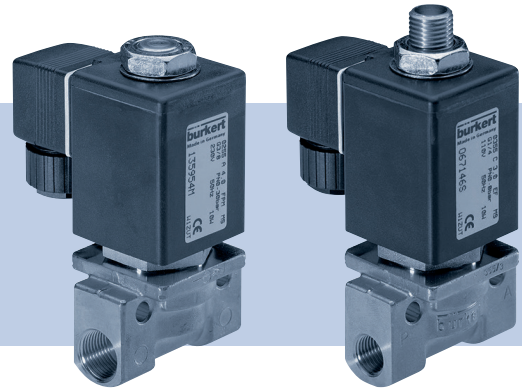


Type 0255 / 0355

2/2- and 3/2-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 0255 / 0355 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 solenoid valve Type 0255 and 0355.

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 0255 / 0355 can be found on the internet at:

www.burkert.com → Type 0255, 0355

4 TECHNICAL DATA

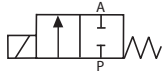
4.1 Operating conditions



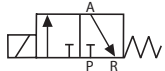
The following values are indicated on the type label:


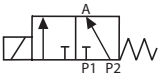
- Voltage (Tolerance $\pm 10\%$) / Current type
- Coil power consumption (active power in W - at operating temperature)
- Pressure range
- Body material: Brass (MS), Stainless steel (VA)
- Seal material: FKM, EPDM, NBR, PTFE, Steel

Circuit function Type 0255:

A		2/2-way valve; closed in rest position
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Circuit function Type 0355:

C		3/2-way valve; closed in rest position, output A unloaded
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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

Electrical operating conditions

	With high-performance electronics AC/DC	Without electronics 50 Hz, 60 Hz
Ambient temperature (for intermittent duty see „Fig. 2“)	max. +70 °C	max. +55 °C
Operating mode (according to DIN VDE 0580)	Long-term operation Intermittent duty (Determination of the permitted operating parameters see „Fig. 1“ and „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 version with high-performance electronics AC/DC

Characteristic values (according to DIN VDE 0580)

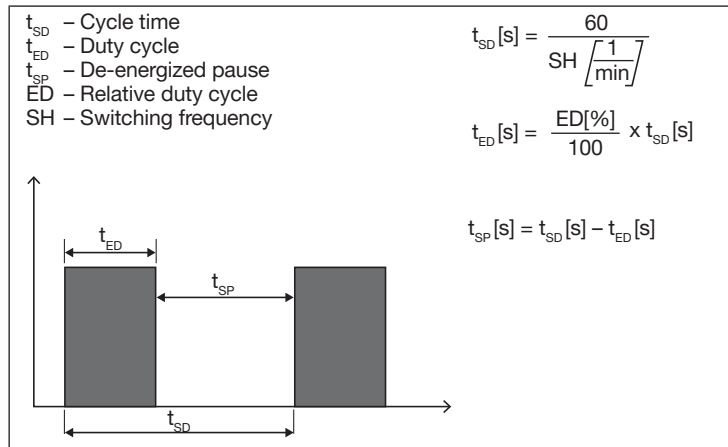


Fig. 1: Characteristic values intermittent operation for version with high-performance electronics AC/DC

Permitted operating parameters

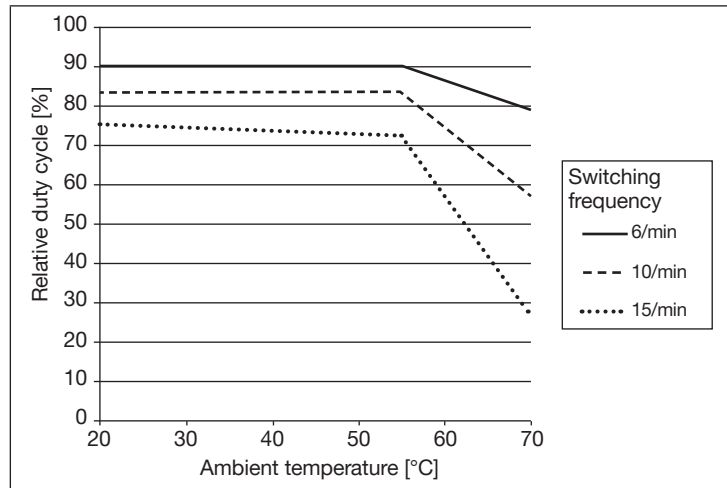


Fig. 2: Relative duty cycle (ED) depending on switching frequency and ambient temperature

4.2 Application conditions

Ambient temperature	Standard: max. +55 °C High temperature: Type 0255 max. +250 °C Type 0355 max. +200 °C
Protection class	IP65 in accordance with DIN EN 60529 / IEC 60529 with cable plug, e.g. Bürkert Type 2508 or cable design
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
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4.2.1 Permitted temperature

Permitted temperature depending on coil material and seal material:

Coil material	Seal material	Medium temperature
Epoxy, Metal ¹⁾	NBR	-10 - +90 °C
	FKM	-10 - +130 °C
	EPDM	-40 - +130 °C
	PTFE	-40 - +180 °C
	Steel ⁴⁾	-40 - +180 °C
Metal ²⁾	Steel ⁴⁾	-40 - +250 °C
Coil with electronic ³⁾		max. +90 °C

¹⁾ Coil with metal housing and copper wire winding

²⁾ Coil with metal housing and aluminum wire winding

³⁾ Switching frequency: max. 6 switching operations/min

⁴⁾ Seal material steel only for type 0255

4.2.2 Permitted media

Permitted media depending on seal material

Seal material	Permitted media
NBR	Neutral media, such as compressed air, water, hydraulic fluid, oils and greases without additives
FKM	Oxygen ⁵⁾ , hot air, hot oils, oils with additives, per solutions
EPDM	Oil and grease-free media, e.g. hot water, alkaline suds and bleaching lyes
PTFE, Steel	Water, steam, organic solvents, oils, fuel, alcohol, hydraulic substances

⁵⁾ for special design only

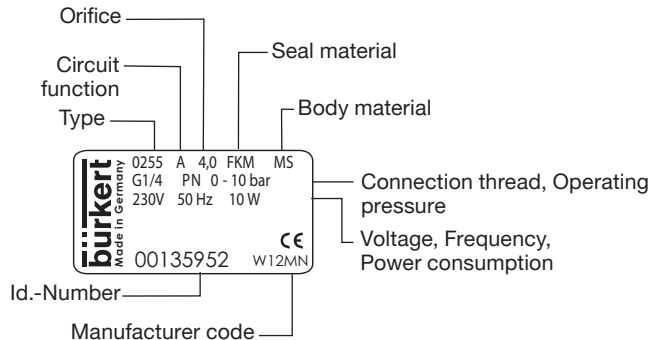
4.3 Conformity

In accordance with the EU Declaration of conformity, Type 0255 / 0355 is compliant with the EU Directives.

4.4 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.

4.5 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 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 lever 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 direction of flow:
The arrow on the body indicates the direction of flow.

5.4 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!

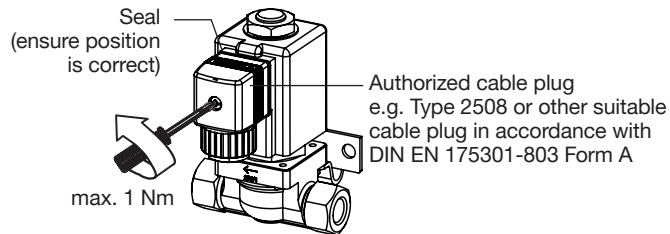
- ▶ Always connect protective conductor and check electrical continuity.



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

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.



6 MAINTENANCE, TROUBLESHOOTING



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.

6.1 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,
- adequately high power supply is applied.

Malfunction	Possible cause
Valve does not switch	Short-circuit or coil interrupted
	Inadequate power supply
	Core / core area is dirty
	Medium pressure outside the permitted pressure range
Valve does not close	Internal space of the valve is dirty

7 SPARE PARTS



CAUTION!

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

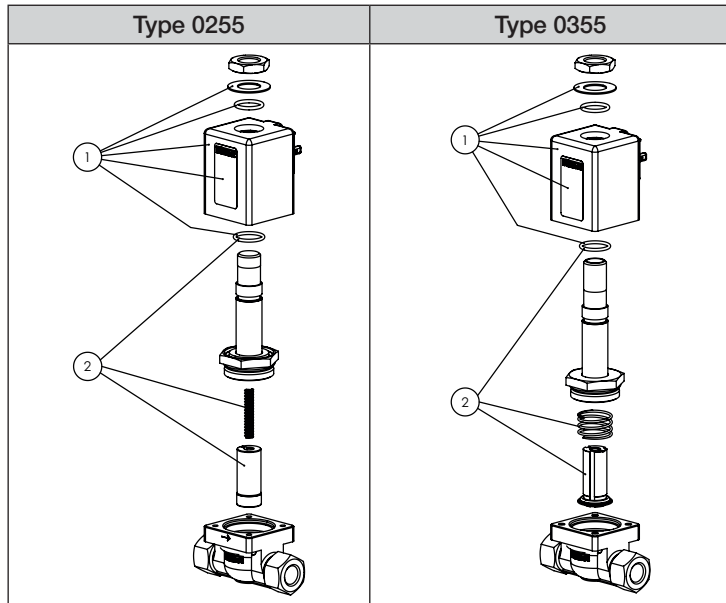
Incorrect accessories and unsuitable spare parts may cause injuries and damage the device and the surrounding area.

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

7.1 Ordering spare parts

Order the spare-part sets specifying the positions (Pos. 1: Coil set, Pos. 2: Wearing parts 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 - +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.burkert.fr

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