment and the environment.

- ▶ The device is designed to control, shut off and meter neutral media.
- ▶ 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 0340, 0343 and 0344.

### 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 together coil and cable plug or valve and connection plate.



#### **To prevent injury, ensure that:**

- ▶ Do not make any internal or external changes to the device bodies. 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.
- ▶ For models with ATEX or UL approval follow the safety instructions on the respective supplementary sheet.

- ▶ 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 0340, 0343 and 0344 can be found on the internet at:

Type 0340, 0343, 0344

## 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<sup>1)</sup>
- Body material: Brass (MS)
- Seal material: NBR

Operating principle 3/2-way valve Type 0340 and 0344:

Standard Version			
<b>C</b> (NC)		<b>D</b> (NO)	
Impulse Version			
<b>C</b> (NC)		<b>D</b> (NO)	

→ Type 0344: Connect vacuum pump to connection R.

## Operating principle 3/2-way valve Type 0343:

Standard Version		
<b>C</b> (NC)		Continuity A → R normally open, connect vacuum generator to R, external air to P, auxiliary control air to Z
<b>D</b> (NO)		Continuity P → B normally open, connect vacuum generator to R, external air to P, auxiliary control air to Z

<sup>1)</sup> The externally controlled valve, Type 0343, requires auxiliary control air which is at least 2 bar above operating pressure

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: 0 °C ... +55 °C

Medium temperature: 0 °C ... +90 °C

The following values must also be observed for valves with UL/UR approval:

Valve type	Seal material	Orifice Valve seat [mm]	Fluid temperature °F / °C	Ambient temperature °F / °C	Fluid (non-hazardous Fluids)
0340	EPDM	12.0	-4...+194 °F -20...+90 °C	-4...+131 °F -20...+55 °C	dry air, inert gas
			+41...+194 °F +5...+90 °C	+41...+131 °F +5...+55 °C	water
	NBR	8.0 12.0 20.0 25.0	+32...+194 °F 0...+90 °C	+32...+131 °F 0...+55 °C	dry air, inert gas
			+41...+194 °F +5...+90 °C	+41...+131 °F +5...+55 °C	water
0344 (Vacuum-version)	NBR	8.0 12.0 20.0	+32...+194 °F 0...+90 °C	+32...+131 °F 0...+55 °C	dry air, inert gas

Viscosity (Type 0340): 21 mm<sup>2</sup>/s

## Media

Type 0340:	neutral media, compressed air, water, hydraulic oil
Type 0343 / 0344:	neutral gas, compressed air, vacuum
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 operation per day are recommended.

Service life:	High switching frequency and high pressures reduce the service life
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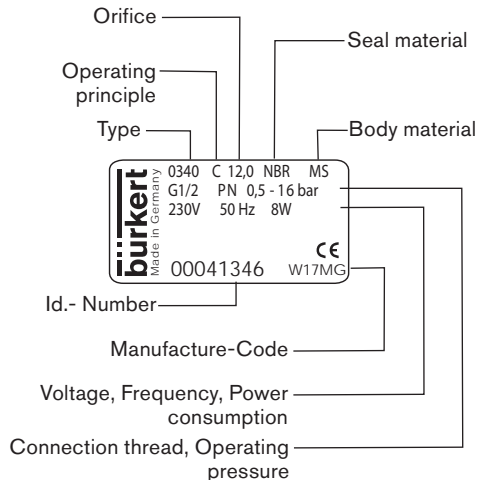
## 4.3 Conformity

In accordance with the EC Declaration of conformity, the solenoid valve Type 0340, 0343 and 0344 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



## 5 INSTALLATION

### 5.1 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 system, 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.

### 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 ( $\leq 500 \mu\text{m}$ ).

### 5.3 Installation

#### **NOTE!**

##### **Caution risk of breakage!**

- Do not use the coil as a lifting arm.

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



Valve body must not be installed under tension.

- Observe pin assignment according to switching function and identification.

## 5.4 Manual emergency actuation

### CAUTION!

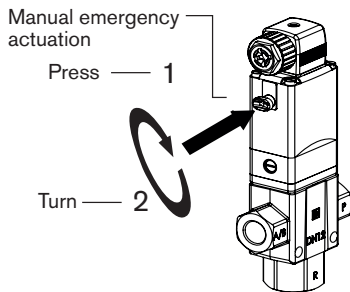
#### Discharge of medium due to loss of the O-rings!

- ▶ If the O-rings are lost, the valve will leak. Medium may be discharged.

### NOTE!

#### Caution!

- When the manual emergency actuation is locked, the valve can no longer be actuated electrically.



### DANGER!

#### Discharge of medium due to leaking device!

If the O-rings are forgotten or incorrectly inserted during installation of the pilot valve, the device will be damaged and medium will be discharged.

- ▶ Before screwing in the pilot valve, correctly insert O-rings into the depressions.

## 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!

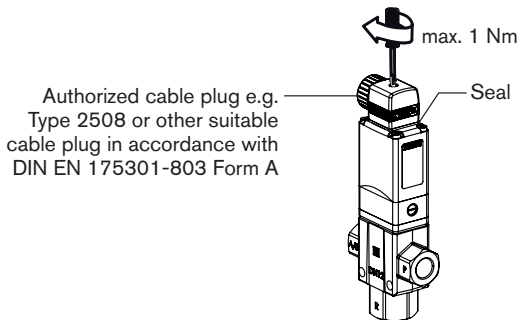
If the protective conductor contact between the coil and body is missing, there is danger of electrical shock!

- ▶ Always connect protective conductor.
- ▶ Check electrical continuity between coil and body.

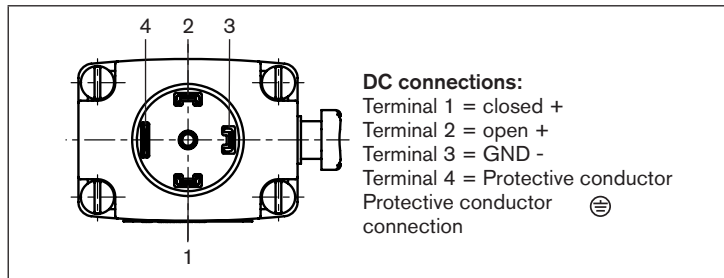


### Procedure:

- 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 between coil and body.



### 5.5.1 Electrical connection - Pulse



**!** The connection terminals in the cable plug are identified with the numbers 1 to 3 according to the terminals on the valve.

### Procedure:

- Connect the pulse valves (variable code CF 02).
- For direct current versions connect negative terminal to terminal 3.

## NOTE!

### Important information:

- Avoid emitting pulses simultaneously to both coil windings.
- Do not switch any other consumers (relays, etc.) at the same time as the terminals.
- The coil connection, to which voltage is not applied, must be galvanically isolated (open).
- If two or more valves are switched in parallel, ensure that this requirement is met by using 2-pole or multi-pole switches.

## 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

Type 0340: Shipment may have caused the position to occupy a middle position.

#### Procedure:

- Apply pressure to connection P and briefly seal connection A/B,
- Using your finger, press piston through connection R into the end position.

### If malfunctions occur, check:

- the device has been installed according to the instructions,
- the electrical and fluid connections are correct,
- the device is not damaged and all screws have been tightened,
- the voltage and pressure have been switched on,
- the pipelines are clean,
- corresponding orifice is used in vacuum mode of the pump capacity (Type 0343 / 0344).
- Type 0343: operating and control pressure (control pressure must be at least 2 bar above operating pressure).

### Valve does not switch

Possible cause:

- Short-circuit or coil interrupted.
- Medium pressure outside the permitted pressure range.
- Manual emergency actuation locked.

### Valve does not close

Possible cause:

- Internal space of the valve is dirty.
- Manual emergency actuation locked.

## 7 SPARE PARTS



### CAUTION!

#### **Risk of injury and/or damage by the use of incorrect parts!**

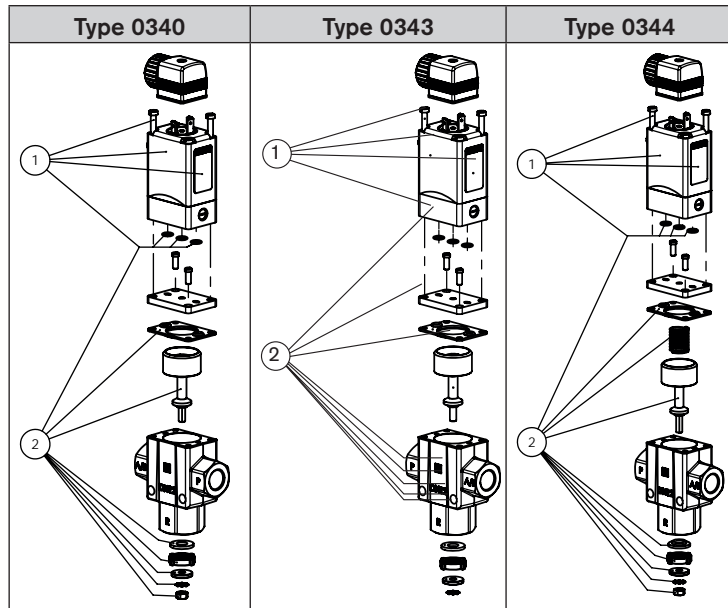
Incorrect accessories and unsuitable spare parts may cause injuries and damage the device and the surrounding area.

- ▶ Use only original accessories and original spare parts from Bürkert.

### 7.1 Ordering spare parts

Order the spare-part sets specifying the positions (Pos. 1: Pilot control set, Pos. 2: Wearing part set) and the identification number of the device.

## 7.2 Overview of spare parts



## 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 °C ... +80 °C.

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

- Observe applicable regulations on disposal and the environment.

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