

Type 6212

2/2-way solenoid valve



Operating Instructions

English

1. OPERATING INSTRUCTIONS

The operating instructions describe the entire life cycle of the device. Keep these instructions in a location which is easily accessible to every user and make these instructions available to every new owner of the device.

The operating instructions contain important safety information!

Failure to observe these instructions may result in hazardous situations.

- The operating instructions must be read and understood.

2. SYMBOLS

The following symbols are used in these instructions.



DANGER!

Warns of an immediate danger!

- Failure to observe the warning may result in a fatal or serious injury.



WARNING!

Warns of a potentially dangerous situation!

- Failure to observe the warning may result in a serious or fatal injury.



CAUTION!

Warns of a possible danger!

- Failure to observe this warning may result in a medium or minor injury.

NOTE!

Warns of damage to property!



Important tips and recommendations.

→ designates a procedure which you must carry out.

3. AUTHORIZED USE

Non-authorized use of the solenoid valve Type 6212 may be a hazard 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 2516, the device satisfies protection class IP65 in accordance with DIN EN 60529 / IEC 60529.
- During use observe the authorized data, the operating conditions and conditions of use specified in the contract documents, on the rating plate and in the operating instructions, as described in the chapter entitled 6.Technical Data.
- Correct transportation, correct storage and installation and careful use and maintenance are essential for reliable and faultless operation.
- Use the device only as intended.

3.1. Predictable Misuse

- The device may only be used in the explosion-protected area if an appropriate additional identification is attached to the rating plate.
- Do not put any loads on the housing (e.g. by placing objects on it or standing on it).
- Do not make any external modifications to the device housings. Do not paint the housing parts or screws.
- The solenoid coil must not be thermally insulated, as it heats up during operation. Ensure that the solenoid coil is adequately ventilated.

3.2. Restrictions

If exporting the system/device, observe any existing restrictions.

4. BASIC SAFETY INSTRUCTIONS

These safety instructions do not make allowance for any:

- Contingencies and events which may arise during the installation, operation and maintenance of the devices.
- Local safety regulations – the operator is responsible for observing these regulations, also with reference to the installation personnel.



Danger – high pressure!

- Before loosening the pipes and valves, turn off the pressure and vent the pipes.

Risk of electric 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!

Risk of burns/risk of fire if used for a prolonged switch-on time through hot device surface!

- Keep the device away from highly flammable substances and media and do not touch with bare hands.
- Do not thermally insulate the unit and provide adequate ventilation.

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:

- 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 fluid supply, ensure that the process is restarted in a defined or controlled manner.
- The device may be operated only when in perfect condition and in consideration of the operating instructions.
- The general rules of technology apply to application planning and operation of the device.

NOTE!

Electrostatic sensitive components / modules!

The device contains electronic components which react sensitively to electrostatic discharge (ESD). Contact with electrostatically charged persons or objects is hazardous to these components. In the worst case scenario, they will be destroyed immediately or will fail after start-up.

- Observe the requirements in accordance with EN 61340-5-1 and 5-2 to minimise or avoid the possibility of damage caused by sudden electrostatic discharge!
- Also ensure that you do not touch the electronic components when the power supply voltage is present!



Type 6212 was developed with due consideration given to accepted safety rules and is state-of-the-art. Nevertheless, dangerous situations may occur.

Failure to observe this operating manual and its operating instructions as well as unauthorized tampering with the device release us from any liability and also invalidate the warranty covering the devices and accessories!

5. GENERAL INFORMATION

5.1. Scope of Supply

Check immediately upon receipt of the delivery that the contents are not damaged and that the type and scope agree with the delivery note and packing list.

If there are any discrepancies, please contact us immediately.

5.2. Contact Addresses

Germany

Bürkert Fluid Control Systems
Sales Center
Chr.-Bürkert-Str. 13-17
D-74653 Ingelfingen
Tel. + 49 (0) 7940 - 10 91 111
Fax + 49 (0) 7940 - 10 91 448
E-mail: info@burkert.com

International

Contact addresses can be found on the final pages of the printed operating instructions.

And also on the Internet at:

country.burkert.com → Bürkert → Company → Locations

5.3. Warranty

This document contains no promise of guarantee. Please refer to our general terms of sales and delivery. The warranty is only valid if the Type 6212 is used as intended in accordance with the specified application conditions.



The warranty extends only to defects in the Type 6212 and its components.

We accept no liability for any kind of collateral damage which could occur due to failure or malfunction of the device.

5.4. Information on the Internet

The operating instructions and data sheets for Type 6212 can be found on the Internet at:

country.burkert.com → Documentation → Type 6212

6. TECHNICAL DATA

6.1. Operating Conditions

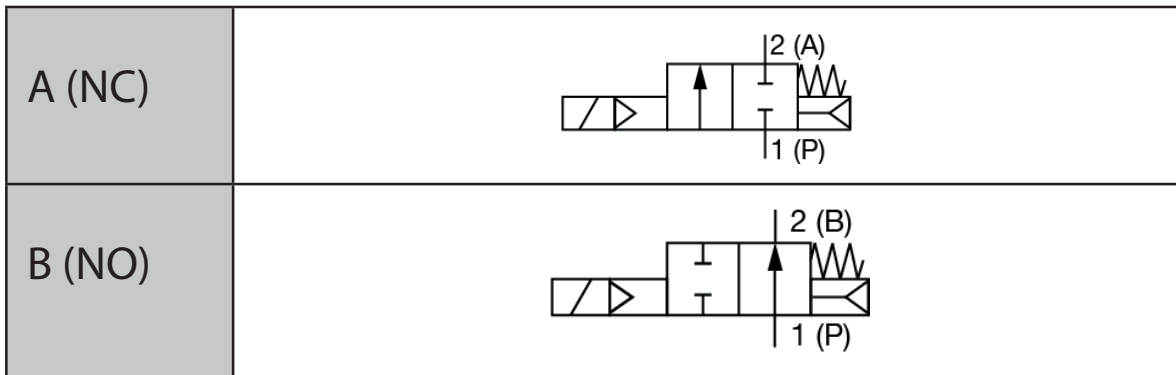


The following values* are indicated on the rating plate:

- Voltage (tolerance $\pm 10\%$) / current type
- Coil power consumption
(active power in W - at operating temperature)
- Pressure range
- Housing material
brass (MS) or stainless steel (VA) or PA/PPE (PA)
- Seal material
FKM, EPDM, NBR

* see description of rating plate below

Operating principle 2/2-way valve:



Protection class: IP65 in accordance with DIN EN 60529
/ IEC 60529 with device socket

6.2. Application conditions

Allowable temperatures

Ambient temperature: 0 °C...+55 °C
0 °C...+50 °C with PPE/PA housing

Heat-radiating energy sources must not additionally heat the unit.

Permitted medium temperature depending on seal material:

FKM	0 °C...+50 °C
NBR	0 °C...+50 °C
EPDM	-10 °C...+50 °C

Permitted medium depending on seal material:

Media: Neutral and slightly aggressive, gaseous and liquid media that do not corrode the housing and sealing materials. See resistance table under country.burkert.com

Duty cycle: 100% continuous rating (operating with 24 V/DC),
40 %, 20 min. intermittent duty (operating with 110-120 V/UC, 230-240 V/UC)



Important information concerning functional reliability during continuous operation!

If switched off 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.

6.3. Conformity

The device complies with the relevant EU harmonisation legislation. In addition, the device also complies with the requirements of the laws of the United Kingdom.

The harmonised standards that have been applied for the conformity assessment procedure are listed in the current version of the EU Declaration of Conformity/UK Declaration of Conformity.

6.4. Rating plate

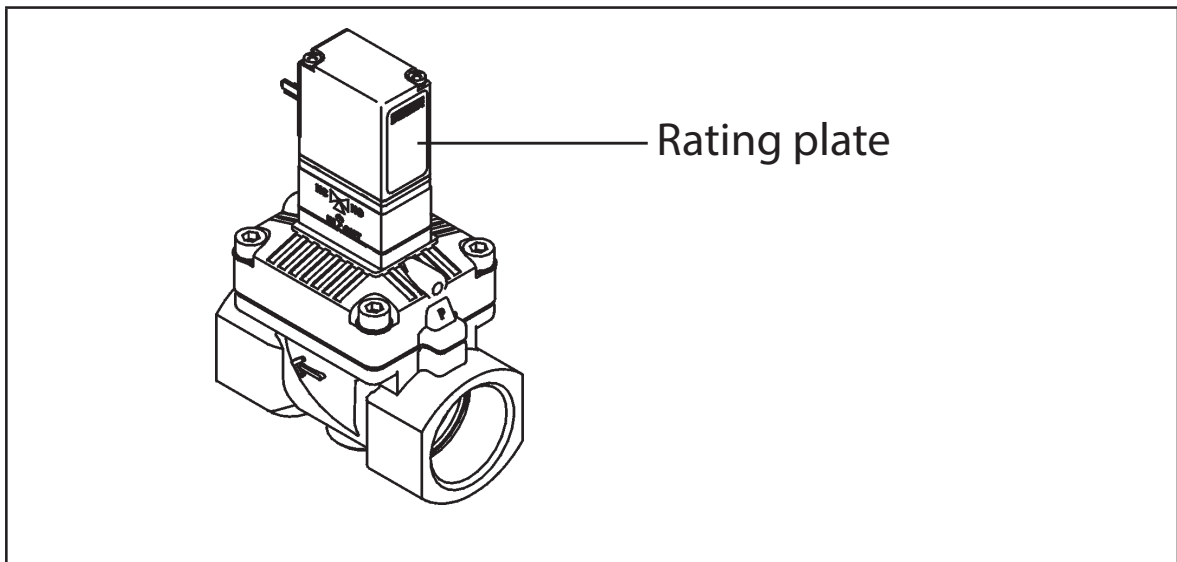


Fig. 1: Location of the rating plate

6.4.1. Description of the rating plate

Example:

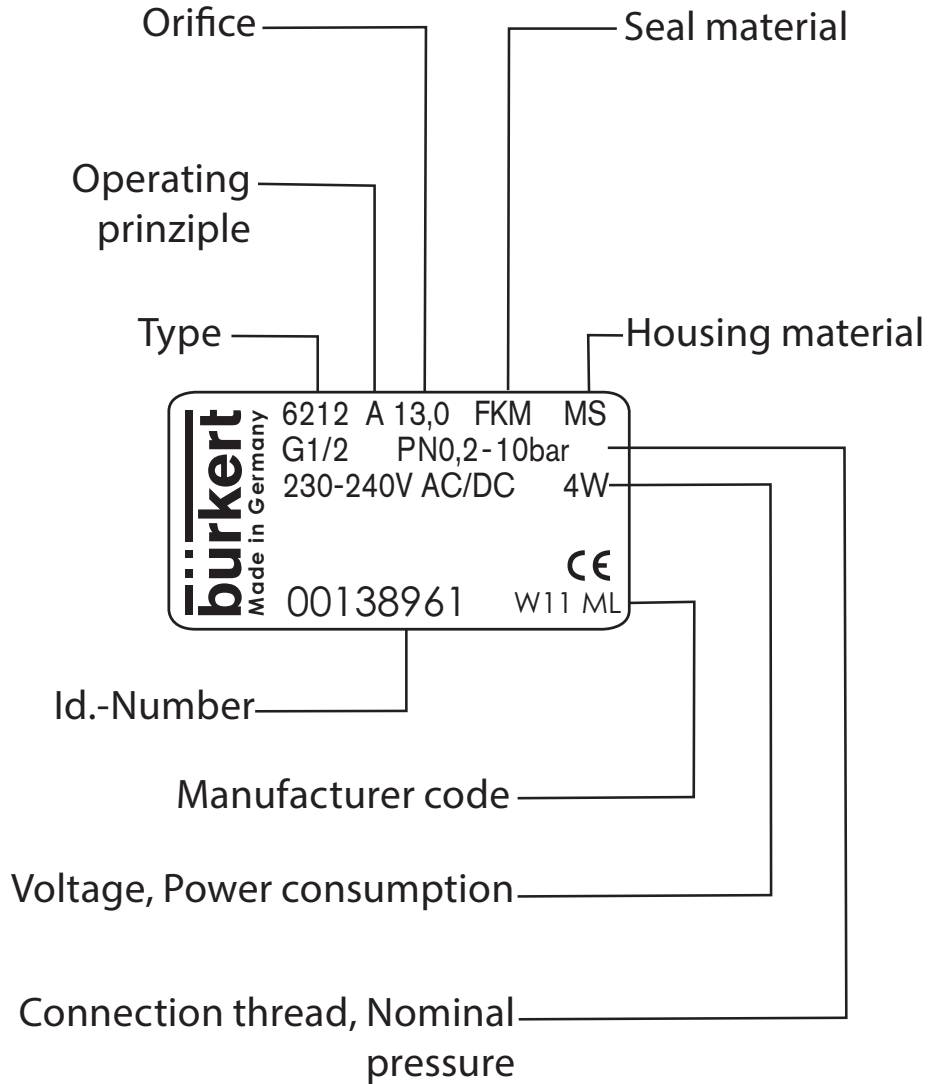


Fig. 2: Rating plate - Example

7. INSTALLATION

7.1. 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 pipes.

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.

7.2. Before Installation

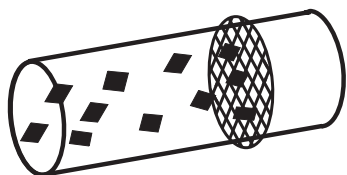
Installation position:

Installation can be in any position.

Preferably: Actuator upright.

→ Prior to installation check pipelines for dirt and, if required, clean.

Dirt filter: To ensure that the solenoid valve functions reliably, a dirt filter ($\leq 500 \mu\text{m}$) must be installed in front of the valve inlet.



7.3. Installation

→ Hold the device with a suitable tool (open-end wrench) on the housing and screw into the pipeline.

NOTE!

Caution risk of breakage!

- Do not use the coil as a lifting arm.

→ Observe direction of flow:

The arrow on the housing indicates the direction of flow (no function in opposite flow direction)!

7.4. Electrical connection of the cable plug



DANGER!

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!

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

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

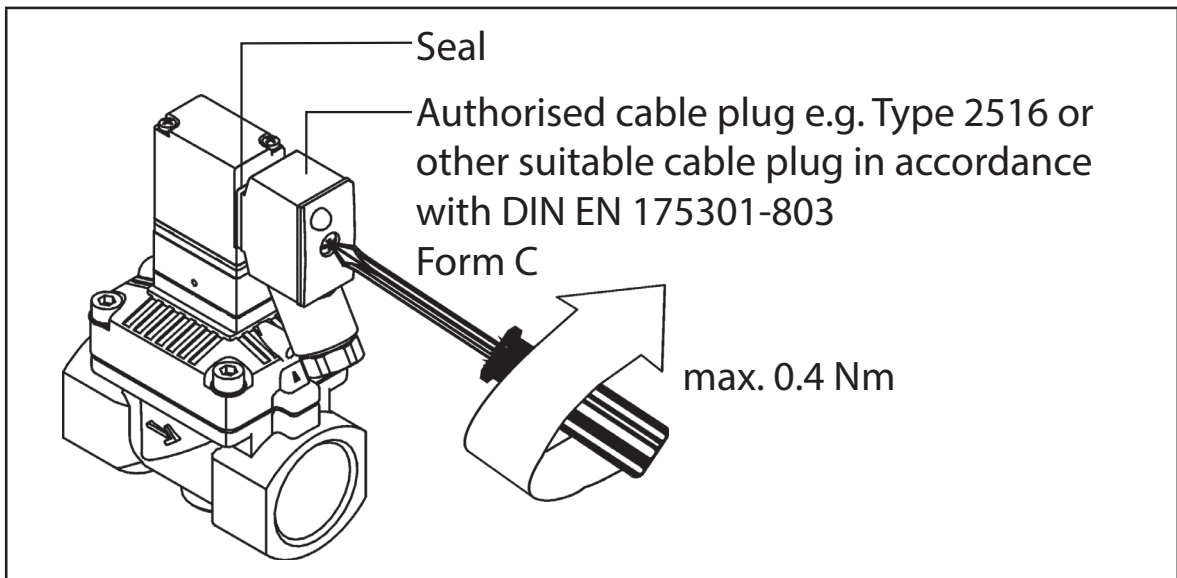


Fig. 3: Electrical connection of the cable plug



Note the voltage and current type as specified on the rating plate.

- Tighten cable plug (for permitted types see data sheet), observing max. torque 0.4 Nm.
- Check that seal is fitted correctly.
- Connect protective conductor and check electrical continuity between coil and housing.

8. MAINTENANCE, TROUBLESHOOTING

8.1. 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 pipes.

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 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.

8.2. Installation of pilot valve



WARNING!

Escaping medium!

When a sticking screw is loosened, medium may escape.

- Do not tighten sticking screws any further.

Electric shock!

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

- Check protective conductor contact after installing the coil

NOTE!

If the tightening torque is too great, the device may be damaged!

- Observe the maximum tightening torque of the screws!

Device will be damaged if the wrong tools are used!

- Always use a right tools to tighten screws. If other tools are used (e.g. pliers), the device may be damaged.

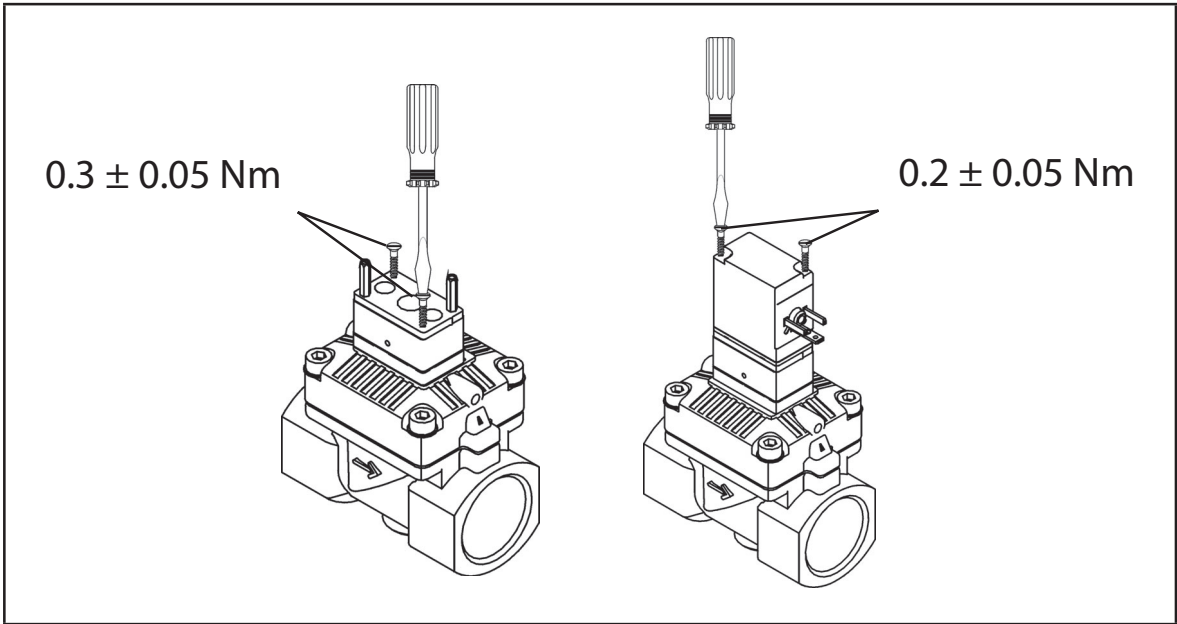


Fig. 4: Installation of pilot valve

→ Attach pilot valve to Armature:
Tighten the screws with 0.2 ± 0.05 Nm.

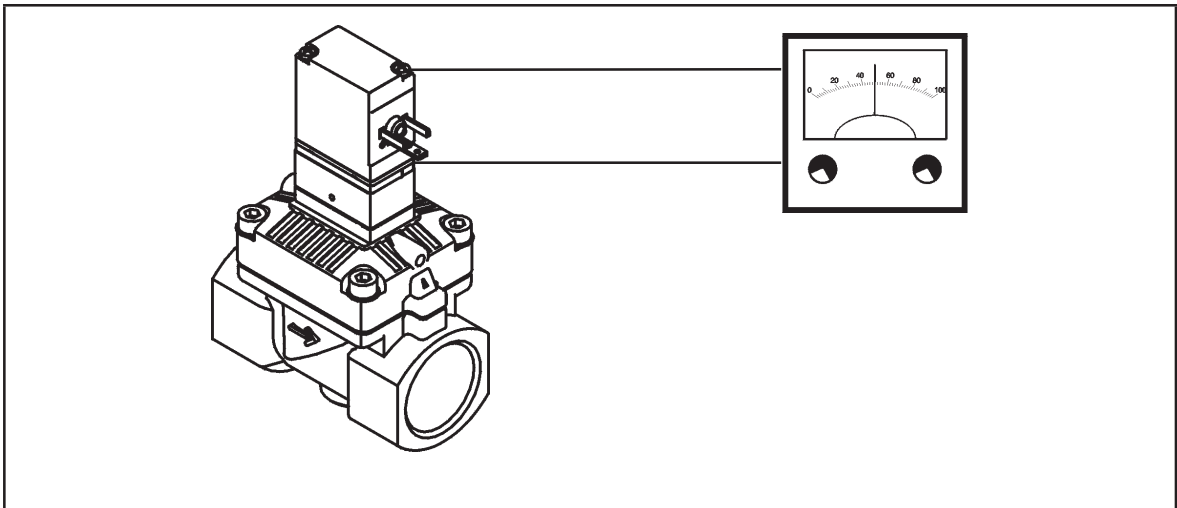


Fig. 5: Protective conductor function

→ Check functionality of the protective conductor

Resistance	Test voltage	Test current
max. 0,1 Ω	12 V	1 A

8.3. 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.

Valve does not switch

Possible cause:

- Short-circuit or coil interrupted,
- Internal space of the valve is dirty,
- Medium pressure outside the permitted pressure range.

Valve does not close

Possible cause:

- Internal space of the valve is dirty,
- Diaphragms defective.

9. 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 original accessories and original spare parts from Bürkert only.

9.1. Ordering spare parts

Spare parts

Order spare parts sets, stating the spare parts set number and the identification number of the device.

- Spare parts see chapter 9.2.Overview of spare parts.
- The identification number of the device can be found on the rating plate. See also chapter 6.4.1.Description of the rating plate.

9.2. Overview of spare parts

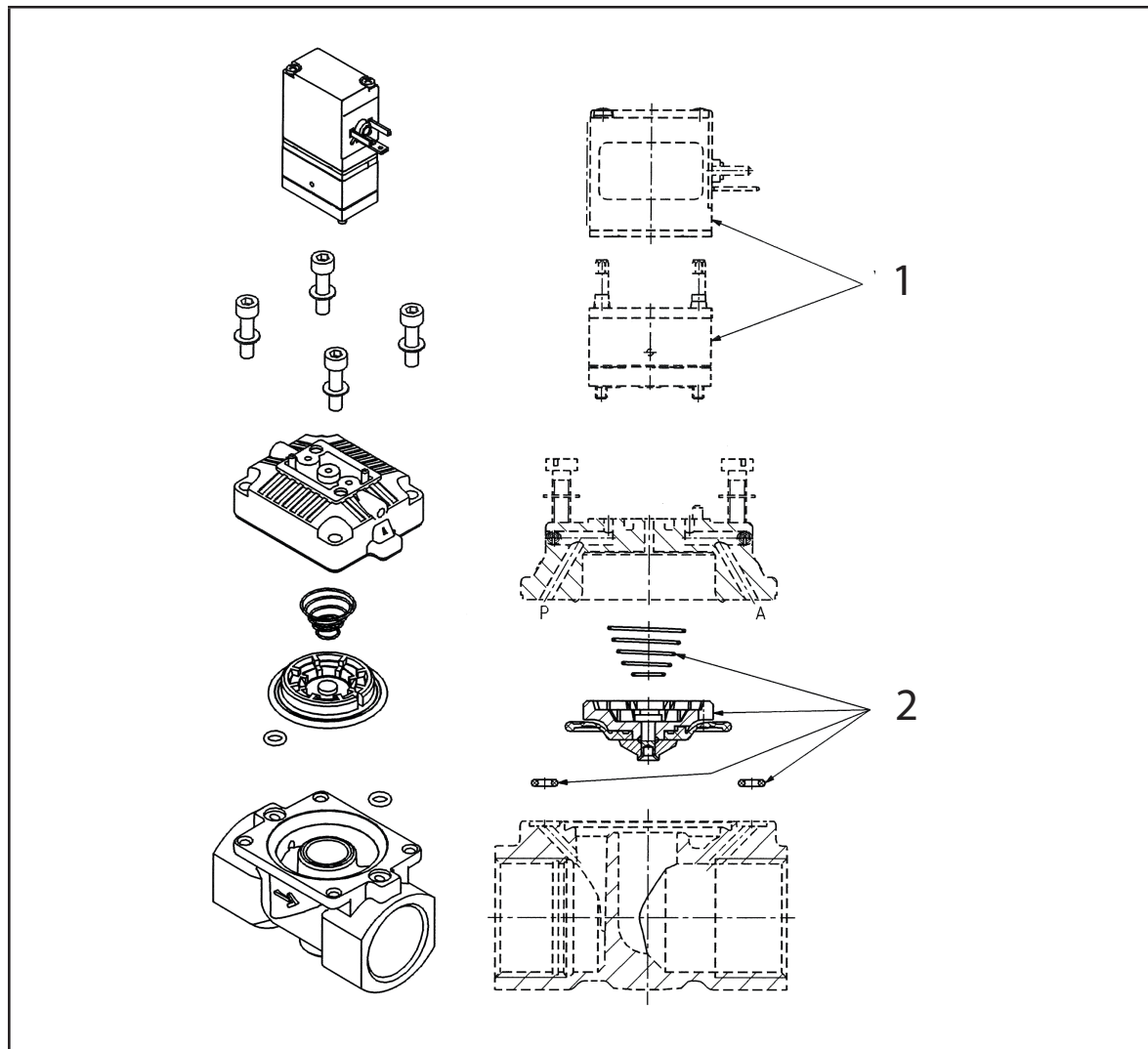


Fig. 6: Overview of spare parts

Number	Description
1	Pilot valve
2	SET3: wearing part set

10. PACKAGING, TRANSPORT, STORAGE

NOTE!

Transport damages!

Inadequately protected equipment may be damaged during transport.

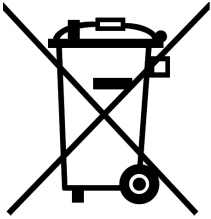
- During transportation protect the device against wet and dirt in shock-resistant packaging.
- Avoid exceeding or dropping below the allowable storage temperature.

Incorrect storage may damage the device.

- Store the device in a dry and dust-free location!
- Storage temperature. -40 ... +80 °C.

11. DISPOSAL

Environmentally friendly disposal



- Follow national regulations regarding disposal and the environment.
- Collect electrical and electronic devices separately and dispose of them as special waste.

Further information country.burkert.com

We reserve the right to make technical changes without notice.

Technische Änderungen vorbehalten.

Sous réserve de modifications techniques.

www.burkert.com

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