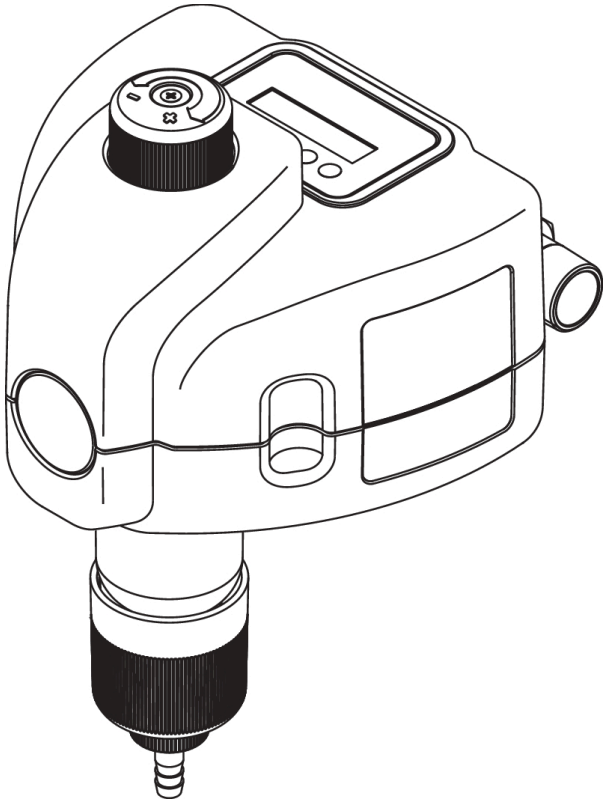
Installation and operating instructions

# JUDO PIPE-CARE SYSTEM JPCS-FP

Micro-leakage protection system with backwash protective filter and integrated pressure regulator ¾" - 1¼"
Valid for: EU-countries and export
Language: English



**Read before use and store!**

CE

**Queries, orders, customer service**

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**Dear customers,**

**Thank you for the confidence you have shown in us by purchasing this product. You have purchased a state-of-the-art device. It has been carefully checked prior to delivery. Nevertheless, if difficulties occur, please contact the closest customer service (see chapter Customer service).**



These installation and operating instructions are intended for both installers, who are in charge of installing, maintaining or repairing the device, and for the operators of the device.

# Contents

# 1 Safety

These operating instructions must always be available at the place of use of the device.

## 1.1 Intended use

The device is for the

- Filtration
- Pressure reduction

of drinking water in domestic water piping and for commercial and industrial use. It removes coarse and fine-grained particles from the drinking water, which are larger or equal to the mesh size of the filter, in order to prevent

- pipe damage caused by corrosion
- malfunctions of fittings or control and regulating devices caused by foreign bodies.

The built-in pressure reducer allows the water pressure to be regulated to a lower value, which protects the downstream installations and contributes to lower water consumption.

The device can be installed in all commercially available drinking water pipes. Both installation and use of the device are subject to the applicable national regulations.

Particles that are smaller than the mesh size of the filter supplied and materials causing cloudiness cannot be filtered out of the water.

### Leakage protection system

The device is intended to shut off the water supply to drinking water systems, upon exceeding of the settable values for

- maximum withdrawal time
- maximum water quantity
- maximum water volume flow

for protection against water damage, water loss and unwanted water consumption.

## 1.2 Application limits

### 1.2.1 Water quality

The water to be filtered must comply with the European Drinking Water Directive (98/83/EC). Before using the device with water that does not comply with this Directive, it is essential to consult the manufacturer.

### 1.2.2 Water pressure

**CAUTION**
The water pressure must not exceed 16 bar input pressure. The device must not be installed if the mains pressure is above 16 bar (even for a short time)!

| | |
|---|---|
| Nominal pressure | PN 16 |
| Operating pressure | 1.5 bar - 16 bar |
| Downstream pressure | 1.5 bar - 6 bar<br>Factory setting:<br>4 bar |

The water pressure must not fall below 1.5 bar as otherwise backwashing can be impaired!

Starting at an operating pressure of 10 bar, increased wear can be expected!

### 1.2.3 Water and ambient temperature

The filter is suitable for use in cold drinking water up to a maximum water and ambient temperature of 30 °C.

## 1.3 Safety instructions

**DANGER**

**The device could reduce or cut water supply for equipment downstream requiring constant readiness for water withdrawal (e.g. thermal flow protection, sprinkler system).**
**This could result in fires or explosions.**
**If there are downstream safety devices and the water supply line to these devices does not branch off upstream of the device, then the device must not be installed!**

**DANGER**

**The motorised ball valve is installed on the rear side of the device. When the device is not installed, the ball valve can be reached with the finger through the opening on the rear.**
**If the device is commissioned or connected to the mains without being installed, there is a risk of crushing due to rotating parts. Never operate the device or connect it to the electrical mains if it is not fully installed!**

**Never put your finger in the opening on the rear side of the device!**

### 1.3.1 Electrical danger

**Risk of electric shock**

**Only the supplied power supply unit may be used to connect the unit to the power supply. This reduces the mains voltage for operating the electronics to a harmless low voltage of 24 V.**

**A splash-proof socket above the device, at a distance of no more than 1.5 m, is required for connection to the mains, in accordance with the legal regulations for wet rooms.**

**The power supply unit must be disconnected to make the electrical installation.**

### 1.3.2 Warning of property damage

**WARNING**
**Risk of water damage or damage to property**

**The device may only be installed by qualified technical personnel.**

**The installation room must be dry and free from frost.**

**The ambient temperature must not exceed 30 °C! In higher temperatures or direct sunlight, material damage may occur up to and including breakage of device parts.**

**An adequately sized waste water connection (e.g. floor drain) in compliance with DIN 1986 must be provided.**

**In order to ensure safe drinking water hygiene, a free discharge of the waste water acc. to DIN EN 1717 must be ensured.**

**The pipe must be able to safely support the device (weight: see chapter 10). If necessary, the pipes must be provided with additional fastenings or support.**

**If no bypass valve is installed, a shut-off valve must be installed upstream and downstream of the device in order to interrupt the water supply during installation, maintenance, repair or malfunction of the device.**

**Install the device in a vertical position (± 5°); the connection for waste water from backwashing must be directed downwards. Otherwise, water may escape and cause water damage.**

**For the installation of the device in domestic water piping, only use the supplied built-in rotary flange (see chapter 3.2).**

**The flange surface of the rotary flange fitting must be upright!**

**The rotary flange fitting must be fitted so that it is free from mechanical stress or strain. Otherwise mechanical damage to the pipe or the rotary flange fitting up to and including breaks can result.**

**For proper sealing the profile of the profile flange seal must point towards the rotary flange fitting (siehe Figure 2).**

**Only operate the device in a technically faultless condition:**

- **Check for damage prior to installation.**
- **Immediately have any malfunctions in operation rectified by qualified technical personnel.**

**The appliance must not be exposed to strong vibrations.**

**The mains voltage must not be interrupted (e.g. via a light switch). If the device is not permanently supplied with power,**

- **a possible leakage cannot be detected.**
- **the leakage protection cannot close in the event of a leakage.**

**Persons who, due to their physical, sensory or mental abilities or their inexperience or lack of knowledge, are unable to operate the device safely may not operate it without supervision or instruction from a responsible person.**

**Regular backwashing of the device is required to ensure safe drinking water hygiene (see chapter 4.2.1).**

**Before carrying out a backwash, ensure that the waste water connection is functional.**

**At the end of the backwashing process, turn the handwheel until it engages so that no more backwash water escapes. Otherwise, water may constantly escape and cause water damage.**

**After the leakage protection has closed due to a limit being exceeded, first check whether there is a leak before opening the leakage protection again.**

**If there is a device for hot water preparation (in particular a gas or electrically operated instantaneous water heater or a heating boiler), the manufacturer's instructions for the water heater must be observed before opening the leakage protection (instructions for venting).**

**Do not use household cleaning agents to clean the outside of the device, but only use clear water to avoid embrittlement of the plastic.**

**The device may only be repaired by qualified technical personnel.**

**Only use original spare parts for repairs.**

**Before performing work on the device that goes beyond pure operational use, the device must be depressurised! If this is ignored, the result may be uncontrolled escape of water resulting in water damage to the building/home.**

**If the device is removed due to an interruption of operation:**

- **Protect the flange surfaces against damage to ensure proper sealing.**

- **Protect the device from dirt so as not to impair drinking water hygiene.**
- **Store the device in a frost-free place to prevent damage caused by freezing water and leakage.**

**Unauthorised conversions and changes are forbidden for safety reasons. These can impair the functioning of the device, leading to leaks and, in the worse case scenario, to bursting of the device.**

### 1.4 Symbols used

The safety instructions contained in these operating instructions are labelled with the following symbols:

| | |
|---|---|
|  | Indication of existing dangers |
|  | Warning of electric voltage |
|   | Torques specified by the manufacturer |
|  | User tips and other information |

Instructions attached directly to the device, e.g.:

- Direction of flow (arrow)
- Type label
- Cleaning information

must be observed and maintained in legible condition.

### 1.5 Units used

| Unit | Conversion |
|---|---|
| bar | 1 bar = $10^5$ Pa = 0.1 N/mm$^2$ |
| ¾" | DN 20 |
| 1" | DN 25 |
| 1¼" | DN 32 |

### 1.6 Normative basics

This device has been designed and manufactured according to

- DIN 3553 (Leakage protection systems with sensors and automated shut-off devices, requirements and tests)
- DIN 19628 (Mechanical filters in drinking water stations - Application of mechanical filters according to DIN EN 13443-1)
- DIN EN 13443-1 (Systems for the treatment of drinking water within buildings - Mechanical filters - Part 1: Filter fineness 80 µm to 150 µm - Requirements for design, safety and testing; German version)
- DIN EN 1567 (Building fittings - pressure reducer and pressure reducer combinations for water - Requirements and tests)

## 2 Product information

### 2.1 Scope of supply

- Micro-leakage protection system with backwash protective filter and integrated pressure regulator, pre-assembled
- Built-in rotary flange
- Installation and operating instructions

### 2.2 Function description

Unfiltered water flows into the device through the rotary flange. The water flows from the outside to the inside through a cylindrical sieve insert. Dirt particles remain on the sieve fabric of the sieve insert. The adhering residues are visible from outside through the transparent filter bowl.

The filtered water continues to flow into the pressure reducer, which regulates the incoming water pressure to the set downstream pressure. The set downstream pressure can be read at the downstream pressure gauge.

Subsequently the filtered water exits the device again via the rotary flange fitting.

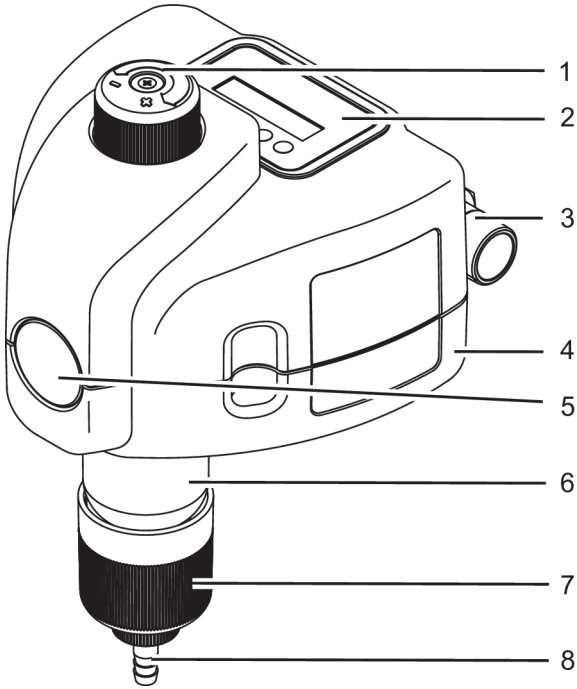



Fig. 1: Functional description

1 Handwheel for regulating the downstream pressure
2 Control panel of the micro-leakage protection
3 Rotary flange fitting
4 Housing
5 Downstream pressure gauge
6 Transparent filter bowl
7 Handwheel for backwashing
8 Connection for waste water from backwashing

## 2.3 Materials used

The materials used are resistant to the physical, chemical and corrosive loads expected to be encountered in drinking water. They meet the requirements specified in the following standards:

- DIN EN 13443-1
- DIN 19628
- DIN EN 1567

All materials of components in contact with drinking water are hygienically and physiologically harmless and fulfill the requirements and directives of the Umwelt-

bundesamt (UBA). Plastics fulfil the requirements of DIN EN 16421.

# 3 Installation

**CAUTION**
**The device may only be installed by qualified technical personnel.**

Installation of the device upstream of the domestic water meter is forbidden.

## 3.1 Conditions

**CAUTION**
**Risk of property damage or water damage!**

**The pipe must be able to safely support the device (weight: see chapter 10). If necessary, the pipes must be provided with additional fastenings or support.**

To ensure convenient operation and maintenance of the device, always adhere to the specified clearances (see chapter 3.4.1).

### 3.1.1 Requirements for the place of installation

**CAUTION**
**The installation room must be dry and free from frost.**

**The ambient temperature must not exceed 30 °C! In higher temperatures or direct sunlight, material damage may occur up to and including breakage of device parts.**

**An adequately sized waste water connection (e.g. floor drain) in compliance with DIN 1986 must be provided.**

## 3.2 Installation of the rotary flange fitting

**CAUTION**
**The flange surface of the rotary flange fitting must be upright!**

**The rotary flange fitting must be fitted so that it is free from mechanical stress or strain. Otherwise mechanical damage to the pipe or the rotary flange fitting up to and including breaks can result.**

The built-in rotary flange serves as a connecting element between the domestic water installation and the device. It is suitable both for horizontal and vertical pipes.

**Attention:** Install the built-in rotary flange in the flow direction! This is indicated by an arrow integral with the casting.

If the installation is twisted, a functioning of the device is not possible.

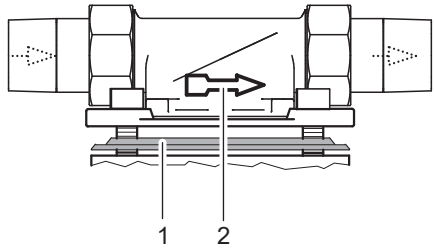



Fig. 2: Rotary flange fitting

1 Profile flange seal
2 Flow direction arrow

## 3.3 Installation of the device

**CAUTION**
**If no bypass valve is installed, a shut-off valve must be installed upstream and downstream of the unit in order to interrupt the water supply during installation, mainte-**

**nance, repair or malfunction of the device.**

**Install the device in a vertical position (± 5°); the connection for waste water from backwashing must be directed downwards. Otherwise, water may escape and cause water damage.**

**For the installation of the device in domestic water piping, only use the supplied built-in rotary flange (see chapter 3.2).**

**The flange surface of the rotary flange fitting must be upright!**

**For proper sealing the profile of the profile flange seal must point towards the rotary flange fitting (see Figure 2: Rotary flange fitting, page 9).**

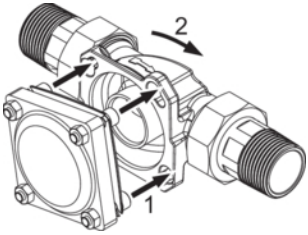



Fig. 3: Attach and engage appliance

1 Insert screws
2 Turn clockwise to engage screws

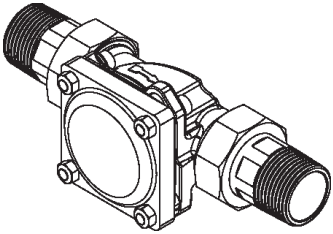


Fig. 4: Connection of appliance engaged

**Do not undo the screws of the device!**

1. Insert the heads of the four flange screws through the bayonet holes on the rotary flange fitting (see Figure 3).
2. Turn the appliance in clockwise direction up to the stop (see Figure 3 and Figure 4).
3. Tighten the four flange screws.

Nm

Select the tightening torque (approx. 4 Nm) so that the seal is effective and the device is not damaged or strained!

## 3.4 Draining of the backwash water

**CAUTION**
**An adequately sized waste water connection (e.g. floor drain) in compliance with DIN 1986 must be provided.**

**In order to ensure safe drinking water hygiene, a free discharge of the waste water acc. to DIN EN 1717 must be ensured.**

The drain must be large enough so that all of the waste water can be drained simultaneously.

If a waste water connection directly beneath the device is not possible, the backwash water can be drained away via a hose or a pipe that is connected from the backwashing water valve over a few meters to the closest waste water connection. The dimensioning of this pipe must correspond to the backwashing water valve.

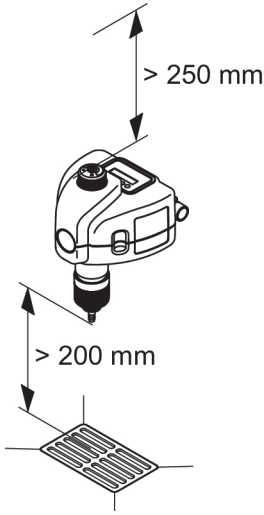
Attention:

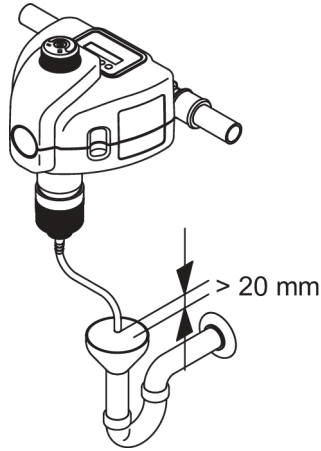
- The hose must run without kinks. The hose or pipe must be laid with a continuous downward slope to the wastewater connection.
- If a continuous slope to the waste water connection cannot be realized at the installation site, a lifting unit must be installed to convey the backwash water.

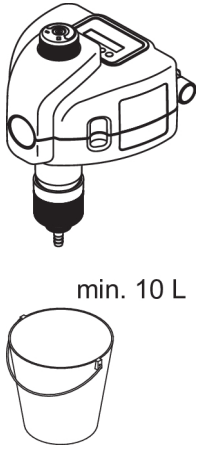
If a bucket is used to drain off the backwash water:

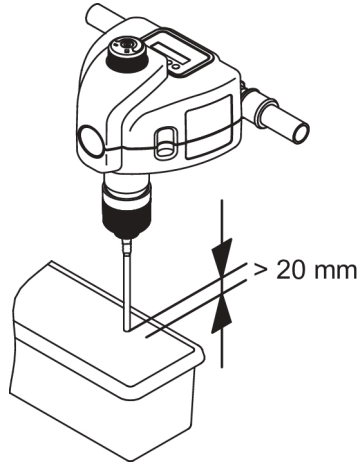
- **Attention:** If the mains pressure is high, water may spray out of the bucket. Protect objects near the bucket from water damage!
- Carry out the backwashing quickly and finish the backwashing process as soon as the bucket is half full. Otherwise the bucket could overflow.

### 3.4.1 Drainage options for the backwash water



### 3.5 Commissioning

Prior to initial commissioning (or to commissioning after maintenance work) fill the installed device with water and vent:

1. Open the upstream shut-off valve to fill the device with water. The device is now under mains pressure.
2. **Attention:** Carry out a backwashing immediately so that the trapped air can escape (see chapter 4.2.2)! This prevents damage to the installation by water hammer pressure surges.

→ After backwashing, the device is vented and ready for operation.

# 4 Operation

### 4.1 Setting the downstream pressure

To compensate for pressure fluctuations and to protect the downstream installation, the downstream pressure can be regulated via the pressure reducer. The factory preset downstream pressure of 4 bar can be changed to a value between 1.5 bar and 6 bar depending on the upstream pressure:

### 4.2 Cleaning of the sieve insert (backwashing)

A regular cleaning process is necessary to remove the residues from the sieve fabric of the device. This process is called **backwashing**.

Suction pipes are provided for backwashing, which rotate around the sieve fabric of the fine filter. The backwashing valve opens on the bottom side of the device. By reversing the water flow from inside to outside, deposits on the sieve fabric are carried away and rinsed out with the backwash water. The suction pipes also clean the inside of the transparent filter bowl with wiper lips during their movement.

The degree of contamination and cleaning process can be observed from the outside.

The device is backwashed with filtered water. The filtered water supply of the domestic installation remains intact during the backwashing process. No dirty water can reach the pure water side during the backwashing.

#### 4.2.1 Backwashing interval

If cleaning is not performed soon enough, the result may be damage to the sieve insert. Large quantities of filtered particles can deform the sieve fabric and in extreme case lead to tearing of the sieve fabric. In addition, larger deposit quantities can impair the backwashing function mechanically.

According to DIN EN 13443-1 backwashing the device is required at the latest every six months.

**The manufacturer recommends a backwashing:**

- at least every 2 months
- if the water pressure drops
- if the filter is visibly dirty

Experience has shown that new installations in the early stages of installation lead to increased dirt deposits. In this case, a more frequent backwashing is necessary.

### 4.2.2 Backwashing

**WARNING**
**Persons who, due to their physical, sensory or mental abilities or their inexperience or lack of knowledge, are unable to operate the device safely may not operate it without supervision or instruction from a responsible person.**

**Before carrying out a backwash, ensure that the wastewater connection is functional.**

**At the end of the backwashing process, turn the handwheel until it engages so that no more backwash water escapes. Otherwise, water may constantly escape and cause water damage.**

1. Turn handwheel left up to stop. **Backwashing water escapes.**
2. Turn handwheel right up to stop. Ensure that no water escapes.

→ The backwashing process is completed (see chapter 4.2).

## 4.3 Conversions, changes

**WARNING**
**Unauthorised conversions and changes are forbidden for safety reasons. These can impair the functioning of the device, leading to leaks and, in the worse case scenario, to bursting of the device.**

## 4.4 Maintenance, repair, spare parts

**CAUTION**
**The device may only be repaired by qualified technical personnel.**

**Only use original spare parts for repairs.**

**Before performing work on the device that goes beyond pure operational use, the device must be depressurised! If this is ignored, the result may be uncontrolled egress of water resulting in water damage to the building/home.**

## 4.5 Temporary removal of the device

**WARNING**
**If the device is removed due to an interruption of operation:**

- **Protect the flange surfaces against damage to ensure proper sealing.**
- **Protect the device from dirt so as not to impair drinking water hygiene.**
- **Store the device in a frost-free place to prevent damage caused by freezing water and leakage.**

When recommissioning the device, proceed as with a new installation.

# 5 Operation microleakage protection system

## 5.1 Control panel

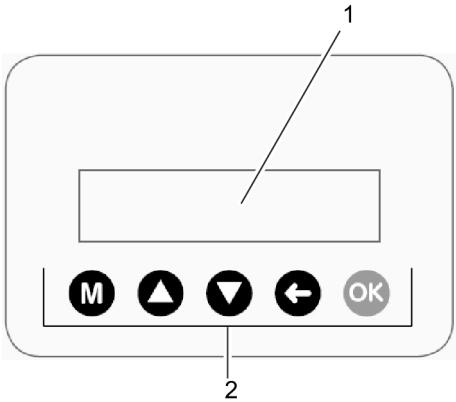



Fig. 5: Leakage protection control panel
1 Two line display
2 Keyboard

The leakage protection unit is operated via the keyboard.

Functions of the individual keys:

| | |
|---|---|
| M | ***Menu* key**<br>- Access to the *Setting* menu |
| ▲ | **Arrow key**<br>- Scroll up in the menu<br>- Increase value |
| ▼ | **Arrow key**<br>- Scroll down in the menu<br>- Reduce value |
| ← | ***Back* key**<br>- Jump one menu level back without saving |
| OK | **OK key**<br>- Access to the sub-menu<br>- Accept value and save, then jump one menu level back<br>- Acknowledge message |

**Meaning of the display's background lighting:**

| | |
|---|---|
| None: | Operating state without water flow |
| Blue flashing light: | Operating state with water flow |
| White: | upon pressing of a key |
| Yellow: | for warning messages |
| Red: | for fault indications |

## 5.2 Possible settings

**The following settings can be made via the key *Menu* (Selection *Setting*):**

| Submenu item | Setting |
|---|---|
| Language | German, English, French, Dutch, Italian |
| Leakage protection (see chapter 5.5) | Limit values<br>Vacation mode<br>Sleepmode time<br>Auto. testing (micro leakage testing) |
| Date | Day / month / year |
| Time | Hours / minutes |
| Backlight | 10 % to 100 %, in 10% steps |
| Contrast | 10 % to 100 %, in 10% steps |
| Tone | Off / on / interval 6 h |
| Message relay | Set fault indication relay as normally closed contact / normally open contact |

| Submenu item | Setting |
|---|---|
| Factory setting | Recreate factory setting; see chapter 5.3 |

**Procedure:**

1. Press *Menu* key.
2. Navigate to *Setting* using the arrow keys and confirm with the *OK* key.
3. Navigate to the desired setting (e.g. date) and confirm with the *OK* key.
4. Using the arrow keys navigate to the desired setting (e.g. set date) and confirm with the *OK* key.

## 5.3 Factory settings

**The device is set as follows when delivered:**

| Setting for: | Set to: |
|---|---|
| Language | English |
| Leakage protect - limit value for maximum withdrawal time | 30 min |
| Leakage protect - limit value for max. water flow | 4000 L/h |
| Leakage protect - limit value for maximum water quantity | 500 L |
| Leakage protect - vacation mode | Vacation mode on, U1 |
| Leakage protect - Sleepmode time | 6 h |
| Leakage protect - Auto testing (micro leakage testing) | Auto testing off |
| Backlight | 80 % |
| Contrast | 50% |
| Tone - leakage warning | on |
| Tone - fault | 6 h |
| Message relay | Normally closed |

Upon resetting to the factory settings, the above mentioned settings are recreated.

### 5.3.1 Resetting to factory setting

**All settings that have been made can be reset to the factory setting as follows:**

1. Press *MENU* key.
2. Using the arrow keys navigate to the *Setting* menu item and press *OK*.
3. Using the arrow keys navigate to the *Factory setting* menu item and press *OK*.
4. Using the arrow keys select the following setting and confirm with the *OK* key:

```
Factory setting
<yes>
```

→ The standard settings are recreated (see chapter5.3).

## 5.4 *Menu* key - selectable functions and settings


**The following can be selected or set via the menu key:**

- Close (manually close leakage protection)
- Sleep mode (pause limit value monitoring for a specified time)
- Vacation mode (limit values can be easily reduced or the water supply can be completely shut off)
- Micro leakage testing
- Learn mode (determine limit values from water flow)
- Settings (see chapter 5.2)
- Operating data
- Info

**Procedure:**

1. Press the menu key, to call the main menu.

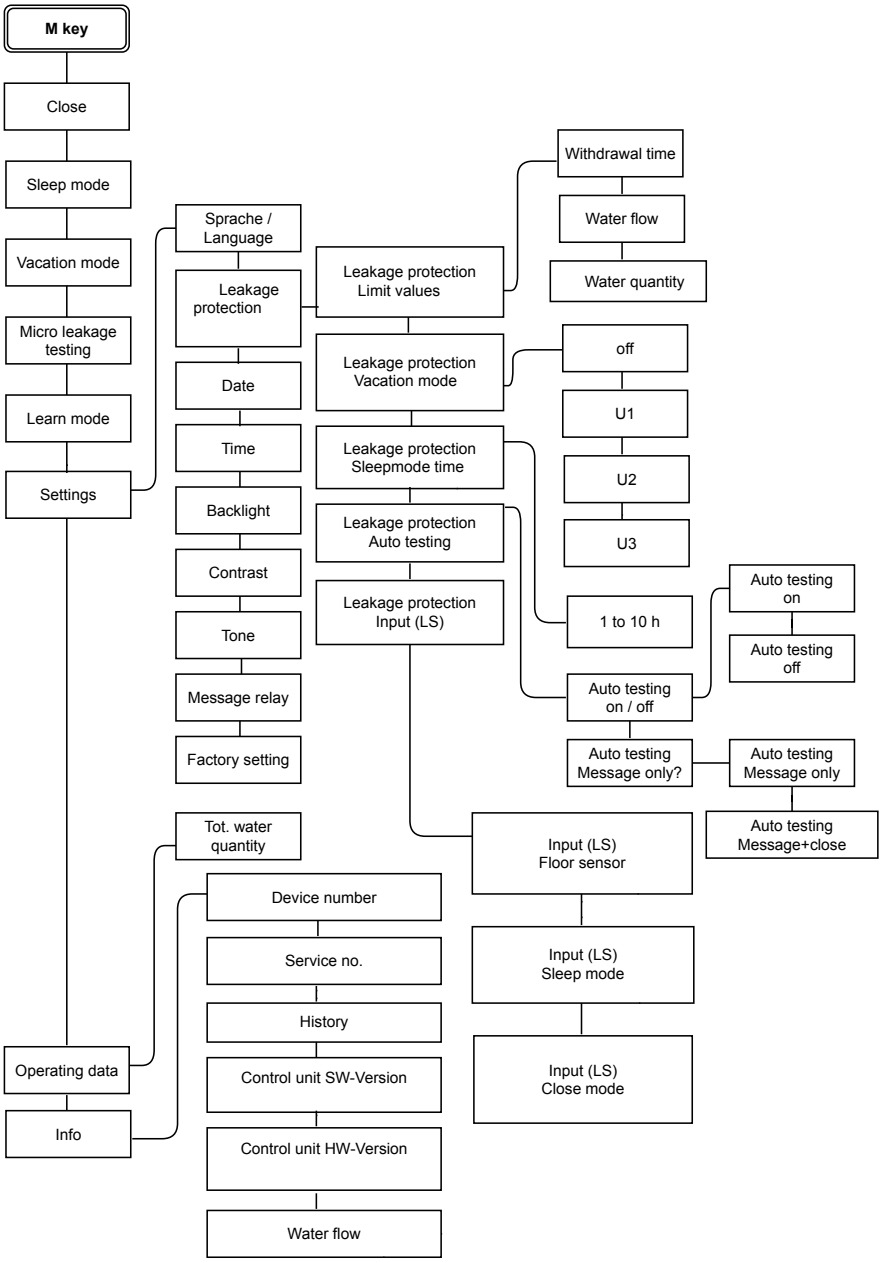
```
Main menue
Language
```

2. Use the keys ▲ and ▼ to navigate through the sub-menu. Confirm the desired sub-menu item with the ***OK*** key.
3. Then use the keys ▲ or ▼ to select the desired setting and confirm with the ***OK*** key.

→ The desired setting is saved.

### 5.4.1 Menu structure

## Micro-leakage protection system



### 5.4.2 Manually close or open leakage protection

**Close leakage protection:**

**1.** Press *Menu* key.

**2.** Using the arrow keys, select menu item *Close* and press key *OK*. The following appears on the display:

```
Leakage protect
close <OK>
```

**3.** Press *OK* to confirm. The following appears on the display in an alternating manner (with a yellow background):

```
Leakage protect
closed
```

```
To open
press <OK>
```

→ Water supply is shut off by the leakage protection system.

The *Menu* key is deactivated in this state.

**To open the leakage protection system:**

▶ Press *OK* key.

→ The leakage protection system opens for water supply. The default status display appears.

### 5.4.3 Temporary deactivation of the leakage protection (sleep-mode)

Situations in which large water volumes are required on a one-off basis, e.g.

- Watering the garden
- Filling the swimming pool
- Filling the garden pond

may require the switching off of limit value monitoring. This is referred to as "Sleep mode".

No monitoring of water consumption takes place in sleep mode.

**Activation of sleep mode:**

**1.** Press *Menu* key.

**2.** Select *sleep mode* using the arrow keys and confirm with the *OK* key.
The following appears on the display:

```
Start
sleep mode <OK>
```

**3.** Press *OK* to confirm.

→ Sleep mode starts. The following appears on the display in an alternating manner (with a yellow background):

```
Leakage protect.
6 hours off
```

```
To end
press <OK>
```

The countdown of the displayed sleep mode time runs. During this time, limit value monitoring is paused.

The default sleep mode time of 6 h can be changed in hour steps to another value in the range 1 to 10 h.

After the sleep mode time has elapsed, limit value monitoring starts again and the default status display appears.

The *Menu* key is deactivated in sleep mode.

**Cancel sleep mode:**

▶ Press *OK* key.

→ Normal limit value monitoring starts again. The default status display appears.

### 5.4.4 Activation of vacation mode

During longer absences, the limit values for water withdrawal can be reduced or the water supply can be completely shut off.

There are two possibilities:

- immediate manual activation
- automatic activation after approx. 72 hours without water flow

Vacation mode remains active until key *OK* is pressed (the vacation mode message then disappears).

Key *Menu* is deactivated during vacation mode.

**I. Immediate activation of vacation mode (manual)**

**1.** Press *Menu* key.

**2.** Select *Vacation mode* using the arrow keys and confirm with the *OK* key. The following appears on the display:

```
Vacation mode
Start <OK>
```

**3.** Press *OK* to confirm.

→ Vacation mode is activated. The following appears on the display in an alternating manner (with a yellow background):

```
Leakage protect.
in vacation mode
```

```
To end
press <OK>
```

**II. Setting vacation mode automatic activation**

There are four different settings for automatic activation:

- ° off (no automatic activation of vacation mode)
- ° U1 (= limit values 500 L/h • 50 L • 5 min)
- ° U2 (= limit values 1000 L/h • 100 L • 10 min)
- ° U3 (= shut-off valve closed - no water flow)

**1.** Press *Menu* key.

**2.** Navigate to *Setting* using the arrow keys and confirm with the *OK* key.

**3.** Navigate to *Leakage protection* using the arrow keys and confirm with the *OK* key.

**4.** Navigate to *Vacation mode Leakage protection* using the arrow keys and

confirm with the *OK* key.

**5.** Select the desired setting (off • U1 • U2 • U3) using the arrow keys and confirm with the *OK* key.

→ The selected vacation mode is saved.

**To terminate vacation mode:**

▶ Press *OK* key.

→ Vacation mode is terminated. Normal limit value monitoring starts again. The default status display appears.

### 5.4.5 Micro leakage testing, manual or automatic

The device also has the option of being able to promptly detect small leaks.

Micro leakage testing can be started manually at any time (see Starting micro leakage testing manually, page 22), but can also take place automatically (see Performing micro leakage testing automatically, page 21).

If the leak cannot be found, even though a micro leakage is repeatedly detected, the installer or a professional company should carry out a leak detection on the installation, in order to find any possible leaks.

Automatic micro leakage testing is deactivated upon delivery and can be activated if desired.

If automatic micro leakage testing is activated with subsequent setting to message and closing of the water supply, it is possible that frequent shutting off of the water supply can occur because, based on experience, very small leaks are not an infrequent occurrence.

A preceding period of at least one hour without any water flow is necessary so that a micro leakage test can run.

#### Performing micro leakage testing automatically

Micro leakage testing can also be performed automatically; in this case testing is performed daily without anything further to do.

**The following setting is necessary for this:**

**1.** Press the *Menu* key.

**2.** Select *Setting* using the arrow keys and confirm with the *OK* key.

```
Main menue
• Setting
```

**3.** Select *Leakage protect* using the arrow keys and confirm with the *OK* key.

```
Setting
Leakage protect
```

**4.** Select *Auto. testing* using the arrow keys and confirm with the *OK* key.

```
Leakage protect
Auto. testing
```

**5.** Using the arrow keys select *on* or *off*, to activate or deactivate automatic micro leakage testing. Save the selected setting with the *OK* key.

```
Auto. testing
• on
```

```
Auto. testing
• off
```

→ The selected setting is saved.

Possible settings for automatic micro leakage testing

**The following settings can be selected for the occurrence of a micro leakage that has been detected via automatic micro leakage testing:**

- Micro leakage message on the display
- Micro leakage message on the display and additional shutting off of the water supply

**1.** Press the *Menu* key.

**2.** Select *Setting* using the arrow keys and confirm with the *OK* key.

```
Main menue
• Setting
```

**3.** Select *Leakage protect* using the arrow keys and confirm with the *OK* key.

```
Setting
Leakage protect
```

**4.** Select *Auto testing* using the arrow keys and confirm with the *OK* key.

```
Leakage protect
• Auto testing
```

**5.** Select *Message only?* using the arrow keys and confirm with the *OK* key.

```
Auto testing
• Message only?
```

**6.** Select the desired setting using the arrow keys and confirm with the *OK* key:

```
Auto testing
Message only
```

```
Auto testing
Message+close
```

→ The selected setting is saved.

## Starting micro leakage testing manually

**Prerequisite:** all water withdrawal points must be closed during micro leakage testing.

**1.** Press *Menu* key.

**2.** Select *Leakage protection* using the arrow keys and confirm with the *OK* key.

```
Main menue
• Leakage pro-
tect
```

**3.** Select *Micro leakage* using the arrow keys and confirm with the *OK* key.

```
Leakage protect
• Micro leakage
testing
```

→ Micro leakage testing starts.

**If no micro leakage has been detected,** the display alternates between

```
No leakage
occurred
```

```
To acknowledge
press <OK>
```

→ The display returns to the operating display.

**If a micro leakage has been detected,** the display alternates between

```
Small leakage
occurred
```

```
To acknowledge
press <OK>
```

→ The display returns to the operating display.

Micro leakage testing can be started manually at any time even when a regular automatic test had been set.

Prerequisite for automatically running micro leakage testing is a period of at least one hour, in which no water withdrawal takes place.

## 5.5 Setting limit values

Exceeding of the set limit values for

- maximum water quantity
- maximum water flow
- maximum water withdrawal time

leads to shutting off of the water supply.

When setting the limit values, consideration must be given to devices that depend on a sometimes very low continuous water supply over a long period of time to ensure their proper functioning (e.g. certain tumble dryers, etc.).

It is also possible to operate such devices using sleep mode of the micro leakage protection system.

### 5.5.1 Factory setting

**The table shows the factory set limit values at which the device shuts off the water supply:**

| Shut-off criterion | Value / unit |
|---|---|
| Maximum water quantity (uninterrupted) | 500 litres (L) |
| Maximum water flow (uninterrupted) | 4000 litres per hour (L/h) |
| Maximum water withdrawal time | 30 minutes (min) |

*Table 1: Factory-set limit values*

If desired, allow adjustment of the limit values in two different manners:

- Manual (see chapter 5.5.2)
- Via learning mode (see chapter 5.5.3).

### 5.5.2 Changing limit values manually

**Procedure:**

1. Press *Menu* key.
2. Navigate to *Setting* using the arrow keys and confirm with the *OK* key.
3. Navigate to *Leakage protection* using the arrow keys and confirm with the *OK* key.

**4.** Navigate to *Leakage protect/limit values* using the arrow keys and confirm with the *OK* key.

Then the individual shut-off criteria can be selected and set to the desired value inside the ranges specified in the table (select via arrow key, confirm with *OK*).

| Shut-off criterion | Setting range | Step size |
|---|---|---|
| Max. withdrawn time | 10 min to 10 h, unlimited | 10 min |
| Max. water flow | 500 to 5000 L/h, unlimited | 500 L/h |
| Max. water quantity | 100 to 3000 L, unlimited | 100 L |

*Table 2: Adjustment ranges of the limit values*

### 5.5.3 Determine and set limit values automatically: Learn mode

Reasonable limit value settings corresponding to the individual water consumption are calculated and saved from the factory limit settings and the water withdrawals during the first 10 m³ of water flow.

The learning mode phase is indicated by *L10* at the end of the second line of the display.

The value after the *L* indicates how many m³ water flow are still outstanding before learning mode will be complete.

**Starting learning mode:**

**1.** Press *Menu* key.

**2.** Navigate to *learning mode* using the arrow keys and press *OK* key.

→ Learning mode starts

During learning mode, the following are output to the display in alternation:

```
Learning mode
is terminated
```

```
New limit values
Accept <OK>
```

→ Confirm the display with *OK*, if the limit values determined in learning mode are to be applied.

```
New limit values
Ignore <OK>
```

→ Confirm the display with *OK*, if the limit values determined in learning mode are **not** to be applied. In this case, the currently set limit values are then retained.

Monitoring of the limit values also takes place during the learning mode phase, based on the limit values that are actually set.

Exceeding of the set limit value or a possibly active vacation mode has no influence on the determination of the limit values by learning mode.

Learning mode can subsequently be repeated at any time, e.g. if an exceptionally high water withdrawal has taken place during the learning phase.

## 5.6 Automatic operation

Water consumption is continuously monitored. If during drawing of water one of

these limits is exceeded, the device shut-off valve closes.

## 5.7 Automatic shut-off of the water supply

**CAUTION**
**After the leakage protection has closed due to a limit being exceeded, first check whether there is a leak before opening the leakage protection again.**

**If there is a device for hot water preparation (in particular a gas or electrically operated instantaneous water heater or a heating boiler), the manufacturer's instructions for the water heater must be observed before opening the leakage protection (instructions for venting).**

If one of the set limit values has been exceeded, the water supply is shut off and the display shows the type of the limit value overshoot:

```
Leakage protect
closed
```

```
Water quantity
exceeded
```

**or**

```
Volume flow
exceeded
```

**or**

```
Withdrawal time
exceeded
```

```
To open
press <OK>
```

## 5.8 Special control mode

The device enables the assigning of separate limit value settings to periods when water consumption is regularly lower (e.g. at night or possibly also at weekends). This allows even more effective limiting of the extent of water damage in the event of a leak.

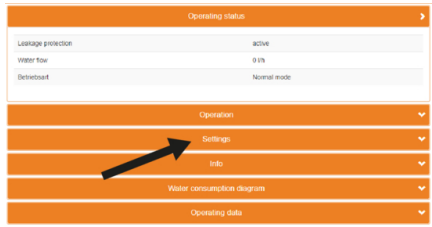
It is only possible to adjust special control mode via the JU-Control App (see chapter 6.2 Control via app, page 29).

**Prerequisite for operating the device via app is the installation of the connectivity module available as an accessory (see chapter 10.3).**

Up to seven special control time periods can be set.

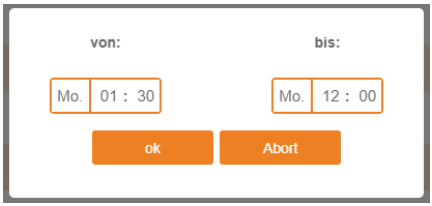
**Adjusting special control:**

1. In the JU-Control App select the device and open the *device menu*.
2. Select *Setting*.

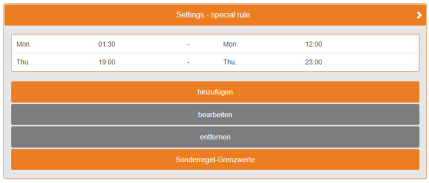


**3.** Select *Time limit value special rule* and *add*.


→ The first time adjustment range for special control mode appears:




**4.** In the corresponding fields, set date and time for the start and end of the special rule and confirm with *OK*. Example:




**5.** Select *special rule limit values*.
→ The display for setting the limit values for the special rule range appears.


Enter the desired values in the limit value fields.

The set special rule limit values apply to all special rule time periods.

**6.** Confirm the set special rule with *OK*.

→ The special rule has now been saved and is transferred to the device control. The JU-Control App can be closed.

The limit values are monitored via the device control, independently of the Internet connection.

If a special rule is active, an "S" appears at the end of the 2nd line on the device's display.

## 5.9 Emergency-open function

The leakage protection shut-off valve can be opened and shut without power supply (e.g. in case of power failure during a building fire). This is particularly important when fire-fighting water is required.

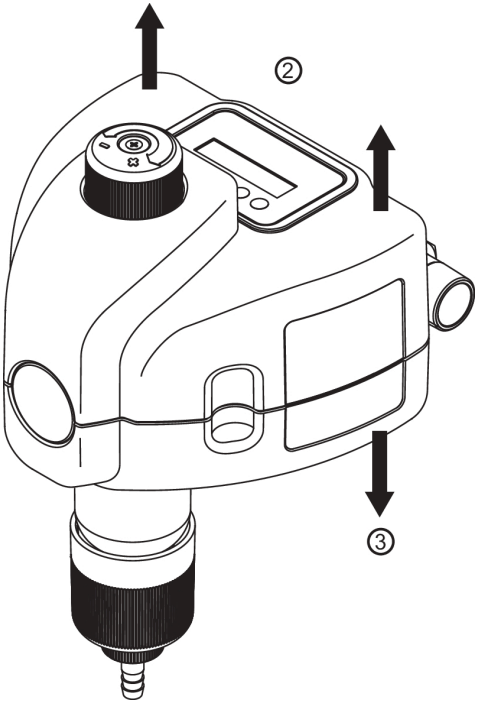



Fig. 6: Removing the casing

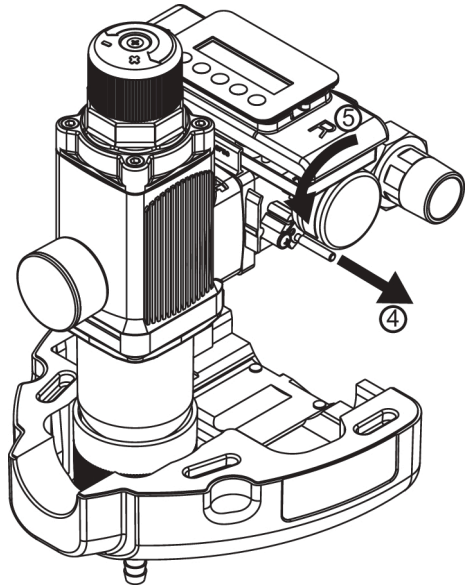



Fig. 7: Remove the red locking pin and rotate the motor

**Open the shut-off valve manually as follows:**

1. Unplug the power supply unit.
2. Take off the upper cover in an upwards direction (see Figure 6).
3. Push the lower cover downwards (see Figure 6).
4. Remove the red locking pin (see Figure 7).
5. Turn the motor **counter-clockwise** through approximately 90 degrees (¼ of a turn; see Figure 7). It is not necessary to release any screws to do this.

→ The shut-off valve is opened.

For recommissioning perform the reverse sequence.

### 5.10 Displaying operating data and information

**How to display the total water volume since commissioning:**

1. Press *Menu* key.
2. Navigate to *Operating data* using the arrow and confirm with the *OK* key.

   The following appears on the display:

   ```
   Total
   water volume
   ```

3. Press *OK* to confirm.

→ The water volume that has flowed through since commissioning is displayed.

The following information about the device can be called up via the *Menu* key and the *Info* menu item:

- Type of limit value overshoot
- Device type
- Device ID
- Software version of the device control
- Measured values (actual water flow)
- Service department telephone number (+49 7195 692-0)
- Manufacturer
- History (events with date)

# 6 Remote control and Remote transmission of messages

**The device may only be installed by qualified technical personnel.**

**The power supply unit must be disconnected to make the electrical installation.**

The leakage protection system offers the following options:

- Connection with building control systems for forwarding of status or fault indications (see chapter 6.1.2)

## 6.1 External messages

The device has a potential-free output via which leakage protection messages and fault messages can be transmitted potential-free to a peripheral device.

### 6.1.1 Setting the message relay

1. Press the *Menu* key.
2. Select *Settings* using the arrow keys and confirm with *OK*.
3. Using the arrow keys select setting *Normally open* or *Normally closed* (see page 41). The display shows:

   ```
   Message relay
   Normally open
   ```

   In this setting, the message relay has closer function, i. e. the relay is energised during a fault.

   ```
   Message relay
   Normally closed
   ```

In this setting, the message relay has opener function, i. e. the relay drops out during a fault.

**4.** Confirm the desired setting with *OK*.

→ The setting is saved. The standard operating indication reappears on the display.

### 6.1.2 Integration in building control systems

The leakage protection system can be integrated into a building control system (e.g. EIB / KNX, LCN or LON) via the floating signal relay.

The floating signal relay is connected to a binary bus coupler.

In this way, fault messages can be forwarded to the building control system.

## 6.2 Control via app

**Prerequisite for operating the device via app is the installation of the connectivity module available as an accessory (see chapter 10.3).**

With the JU-Control app you can

- close water supply
- activate sleep mode
- activate vacation mode
- start micro leakage testing
- display water consumption graphs
- execute settings (e.g. limit value settings)
- call up information on the operating state
- set and/or call up maintenance reminders

Requirement for remote control of the leakage protection via mobile devices (tablet, smartphone, etc.):

- Stable Internet connection of the device at the place of installation (see section **I. LAN cable connection / connection device - internet**)
- Download of the JU-Control App to the mobile device (see section **II. Download and set up the JU-Control App**)
- Linking of the device with the user account via the JU-Control App (see section **III. Link device with user account**)

Connecting of the leakage protection system to the router (internet) is possible in the following ways:

- via LAN cable
- via PowerLAN (power line) module
- via WiFi, by using WiFi repeater with additional LAN output, into which the LAN cable connected to the device is plugged in

The necessary components for creating the network connection are not supplied. If necessary, they can be sourced from a specialist electrical dealer.

**I. LAN cable connection / connection device - internet**

**Procedure:**

**1.** Disconnect the power supply unit from the mains supply.
**2.** Plug the LAN cable into the LAN port of the connectivity module on the underside of the device.
**3.** Plug the power supply unit back in.
→ The device automatically connects to the JUDO server.

The connection is TLS-encrypted to ensure secure data transfer.

The home network router must be configured so that internal IP addresses are automatically allocated via DHCP. In general this is the factory setting.

**II. Download and set up the JU-Control App**

Availability:

- Free of charge in the Google Play Store (Android) or App Store (iOS)

Necessary actions after download and starting of the JU-Control App

- Create user account (also possible in advance via https://ju-control.app)
- Accepting the data protection declaration
- Click on the confirmation link in the E-mail that is received.
- in the app: Create location (location name and optional specification of town, street) and save

**III. Link device with user account**

To operate the device via the JU-Control App, the device previously connected to the Internet must still be linked to the user account via the JU-Control App.

**Procedure:**

1. After defining the location, select the *Add device* button.
2. Use the QR code scanner integrated in the JU-Control App to scan the QR code on the side of the device casing.

   The mobile device requires a camera function in order to scan the QR code.

   As an alternative to the QR code, the MAC address given on the sticker can also be entered using the keyboard.

→ The linked device appears in the device overview of the JU-Control App. After selection of the device, the device menu opens.

## 6.3 Further options within the app

The JU-Control App also offers the possibility of

- Adding further devices and locations. Further devices being added to the already specified location or a newly created location.
- The devices and locations being used by other users. Defining and enabling other users for operation of devices, e.g. the installer for the purpose of remote control or family members and tenants.
- Activating of message services in the user administration of the app menu, which e.g. indicate that the water supply has been shut off. These messages can be sent as desired via E-mail, text message or push message.

## 6.4 Control via Amazon Alexa

**Prerequisite for operating the device via Amazon Alexa is the installation of the connectivity module available as an accessory (see chapter 10.3).**

Details on activation, configuration and voice commands can be found under https://judo.eu/alexa.

# 7 Fault domestic water station

| Fault | Possible cause | Remedy |
|---|---|---|
| Backwash water continues running. | Backwash valve is not fully closed. | Repeat backwashing and then turn the handwheel fully home to the stop. |
| | Dirt in backwash valve. | |
| Water flow decreases. | Sieve clogged. | Perform backwashing. |
| There are leaks in the filter bowl. | Damaged seals. | Inform the installer or the closest customer service point. |
| Filter bowl becomes clouded. | Filter bowl was exposed to high temperatures or solvents. | • Inform the installer or the closest customer service point.<br>• If water escapes, close shut-off valves. Have the filter bowl replaced immediately. |
| Hairline cracks on the filter bowl. | | |
| The downstream pressure increases slowly at zero flow. | Inadmissible pressure increase due to process water heating. | Check the safety relief valve of the warm water boiler. Inform the installer or the closest customer service point. |
| | Wear of the pressure reducer cartridge. | Have a new pressure reducer cartridge installed. |

*Table 3: Troubleshooting*

# 8 Warning message / fault leakage protection system

The display indicates the type of limit value overshoot. An audible interval tone sounds unless the setting for the tones has been changed (see chapter 5.2).

| Display | Possible cause | Remedy |
|---|---|---|
| Alternating:<br>`Leakage protect closed` | Limit value has been exceeded. | First check whether a leak is present. If no leak can be identified:<br>• Delete message (OK) |
| `Water quantity exceeded` | Hole or crack in a pipe or hose; water valve or flushing box valve not fully closed. | |
| or<br>`Volume flow exceeded` | Pipe break;<br>Several withdrawal points opened simultaneously. | |
| or<br>`Withdrawal time exceeded` | Hole or crack in a pipe or hose;<br>Water tap or flushing box valve not fully closed. | |
| `To open press <OK>` | | |

*Table 4: Help for warning / fault messages*

| Display | Possible cause | Remedy |
|---|---|---|
| Alternating:<br>`Leakage protect closed`<br>`Water quantity exceeded`<br>or<br>`Volume flow exceeded`<br>or<br>`Withdrawal time exceeded`<br>`Current limit XXXX l/h`<br>`To open press <OK>`<br>`For setting press <▲/▼>` | During learning mode a limit value was exceeded. | First check whether a leak is present. If no leak can be identified:<br>• Delete message (OK)<br>• Or optionally the current setting for the limit value can be displayed and changed using the arrow keys, and saved using the *OK* key. |

*Table 4: Help for warning / fault messages*

| Display | Possible cause | Remedy |
|---|---|---|
| Alternating:<br>`Leakage protect closed`<br>`Leakage sensor leakage warning`<br>`To open press <OK>` | The connected floor sensor (accessory) has detected a leak. | First check whether a leak is present. If no leak can be identified:<br>• Acknowledge message. |
| Alternating:<br>`Leakage protect closed`<br>`Small leakage occurred`<br>`To acknowledge press <OK>` | During micro leakage testing, a micro leak has been detected.<br><br>Possible causes e.g.<br>• Dripping water tap<br>• Leaking filling valve of a toilet cistern<br>• Leaking water pipe | Acknowledge message. If the cause cannot be identified, but the message is still regularly displayed: Call in a plumber to investigate the cause of the leak. |
| `No water flow for 15 days` | No water flow has occurred for 15 days (with setting vacation mode *off*). | If message correct: Press OK to delete the display.<br>If message incorrect: Arrange for a functional test by the installer or JUDO service. |
| `Attention! Fault ........` | The device has a technical defect. | Inform the installer or JUDO service. |

*Table 4: Help for warning / fault messages*

Deleting warning messages:

- Press OK key.
  or
- Disconnect the power supply unit from the socket and plug back in after about 5 seconds.

When contacting JUDO service always specify the device ID (identification number) (see chapter 5.10).

# 9 Servicing

## 9.1 Cleaning

**CAUTION**
**Do not use household cleaning agents to clean the outside of the device, but only use clear water to avoid embrittlement of the plastic.**

## 9.2 Warranty and maintenance

Prerequisite for obtaining the statutory warranty claim is regular backwashing (see chapter 4.2). The DIN EN 13443-1 prescribes that backwashing must take place every six months. JUDO, however, recommends compliance with the information in chapter 4.2.1 Backwashing interval.

To ensure the process operates successfully as long as possible, regular inspection and routine servicing of the device are essential. Where home automation is concerned, this is governed by DIN EN 806-5.

We recommend the conclusion of a maintenance contract, which is the best way to ensure a good operating function, even beyond the warranty period. The skilled tradesmen or the factory customer service are suitable partners for regular maintenance work and the supply of consumables and wear materials as well as for possible repairs.

# 10 Technical data

JUDO PIPE-CARE SYSTEM JPCS-FP

Micro-leakage protection system with backwash protective filter and integrated pressure regulator

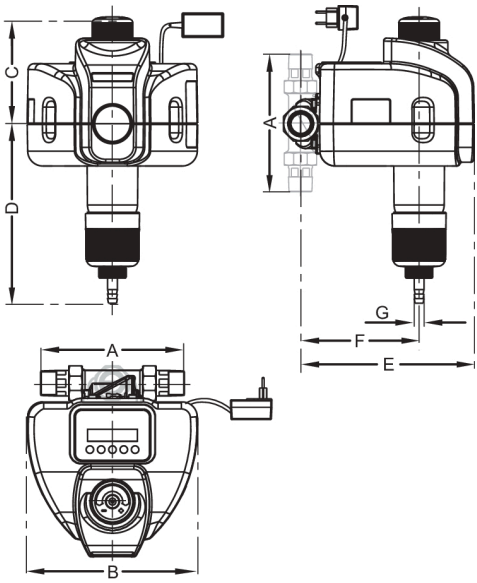
The water to be filtered must comply with the European Drinking Water Directive.

| Information about: | | JPCS-FP ¾" | JPCS-FP 1" | JPCS-FP 1¼" |
|---|---|---|---|---|
| Pipe connection | | ¾" | 1" | 1¼" |
| Backwashing volume flow[1)] | | 0.3 L/s | 0.3 L/s | 0.3 L/s |
| Nominal pressure | | PN 16 | | |
| Operating pressure | | 1.5 - 16 bar | | |
| Rated flow acc. to DIN EN 1567 | | 2.3 m³/h | 3.6 m³/h | 5.8 m³/h |
| Settable downstream pressure | | 1.5 bar - 6 bar | | |
| Factory setting of downstream pressure | | 4 bar<br>400 kPa | | |
| Mesh size sieve insert | | 100 µm / 0.1 mm | | |
| Water temperature and ambient temperature | | max. 30 °C | | |
| Air moisture | | non condensing | | |
| Threaded connection according to | | DIN EN 10226-1 | | |
| Power connection | | 230 V AC / 50 Hz | | |
| Power consumption Operation (leakage protection) | | 3 W | | |
| Power consumption at opening / closing (leakage protection) | | 10 W | | |
| Protection class | | IP 22 | | |
| Adjustable limit values | Maximum water quantity | 100 L - 3000 L | | |
| | Maximum volume flow | 500 L/h - 5000 L/h | | |
| | Maximum water withdrawal time | 10 min - 10 h | | |
| Weight | | 3.5 kg | 3.7 kg | 4.1 kg |

| Information about: | JPCS-FP ¾" | JPCS-FP 1" | JPCS-FP 1¼" |
|---|---|---|---|
| Order no. | 8140045 | 8140046 | 8140047 |

1) Applies to a fully opened backwashing valve and 2 - 3 bar mains pressure

## 10.1 Installation dimensions




| | JPCS-FP ¾" | JPCS-FP 1" | JPCS-FP 1¼" |
|---|---|---|---|
| A | 180 | 195 | 230 |
| B | 227 | 227 | 227 |
| C | 142 | 142 | 142 |
| D | 238 | 238 | 238 |
| E | 231 | 231 | 236 |
| F | 157 | 157 | 162 |
| G | 13 | 13 | 13 |

*Table 5: Dimensions without unit in mm*

A Installation length
B Device width
C Height above the pipe middle
D Height below the pipe middle
E Installation depth up to the pipe middle
F Waste water connector mid. to pipe mid.
G Waste water nominal diameter

## 10.2 Connection options

**CAUTION**
**The device may only be installed by qualified technical personnel.**

**The power supply unit must be disconnected to make the electrical installation.**

The micro leakage protection system can be extended by one of the following devices or functions using the leakage protection (LS) input:

- JUDO floor sensor (up to 9 pcs)

  The floor sensor triggers in the event of a water accumulation on the ground; the signal triggers the immediate shut-off of the water supply in the micro leakage protection system.

- Sleep mode

  For use with devices that depend on an uninterrupted water supply. Short-circuiting the input, e.g. by a relay contact or by a simple switch, causes the micro leakage protection system to stop monitoring the set limit values and interrupts vacation mode if it has been activated. After opening of the switch or relay contact, the originally set limit value monitoring is once again active.

- Close mode

  For use in the immediate closing of the water supply by an external switch or relay contact.

**Attention!**

- The operation of the leakage protection input must be set in the menu of the micro leakage protection system.

In the factory, the operating mode of the leakage protection system input is

set to connection of one or more floor sensors.

Connection: see chapter 10.4

**Change the type of connected device via the *M* key:**

1. Press *Menu* key.
2. Select *Setting* using the arrow keys and confirm with the *OK* key.
3. Select *Leakage protection* and confirm.
4. Select *Leakage protection (LS) input* and confirm.
5. Select one of the following settings and confirm.

```
Input (LS)
• Floor sensor
```

or

```
Input (LS)
• Sleep mode
```

or

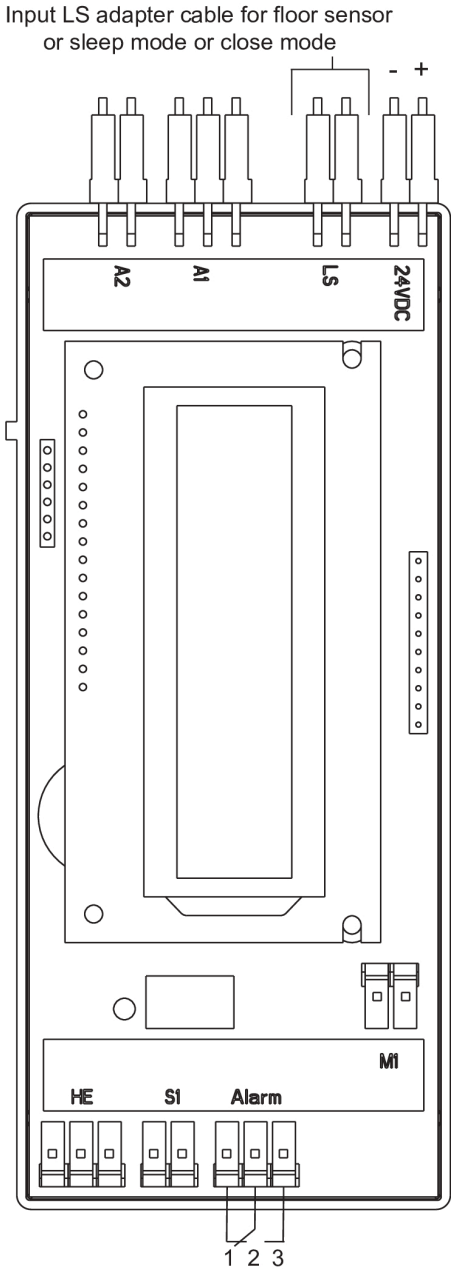
```
Input (LS)
• Close mode
```

→ The connection is set to the desired device type or the desired setup.

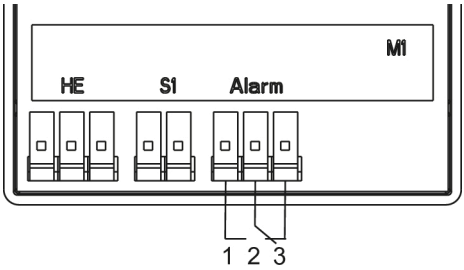
## 10.3 Accessories

- JUDO Connectivity-Module (LAN)
  Order No. 8235010
- JUDO WLAN-Repeater, for connect-ing the JUDO Connectivity-Module to a WLAN home network (2 GHz) via LAN connection (with external antennas; power supply 230 V / 50 Hz)
  Order No. 2202228
- JUDO floor sensor
  incl. connection cable, 2 Meter
  Order No. 8203554
- Each additional floor sensor
  (max. 9 pcs): JUDO floor sensor, incl. connection cable 2 metres, and branch connector
  Order No. 8203556
- JUDO connection cable for floor sensor, 2 metres
  Order No. 8203551
- JUDO connection cable for floor sensor, 5 metres
  Order No. 8203552
- JUDO connection cable for floor sensor, 10 metres
  Order No. 8203553
- JUDO connection cable for the potential-free transfer of messages, 10 metres
  Order No. 2200717

## 10.4 Electronic control unit



### 10.4.1 Connection potential-free message




Function: Normally Closed Contact

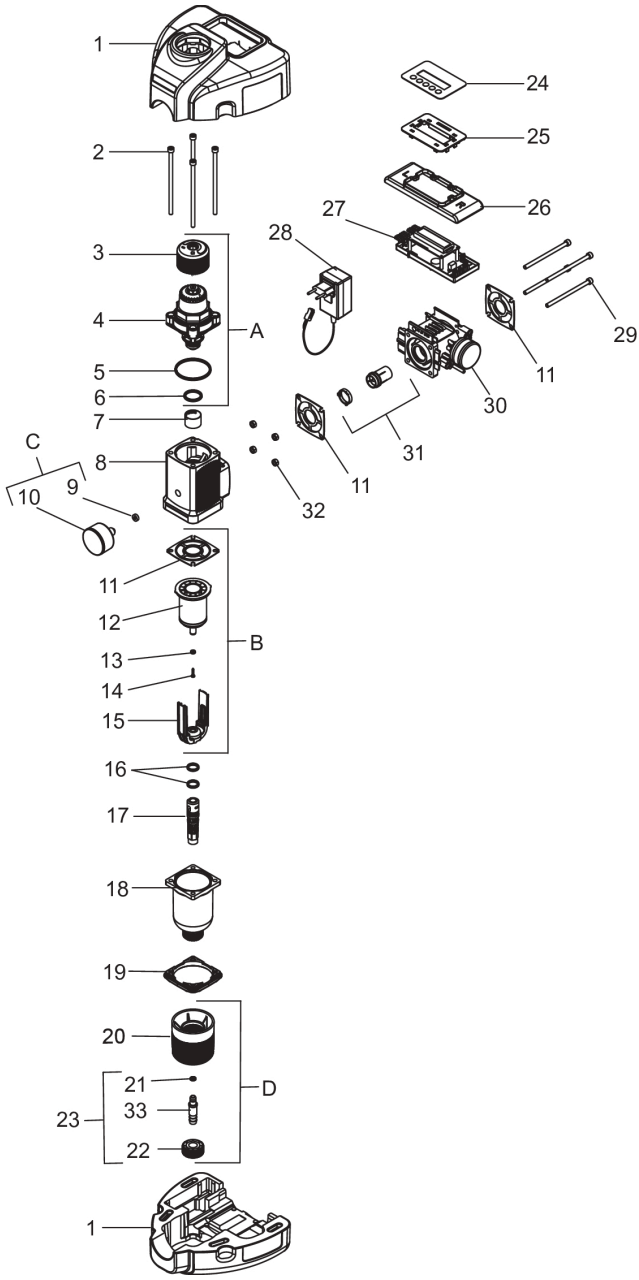
- 1-2: operating
- 2-3: zero-current / fault / leakage alarm

Function: Normally Open Contact

- 1-2: zero-current / fault / leakage alarm
- 2-3: operating

## 10.5 Spare parts

**JPCS-FP ¾" - 1¼"**



| Item | Designation | Pcs | Order No. | AU[1)]/ piece |
|---|---|---|---|---|
| A | Wear parts set “Pressure reducer cartridge“ **** (consisting of pos. 3, 4, 5, 6) | 1 | 2150026 | 105 |
| B | Wear parts set “Sieve 0.1 mm and suction pipe” **** (consisting of pos. 11, 12, 13, 14, 15) | 1 | 2170606 | 55 |
| - | Wear parts set “Gaskets” **** (consisting of pos. 5, 6, 9, 11×2, 13, 14, 16×2, 21) | 1 | 2070334 | 36 |
| - | Wear parts set “Backwash valve and gaskets“ (consisting of pos. 11, 16×2, 17, 21, 33) | 1 | 2160240 | 18 |
| C | Spare parts set “Pressure gauge“ | 1 | 2150021 | 20 |
| D | Spare parts set “Handwheel backwashing“ (consisting of pos. 20, 23) | 1 | 2160236 | 17 |
| | | | | |
| 1 | Insulating shell set | 1 | | |
| 2 | Cylinder screw M6×130 (Set with 4 pcs) | 1 | 2060462 | 11 |
| 3 | Handwheel pressure reducer | 1 | | |
| 4 | Pressure reducer cartridge | 1 | | |
| 5 | O-ring 52×3,5 | 1 | | |
| 6 | O-ring 25×3,5 | 1 | | |
| 7 | Noise sieve | 1 | | |
| 8 | Basic housing | 1 | | |
| 9 | Pressure gauge seal | 1 | | |
| 10 | Pressure gauge 0 - 10 bar (outlet) | 1 | | |
| 11 | Profile flange gasket | 3 | 2250219 | 6 |
| 12 | Sieve insert | 1 | | |
| 13 | Suction pipe gasket | 1 | | |
| 14 | Sheet metal screw 2,9×16 | 1 | | |
| 15 | Suction pipe | 1 | | |
| 16 | O-ring 16×2,5 | 1 | | |
| 17 | Flush valve | 1 | | |
| 18 | Filter bowl + Item 11, 19 | 1 | 2170441 | 105 |
| 19 | Flange | 1 | | |

*Table 6: List of spare parts JPCS-FP ¾" - 1¼"*

| Item | Designation | Pcs | Order No. | AU[1)]/ piece |
|---|---|---|---|---|
| 20 | Handwheel for backwashing | 1 | | |
| 21 | O-ring 6,07×1,3 | 1 | | |
| 22 | Union nut | 1 | | |
| 23 | Hose connection piece + Item 21, 22 | 1 | 2170182 | 10 |
| 24 | Membrane keypad | 1 | 2201863 | 83 |
| 25 | Support plate | 1 | | |
| 26 | Protective foil | 1 | | |
| 27 | Electronic control | 1 | 2140160 | AU[2)] |
| 28 | Power supply unit 24 V DC | 1 | 2210560 | 65 |
| 29 | Cylinder screw M6×100 | 4 | | |
| 30 | Housing micro-leakage protection system | 1 | | |
| 31 | Turbine + circlip | 1 | 2140117 | 45 |
| 32 | Hexagonal nut M6 (Set with 4 pcs) | | 2060448 | 6 |
| 33 | Hose connection piece | | | |

*Table 6: List of spare parts JPCS-FP ¾" - 1¼"*

1) AU = Accounting unit (items without AU are only available in a set)
2) AU not yet specified at the time of going to press

Replacement interval: **** = 4 years

## 11 Disposal

Packaging waste is to be sent to the local recycling system.

To protect environment, old appliances must not be disposed of with household waste. Instead, use the local collection and return points, which are committed to free and environmentally sound disposal.

# 12 EC Conformity Declaration

| | | |
|---|---|---|
| Wasser-Aufbereitung | **EC Conformity Declaration** | Document no. 485 / 12.22 |

| | |
|---|---|
| Manufacturer: | JUDO Wasseraufbereitung GmbH |
| Address: | Hohreuschstraße 39 - 41, D-71364 Winnenden |

| | |
|---|---|
| **Product description:** | JUDO PIPE-CARE SYSTEM JPCS-FP ¾" - 1¼"<br>Micro-leakage protection system with backwash protective filter and integrated pressure regulator |

| | | |
|---|---|---|
| • EC Directive: | Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) | 2011/65/EU |
| • EC Directive: | Elektromagnetic Compatibility (EMC) | 2014/30/EU |
| • Harmonized Standards: | Electromagnetic compatibility, generic standards for radiated interference and interference immunity | EN 61000-6-2<br>EN 61000-6-3 |
| • Harmonized Standards: | Safety of power transformers, power supplies, reactors and similar products | EN 61558-1 |

The observance of the mentioned directives and EMC requirements for the use of the device in household, commercial and industrial areas as well as the application of the indicated standards are hereby confirmed.

| | |
|---|---|
| Issuer: | JUDO Wasseraufbereitung GmbH |
| Place and date: | Winnenden, 6th December 2022 |
| Legally binding signature: |  <br>JUDO Wasseraufbereitung GmbH |

The sole responsibility for issuing this Declaration of Conformity lies with the manufacturer. This declaration certifies that the product is in accordance with all the stated directives; it is however not an assurance of its characteristics.

# 13 Maintenance log

Product designation: Micro-leakage protection system with backwash protective filter and integrated pressure regulator

Order number: Serial number:

| Date | Work activities performed | Company / signature |
|---|---|---|
| | | |
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| Date | Work activities performed | Company / signature |
|---|---|---|
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| | | |

# 14 Customer service

| | |
|---|---|
| **DE** | **JUDO Wasseraufbereitung GmbH**<br>Postfach 380 • D-71351 Winnenden<br>Phone +49 (0)7195 / 692-0<br>E-mail: info@judo.eu • judo.eu |
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| **CH** | **JUDO Wasseraufbereitung AG**<br>Industriestrasse 15 • CH-4410 Liestal<br>Phone +41 (0)61 906 40 50 • Fax +41 (0)61 906 40 59<br>E-mail: info@judo-online.ch • judo-online.ch |
| **BENELUX** | **JUDO Wasseraufbereitung GmbH** • Filiaal - Filiale Benelux<br>Laarbeeklaan - Av. du Laerbeek, 72 A1 • B-1090 Brussel-Bruxelles<br>Phone +32 (0)24 60 12 88 • Fax +32 (0)24 61 18 85<br>E-mail: info.benelux@judo.eu • judo.eu |
| **FR** | **JUDO France SARL**<br>76 Rue de la Plaine des Bouchers (Technosud) • F-67100 Strasbourg<br>Phone +33 (0)3 88 65 93 94 • Fax +33 (0)3 88 65 98 49<br>E-mail: info@judo.fr • judo.fr |

Installed by / on:

All pictorial, dimensional and implementation information correspond to the date of going to press. We reserve the right to make changes due to technical progress and continuing development. Model and product claims cannot be lodged.