

## Type 5406 / DN 6, DN 13, DN 20

Safety shut-off device

Sicherheitsabsperreinrichtung

Dispositif d'arrêt de sécurité

TÜV certified according to DIN EN ISO 23553-1

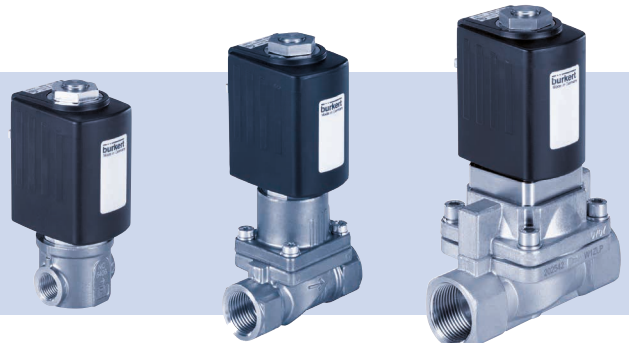
TÜV-geprüft nach DIN EN ISO 23553-1

Contrôle TÜV selon DIN EN ISO 23553-1

### Operating Instructions

Bedienungsanleitung

Manuel d'utilisation



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## 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



#### **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 the warning may result in medium or minor injury.

#### **NOTE**

**Warns of damage to property!**



**Important tips and recommendations.**

- ▶ designates instructions to avoid danger.
- designates a procedure which you must carry out.

## 2 AUTHORIZED USE

**Non-intended use of the safety shut-off device Type 5406 may be a hazard to people, nearby equipment and the environment.**

- ▶ The device, which controls the supply of heating oil to a burner, was specifically designed for furnaces.
- ▶ Use according to the authorized data, operating and service conditions specified in the contract documents and operating instructions. These are described in the chapter on „[Technical Data](#)“.
- ▶ Bürkert valves must not be used in combination with valves from other manufacturers.
- ▶ Correct transportation, storage and installation, and careful use and maintenance are essential for reliable and faultless operation.
- ▶ The valve 5406 may be used exclusively in the flow of a firing plant.
- ▶ The safety shut-off device is designed for heating oils DIN 51603 Part 1-6 with viscosity 1.6 - 76 cST. The use of other media is not permitted without a prior agreement with the Bürkert sales office.

- ▶ Provided the following conditions are met, the valve can also be used for mixtures of EL heating oil and FAME (DIN (SPEC) 51603-6) / (EN 14214):
  - Only FAME fuels that comply with the specification according to EN 14214 or are comparable may be used.
  - In order to reduce effects such as deposit formation and fuel ageing, mixtures of EL heating oil and FAME should always be sufficiently additivated. The additive manufacturer's specifications must be observed.

### 2.1 Definition of term

In these instructions, the term “device” always refers to the safety shut-off device type 5406.

### 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 due to hot surface of the device.**

- ▶ Do not touch the device with bare hands.

#### **Danger due to incorrect medium.**

Non-approved media can impair the tightness and function of the valve.

- ▶ Only use media that are listed in the chapter „[Technical data](#)“.

**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 injury due to impaired function after external fire.**

- ▶ After an external fire, check the equipment and safety shut-off device.
- ▶ If there is visible damage, replace safety shut-off device!

**Risk of short-circuit/escape of media through leaking screw joints.**

- ▶ Ensure seals are seated correctly!
- ▶ Carefully screw together coil and device socket or valve and connection plate!

### 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 5406 can be found on the internet at:

[www.burkert.com](http://www.burkert.com)



### 4.1.2 Type label approval (depending on version)

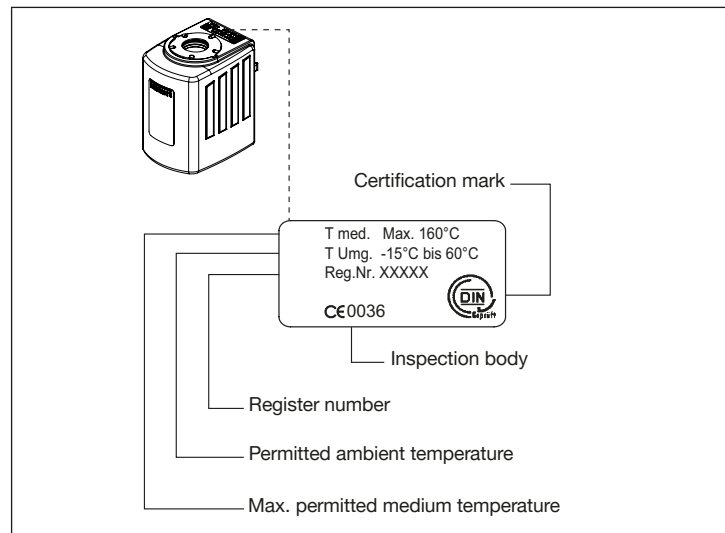


Fig. 2: Location and description of the additional plate

## 5 INSTALLATION

### 5.1 Safety instructions



#### DANGER

**Risk of injury from high pressure in the system.**

- ▶ 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 only be carried out by authorized technicians 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 position. Preferably: Drive at the top.

- To ensure that the safety shut-off device functions reliably, check the pipelines for dirt and clean if required.

### Dirt filter:

- For orifice DN 6: A dirt filter is installed in the valve inlet.
- For orifices DN 13 and DN 20:  
A dirt filter ( $\leq 500 \mu\text{m}$ ) must be installed before the valve inlet (see „Fig. 3“).

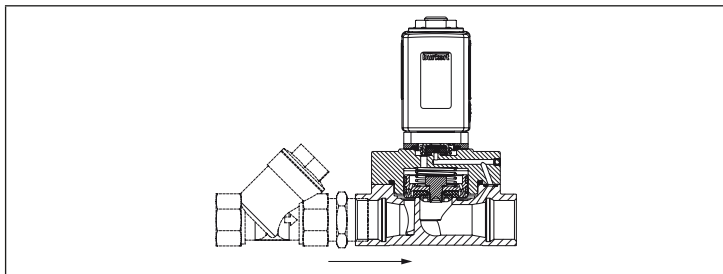


Fig. 3: Installation of the dirt filter

## 5.3 Installation

- Clean pipelines.
- Only use new seals.
- Hold the device with a suitable tool (open-end wrench) on the housing and screw into the pipeline.
- Observe direction of flow:  
From 1 → 2 (from P → A) or direction of arrow on the housing.

### NOTE

Caution risk of breakage.

- ▶ Do not use the coil as a lifting arm.

## 5.4 Connecting the device socket to the power supply



### WARNING

Risk of injury due to electrical shock.

- ▶ Before reaching into the system, switch off the electrical 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 housing is missing, there is danger of electrical shock!

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

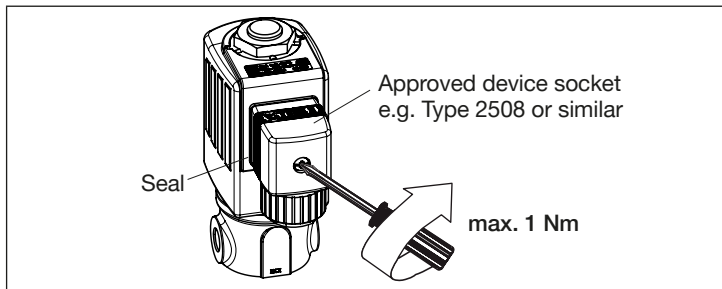


Fig. 4: Connecting the device socket to the power supply

## 6 MAINTENANCE AND REPAIRS

### 6.1 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!

**Risk of injury from improper repair work.**

- ▶ Maintenance may only be carried out by authorized technicians 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 Installation of coil



### WARNING

#### Escaping medium.

When a sticking nut is loosened, medium may escape.

- ▶ Do not tighten sticking nut any further.

#### Electric shock.

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

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

#### Overheating, risk of fire.

Connection of the coil without pre-assembled valve will result in overheating and destroy the coil.

- ▶ Connect the coil with pre-assembled valve only.

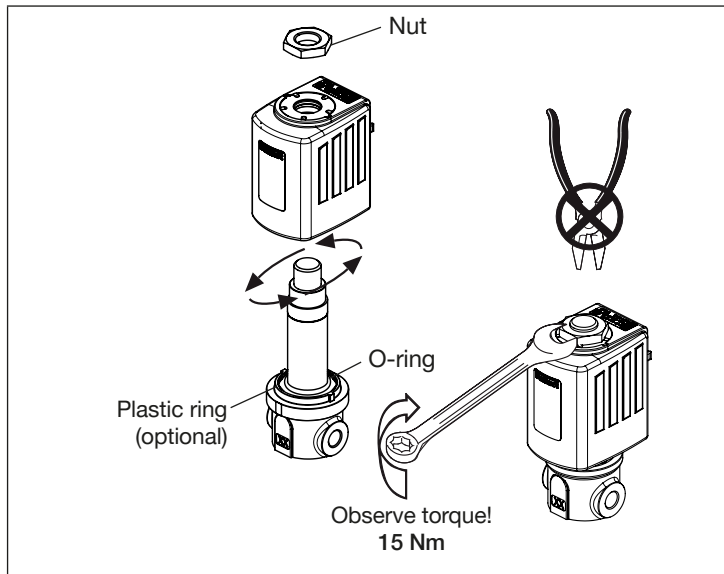


Fig. 5: Coil installation

The rotational position of the coil on the valve housing is arbitrary.

## 7 MALFUNCTIONS

If malfunctions occur, check whether:

- the device has been installed according to the instructions (correct direction of installation),
- the connection has been made properly,
- 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.

### After occurrence of an external fire

- After an external fire, check the equipment and safety shut-off device.
- If there is visible damage, replace safety shut-off device.

## 8 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.

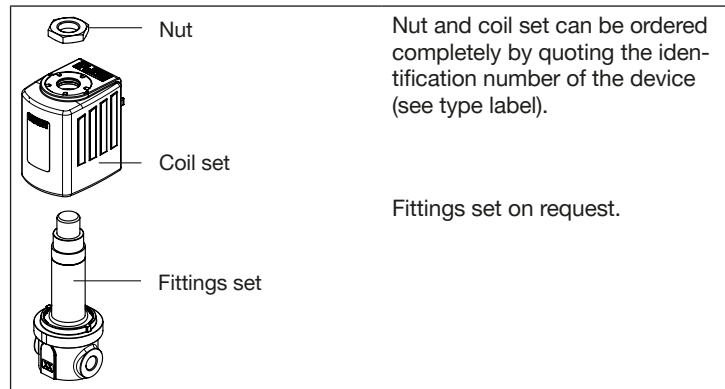


Fig. 6: Spare parts

## 9 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. -30 ... +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.
- ▶ Observe national waste disposal regulations.

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