

Installation and operating instructions

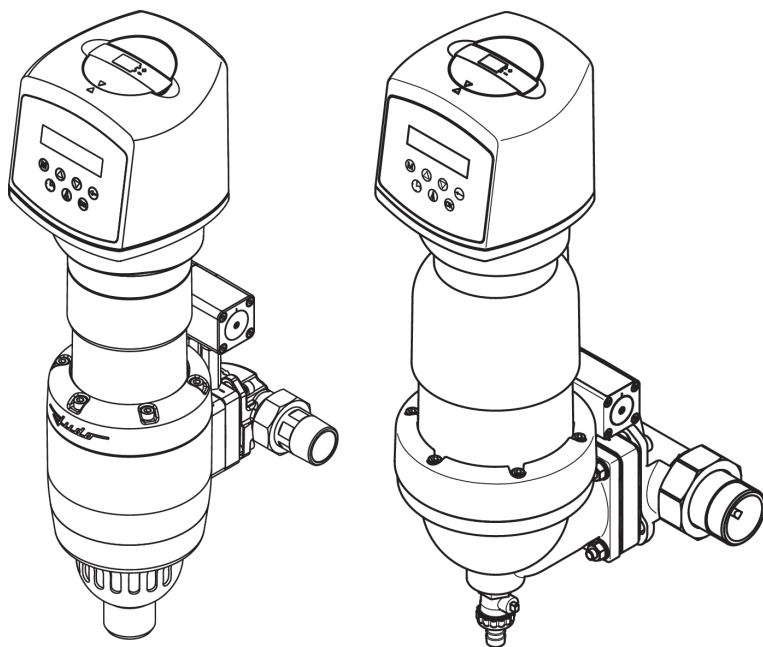
JUDO PROFIMAT-PLUS-AT

JUDO PROFIMAT-PLUS-ATP

Automatic backwash protective filter $\frac{3}{4}$ " - 2"

Valid for: EU-countries and Switzerland

Language: English



Read before use and store!



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).

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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.

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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

of drinking water in domestic water piping and for residential, 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 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.

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

1.2 Application limits

1.2.1 Water quality

The water to be filtered must be of drinking water quality. Before using the device with water of a different quality, 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

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

1.3.1 Electrical danger



Risk of electric shock

No electrical wiring or equipment that is not splash-proof may run or be stored below the device. Electrical devices/equipment located in the vicinity of the device must be splash-proof or comply with the legal regulations for wet rooms.

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 is required for connection to the electrical grid, in accordance with the legal regulations for wet rooms.

Only connect potential-free switching contacts to the potential-free input. Do not apply extraneous voltage!

Only low voltages can be used for the remote transmission of the status or

fault indication via the potential-free output!

Switching voltage: maximum 24 V
Amperage: maximum 0,1 A

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 wastewater 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 wastewater acc. to DIN EN 1717 must be ensured.

The pipe must be able to safely support the device (weight: see chapter 8). 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 unit in order to interrupt the water supply during installation, maintenance, repair or malfunction of the device.

Install the device in a vertical position ($\pm 5^\circ$); 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 sup-

plied rotary flange fitting (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 (see Figure 3: Rotary flange fitting, page 10).

Prior to plugging in the device, ensure that the wastewater connection is functional.

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.

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 4.4.1).

The mains voltage must not be interrupted (e.g. via a light switch). If the filter is not permanently supplied with power, backwashing or a warning in case of faults is not possible.

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
	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.

- DIN 19628 (Mechanical filters in drinking water stations - Application of mechanical filters according to DIN EN 13443-1).

It complies with the technical rules for drinking water installations according to

- DIN EN 806-2 ff. (Technical rules for drinking water installations) and the national supplement
- the national supplement DIN 1988
- DIN EN 1717 (Protection of drinking water against contamination in drinking water installations and general requirements for safety devices to prevent drinking water contamination through backflow).

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
1½"	DN 40
2"	DN 50

1.6 Normative foundations

This appliance has been designed and manufactured in accordance with

- 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)

2 Product information

2.1 Scope of supply

- Automatic backwash protective filter, pre-assembled, with silver-coated sieve insert
- Built-in rotary flange
- Installation and operating instructions

2.2 Function description

Unfiltered water flows into the device through the rotary flange. A coarse filter prevents large dirt particles from reaching the fine filter. 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.

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

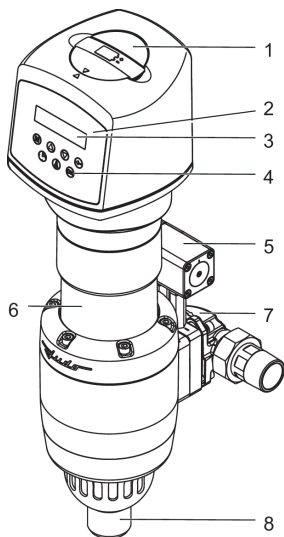


Fig. 1: Description JPF-PLUS-ATP
3/4" - 1 1/4"

- 1 Cover battery compartment
- 2 Control panel

- 3 Display
- 4 Keyboard
- 5 Differential pressure switch (only for models ATP)
- 6 Filter bowl
- 7 Rotary flange fitting
- 8 Connection for waste water from backwashing

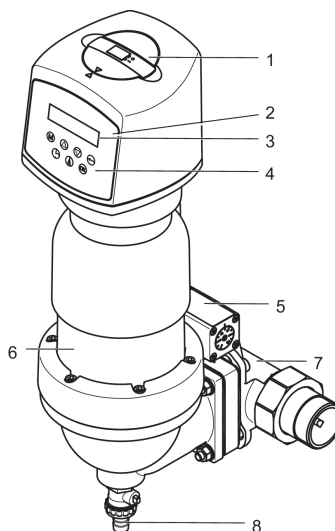


Fig. 2: Description JPF-PLUS-ATP 1 1/2" - 2"

- 1 Cover battery compartment
- 2 Control panel
- 3 Display
- 4 Keyboard
- 5 Differential pressure switch (only for models ATP)
- 6 Filter bowl
- 7 Rotary flange fitting
- 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

All materials of components in contact with drinking water are hygienically and physiologically harmless and fulfill the requirements and directives of the Umweltbundesamt (UBA). Plastics fulfil the requirements of DIN EN 16421.

2.4 Approval marks



The device is hygienically and mechanically compliant with the generally accepted rules of technology.

It has been tested and certified by the DVGW (Deutsche Vereinigung des Gas- und Wasserfaches e. V. - Technisch-wissenschaftlicher Verein). The device bears the DIN-DVGW mark as proof of certification.



Only devices with a standard sieve mesh width of 0.1 mm carry the DIN DVGW test mark. Devices with the available special mesh widths 0.03 mm, 0.32 mm and 0.5 mm are not part of the test according to DIN EN 13443-1 and DIN 19628 and are therefore not permitted to wear the approval mark.

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 8). 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 in 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.

A splash-proof power supply (230 V AC / 50 Hz), which is constantly under voltage, must be present.

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, backwashing the device is not possible.

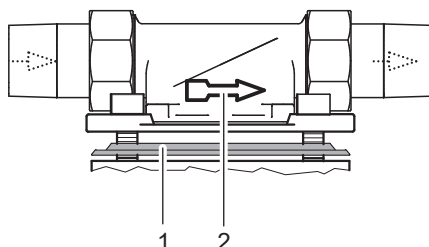


Fig. 3: Rotary flange fitting

- 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, maintenance,

repair or malfunction of the device.

Install the device in a vertical position ($\pm 5^\circ$); 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 rotary flange fitting (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 3: Rotary flange fitting, page 10).

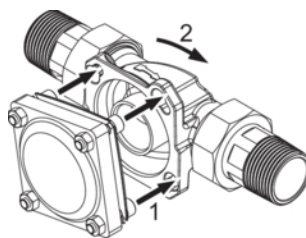


Fig. 4: Attach and engage appliance

- 1 Insert screws
- 2 Turn clockwise to engage screws

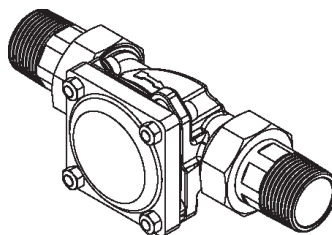


Fig. 5: Connection of appliance engaged

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 4).
2. Turn the appliance in clockwise direction up to the stop (see Figure 4 und Figure 5).
3. Tighten the four flange screws.



Select the tightening torque (approx. 4 Nm for the pipe connection range $\frac{3}{4}$ " - $1\frac{1}{4}$ " / ca. 10 Nm for the pipe connection range $1\frac{1}{2}$ " - 2") so that the seal is effective and the device is not damaged or strained.

- 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 wastewater connection cannot be realized at the installation site, a lifting unit must be installed to convey the backwash water.

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.

Prior to plugging in the device, ensure that the wastewater connection is functional.

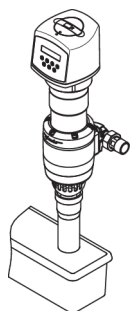
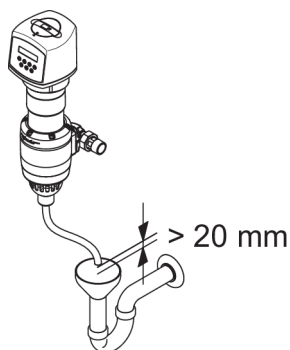
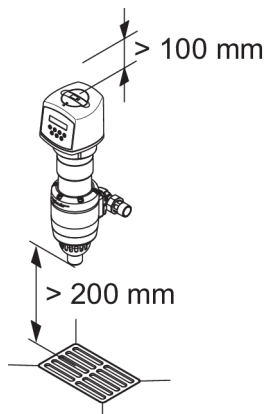
The drain must be large enough so that all of the wastewater can be drained simultaneously.

If a wastewater 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 wastewater connection. The dimensioning of this pipe must correspond to the backwashing water valve.

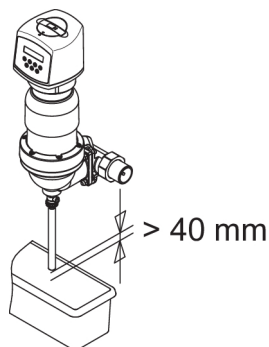
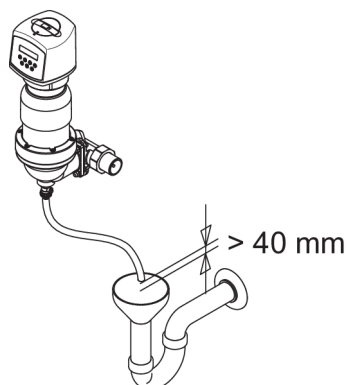
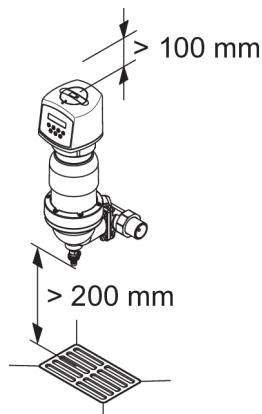
Attention:

3.4.1 Drainage options for the backwash water

JPF-Plus A/T DN 20 - 32



JPF-Plus A/T DN 40 - 50



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. Plug the power supply unit in.
3. **Attention:** Carry out a backwashing immediately so that the trapped air can escape (see chapter Manual backwash start)! This prevents damage to the installation by water hammer pressure surges.

Key *Manual backwash start* to start the backwashing



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

4 Operation

4.1 Control panel

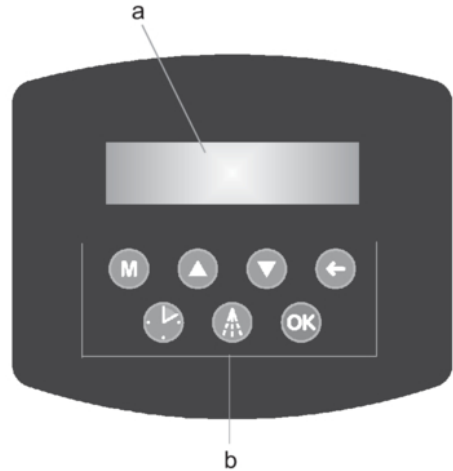


Fig. 6: Control panel

a Display

b Key board

Operation of the device takes place via the keyboard and display (see Figure 6).

The keys have the following functions:

	Access to the menu <i>Settings</i>
	Scroll up in the menu Reduce value
	Scroll down in the menu Increase value
	Jump one menu level back without saving
	Backwashing interval setting
	Manual backwash start



Battery test
Accept value and save

Status display

During normal operation the status display is shown in the display:

Next backwashing
in 7 days

During the status display, certain basic functions can be selected (see chapter 4.2).

4.2 Directly selectable functions

4.2.1 Manual backwash start



After pressing the key, backwashing is carried out immediately. The following appears in the display:

Backwashing

4.2.2 Setting the backwashing interval



After pressing the key, the menu for setting the backwashing interval is displayed:

Backwash interval
7 days

The backwashing interval is set with the ▲ and ▼ keys. When the ▲ or ▼ key is pressed continuously, the value increases or decreases continuously. If the backwash-

ing interval time is less than 24 hours, the interval changes by the hour. Above this, it changes by the day.

The minimum settable backwashing interval time is 4 hours, the maximum, value 50 days. The values in table (see chapter 4.4.1) are used as reference points.

Using the **OK** key the selected backwashing interval time is adopted and saved. Then, the status display appears.

4.2.3 Battery test

After pressing the **OK** key a battery test is performed. For the duration of 5 s the battery test voltage is shown in the display, e.g.:

Battery test
7.5 V



The battery voltage must be at least 7.1 V. If it is lower, backwashing is no longer performed. Therefore, replace the battery with a new one as soon as possible.

4.3 Selectable settings via "Menu" key



The following settings can be made via the menu button

- Language
- Lighting
- Contrast
- Function of the floating relay
- Function of the external input
- Function of the fault signalling relay

Procedure:

1. Press the menu button to open the main menu:

Main menu
Language

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

The following settings can be selected:

Sub-menu point	Settings	
Language	deutsch, english, français, italiano, español, vlaams	
Lighting	30 to 100%	
Contrast	10 to 100%	
Floating relay (backwash alarm relay)	Backwashing	Rel2 is energized during the backwash process; see
	Semi automatic	After the set backwashing interval time has elapsed or the set differential pressure has been exceeded, backwashing does not start automatically, but the floating relay (Rel2) "Backwash" is energized (see Figure 11), and the following appears in the display: Backwashing prompt / <Backwash> key . Start backwashing • by pressing the backwashing button or • by short-circuiting the input "external backwash start" (see chapter 8.4)
External input	Backwash start	After short-circuiting the external input (e.g. by an additionally connected manual switch or relay contact), backwashing starts.
	Backwash stop	Backwashing cannot be started after short-circuiting the external input. The display shows External backwash stop . Any backwashing that takes place is completed. If the backwashing interval time expires during the backwash stop, the backwashing starts immediately after opening the short circuit for the external input.
Fault indication relay	Normally open (NOC)	Rel1 has closer function, e.g. the relay is energised during a fault (see Figure 11).
	Normally closed (NCC)	Rel1 has opener function, e.g. the relay drops out during a fault (see Figure 11).

The setting of the external input and relays are described in chapter 5.

4.3.1 Factory settings (delivery status)

Menu	Factory setting
Language	English
Lighting	80 %
Contrast	80 %
Potential-free relay	Backwashing
External input	Backwash start
Fault indication relay	NOC
Backwashing interval	1 week

4.3.2 Menu structure

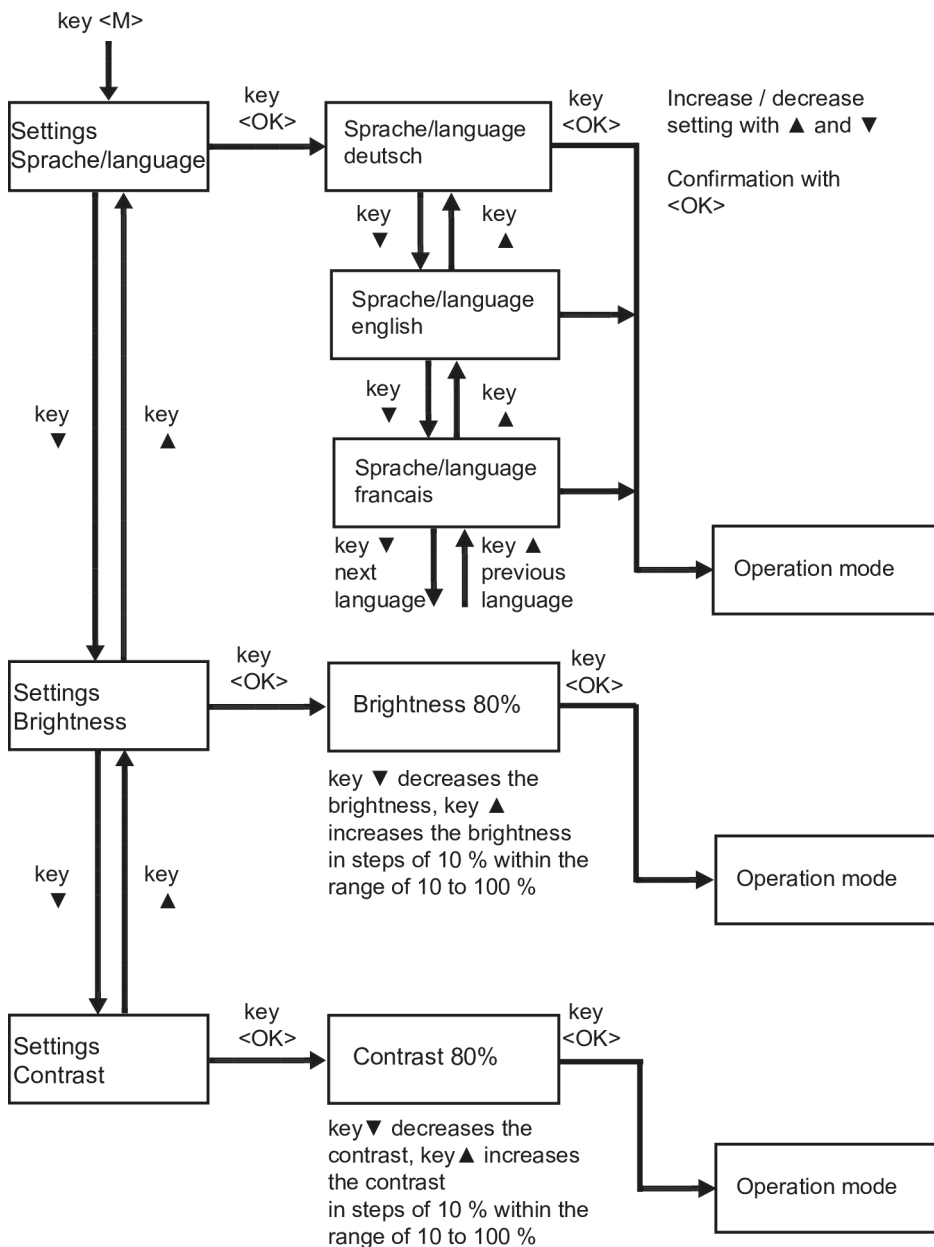


Fig. 7: Menu structure for standard version

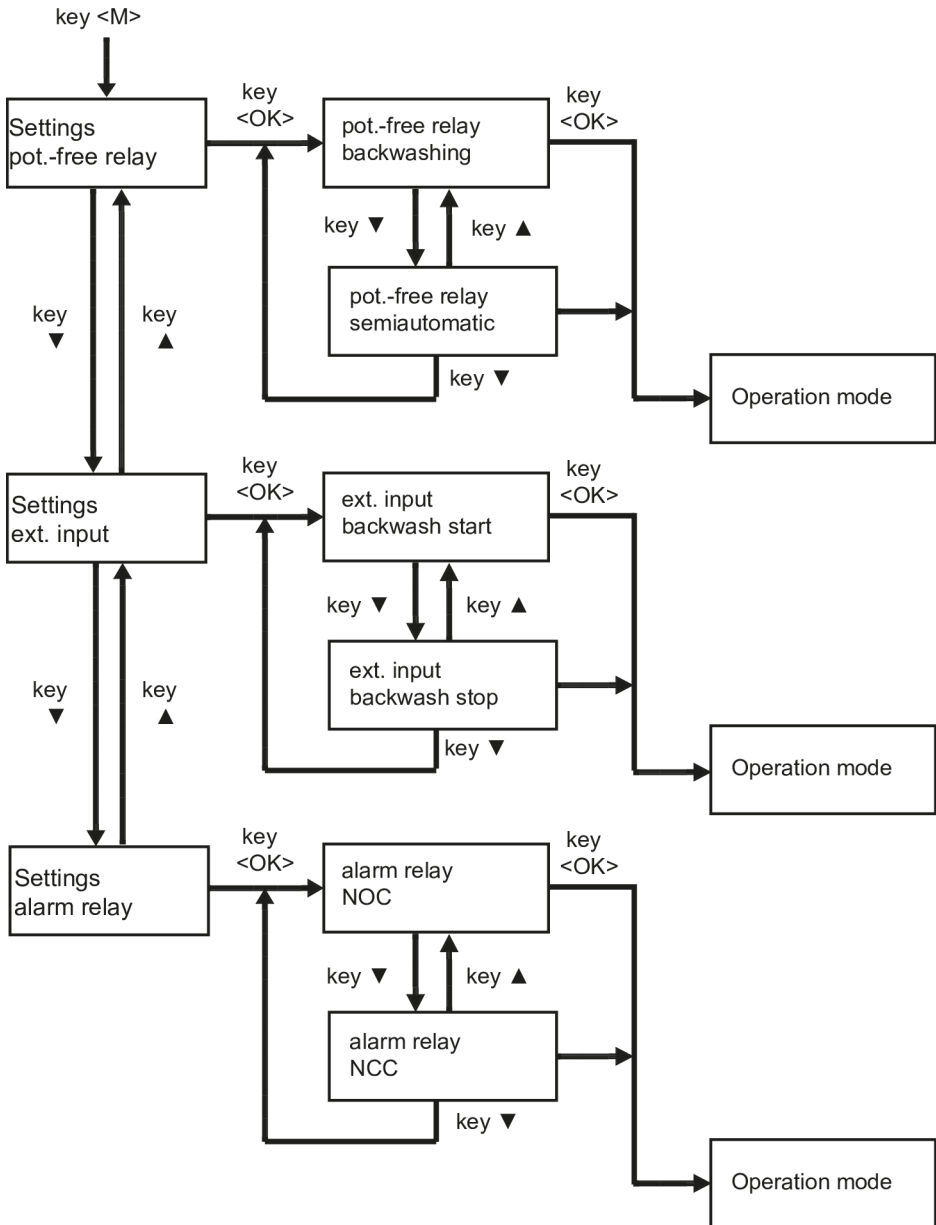


Fig. 8: Menu functions for the potential-free input/output

4.4 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.

i 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.

If the mains voltage fails during the backwash process, the backwash is completed using the built-in batteries. Prior to every backwashing a battery test is performed. On a missing, empty or defective battery the display shows a warning message (see

chapter 4.6). Backwashing is then no longer carried out - even if mains voltage is present - until the discharged or defective battery has been replaced.

4.4.1 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.

To keep the functioning of the appliance as smoothly as possible, the longest backwash interval is set by the manufacturer at 50 days.

The manufacturer recommends a backwashing:

- 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. Temporarily set a shorter time interval!

Mesh size [mm]	Applications	Recommended backwashing interval ¹⁾
0.03 ²⁾	GP surgeries, laboratories, photo laboratories	24 hours
0.10	Domestic water technology in the private and commercial sector	7 - 50 days
0.10 and 0.32	Domestic water technology Well water	1 - 7 days

Table 1: Selection of the backwashing intervals

Mesh size [mm]	Applications	Recommended backwashing interval ¹⁾
0.32 and 0.5	Industrial sector Air conditioning systems	1 - 7 days

Table 1: Selection of the backwashing intervals

- 1) Dependent on the dirt formation
 2) If necessary, securing of the filter acc. to DIN EN 1717

4.4.2 Setting the backwashing interval



After pressing the key, the menu for setting the backwashing interval is displayed:

Backwash interval
7 days

The backwashing interval is set with the ▲ and ▼ keys. When the ▲ or ▼ key is pressed continuously, the value increases or decreases continuously. If the backwashing interval time is less than 24 hours, the interval changes by the hour. Above this, it changes by the day.

The minimum settable backwashing interval time is 4 hours, the maximum, value 50 days. The values in table (see chapter 4.4.1) are used as reference points.

Using the **OK** key the selected backwashing interval time is adopted and saved. Then, the status display appears.

4.4.3 Backwashing via differential pressure control (ATP version only)

Mode of operation of the differential pressure switch

The impurities filtered off on the filter fabric cause an increased differential pressure between the inlet and outlet of the unit with an appropriate flow rate. The differential pressure switch registers the differential pressure applied to the filter. When the differential pressure reaches the set value, the backwashing process is triggered automatically.

The differential pressure switch is flanged directly to the device via the intermediate flange.

Setting the differential pressure

The switching values of the differential pressure switch are adjusted on the adjusting screw. Set this using a screwdriver to a value between 0.06 and 0.6 bar according to the chart. The ex-works setting is 0.2 bar (recommended setting value 0.2 to 0.4 bar). The differential pressure at the filter depends on the water flow rate and the degree of contamination.

If the value is set too high, too much dirt can accumulate at low flow rates. With higher water withdrawal, the differential pressure can then become so high for a short time that damage can occur to the sieve.

If the value is set too low, backwashing is unnecessarily frequent, which leads to

increased wear and backwashing water consumption.

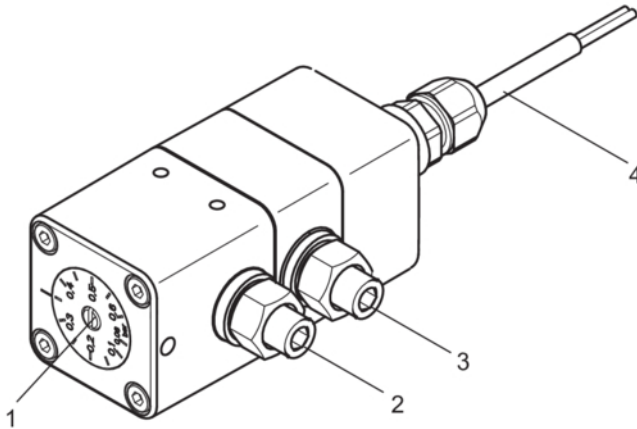


Fig. 9: Differential pressure switch

- 1 Setting screw for differential pressure setting
- 2 Downstream pressure connection
- 3 Upstream pressure connection
- 4 Cable for electrical switching

4.4.4 Start backwashing

Backwashing is triggered in the following manner:

- automatically, after the set backwashing interval has elapsed.
- automatically once the set differential pressure is reached.
-



by pressing the  key (see section Manual backwash start, page 21).

- after short-circuiting the “external backwash start” contacts.

During backwashing, the display shows:

Backwashing

4.4.5 Manual backwash start



After pressing the key, backwashing is carried out immediately. The following appears in the display:

Backwashing

4.5 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.

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.

In the event of repairs, printed test marks only remain valid when original spare parts are used.

4.6 Battery replacement



CAUTION

Only use 9 V block batteries of alkaline type 6LR61 (see battery marking).

The manufacturer recommends the use of the following batteries:

- Energizer Industrial
- Energizer High Tech
- Energizer Ultra +
- Active Energy
- Conrad Energy

A necessary battery change is shown alternately in the display by the following texts:

Replace
battery

Use alkaline
battery only

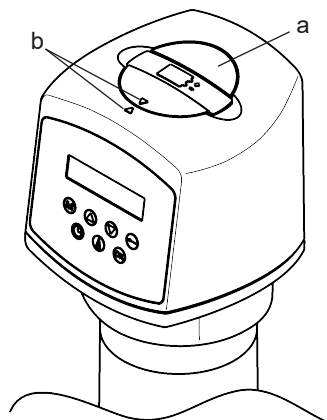


Fig. 10: Battery replacement

- a Battery cover
b Arrow marking

1. Pull the power supply unit out of the socket.
2. Remove the battery cover.
3. Carefully remove the used battery from the connection clip; do not pull on the connection cable.
4. Insert the new battery into the connection clip of the connecting cable and insert it into the compartment.
5. Close the battery cover. Ensure the correct position of the arrow markings (see Figure 10).
6. Plug the power supply unit into the socket.

The electrical circuit immediately performs a battery test.

Dispose of used batteries according to valid regulations!

4.7 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.

4.8 Integration in building control systems

The device can be integrated into a building control system (e.g. EIB / KNX, LCN or LON) via the floating signal relays and the external input of the filter control.

The potential-free signal relays are connected to a binary bus coupler.

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

4.9 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 Remote control and remote transmission of messages



A peripheral device for controlling the backwash and for transmitting backwashing and fault indication can be connected to this device.

To use these functions, the cable set available as an accessory is required (see chapter 8.3).



The device may only be installed by qualified technical personnel.

Only low voltages can be used for the remote transmission of the status or fault indication via the potential-free output!

**Switching voltage: maximum 24 V
Amperage: maximum 0,1 A**

5.1 Setting the external input

1. Press the **M** key.
2. Using the **▼** key navigate up to setting

Settings
External input

3. Press the **OK** key. The submenu for setting the external input appears:

External input
Backwash start

In this setting, backwashing starts after short-circuiting the external input (e.g. by an additionally connected manual switch or relay contact).

4. To change the setting press the **▼** or **▲** key. The following appears on the display:

External input
Backwashing stop

In this setting, backwashing cannot start after short-circuiting the external input. The following appears on the display:

external
Backwashing stop

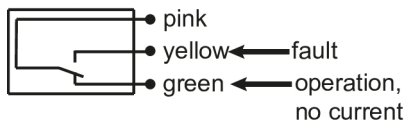
Backwashing, if necessary, is completed. If the backwashing interval time expires during the backwash stop, backwashing is performed as soon as the short circuit of the external input is opened.

5. Press the **OK** key. The selected setting is accepted and saved. Then, the status display appears.

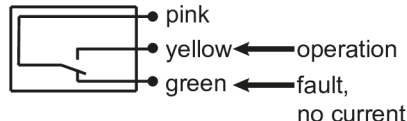
5.2 Potential-free message

The device has an output for transferring backwashing and fault indication messages potential-free to a peripheral.

Rel 1 (alarm), setting „Normally open“



Rel 1 (alarm), setting „Normally closed“



Rel 2 (backwash)

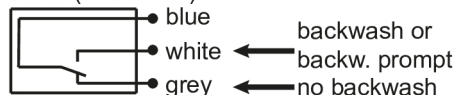


Fig. 11: Relay contact assignments

In Figure 11 the contacts of the potential-free relay are marked in the currentless state.

The relay can be connected as closed contact or a open contact : In addition, the switching function of the fail safe relay (Rel 1) can be set via the menu as closer or opener (see chapter 5.2.2).

5.2.1 Setting the backwash message relay

i The following instructions describe how to set the backwash mode for the control via a peripheral device connected to the external input of the filter.

1. Press the **M** key.
2. Using the **▼** key navigate up to setting.

Settings
pot.free Relay

3. Press the **OK** key. The submenu for setting the potential-free relay appears:

pot.free Relay
Backwashing

In this setting, the floating relay (Rel2) is energised during the backwash process (see Xfig. Figure 11).

4. To change the setting press the **▼** or **▲** key. The following appears on the display:

pot.free Relay
Semi-automatic

In this operating mode backwashing does not start automatically after the set backwashing interval time has elapsed or the set differential pressure has been exceeded, but the floating relay (Rel2)

"Backwash" is energized and the following appears on the display:

```
Backwashing
prompt
<Backwash> key
```

The backwashing only starts

- by pressing the **M** key.

or

- by short circuiting the "external backwash start" input (see 8.4).

In this setting, the fail safe relay (Rel1) has normally closed function, e.g. the relay drops out during a fault (see Figure 11).

5. Press the **OK** key. The setting is accepted and saved. Then, the status display appears.

5. Press the **OK** key. The setting is accepted and saved. Then, the status display appears.

5.2.2 Setting the fault indication relay

1. Press the **M** key.
2. Using the **▼** key navigate up to setting

```
Settings
Alarm relay
```

3. Press the **OK** key. The submenu for setting the fault indication relay appears:

```
Alarm relay
Normally open
```

In this setting, the fail safe relay (Rel1) has closer function, i.e. the relay is energised during a fault (see Figure 11).

4. To change the setting press the **▼** or **▲** key. The following appears on the display:

```
Alarm relay
Normally closed
```

6 Fault

The display shows an occurred operational fault.

Fault	Possible cause	Remedy
Indication on the display: Fault no. ... Cause of fault Signal transmitter sounds.	Electrical or mechanical defect.	- Clear fault indication by pressing the OK key or unplugging the power supply unit for approx. 5 seconds. - Restart backwashing by manual triggering. If the fault occurs again: Pull the mains plug out of the socket. - Inform the installer or the closest customer service point. - If water escapes, close shut-off valves.
Changing warning message in the display: Backwashing sluggish Waste water throttling	Backwashing motor is sluggish.	- Reset the warning message by pressing the OK key. If the fault occurs again during the next backwashing: - Reset warning message. - Throttle the backwash flow by using a backwashing water ball valve.
The maintenance request appears on the display: Maintenance Service	Maintenance required.	(see Chapter 7.2)
Backwash water continues running.	Backwash valve is not fully closed.	Restart backwashing by manual triggering. If the backwash water runs on: Inform the installer or the closest customer service point.
	Dirt in backwash valve.	
Water flow decreases.	Sieve clogged.	

Table 2: Troubleshooting

Fault	Possible cause	Remedy
There are leaks in the filter bowl.	Damaged seals.	• Pull the power supply unit out of the socket. • Inform the installer or the closest customer service point. • If water escapes, close shut-off valves. Have the filter bowl replaced immediately.
Filter bowl becomes clouded.	Filter bowl was exposed to high temperatures or solvents.	
Hairline cracks on the filter bowl.		

Table 2: Troubleshooting

7 Servicing

7.1 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.

7.2 Warranty and maintenance

Prerequisite for obtaining the statutory warranty claim is regular backwashing (see chapter 4.4). The DIN EN 13443-1 prescribes that backwashing must take place every six months. JUDO, however, recommends compliance with the information in chapter 4.4.1 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.

After an operating period of one year, the control of the device reports the required maintenance by the following display:

Maintenance/
Service!

The device stays in operation.

After maintenance is complete, press and hold the **OK** key five seconds to acknowledge the maintenance message.

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.

8 Technical data

Automatic backwash protective filter

JUDO PROFIMAT-PLUS-AT/-ATP Short designation: JPF-PLUS-AT / JPF-PLUS-ATP

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

Information about:	JPF-PLUS-AT / JPF-PLUS-ATP				
Pipe connection	¾"	1"	1¼"	1½"	2"
Backwashing volume flow ¹⁾	0,2 - 0,4 L/s	0,2 - 0,4 L/s	0,2 - 0,4 L/s	0,3 - 0,8 L/s	0,3 - 0,8 L/s
Backwashing time	ca. 2 min	ca. 2 min	ca.2 min	ca. 2 min	ca. 2 min
Nominal pressure	PN 16	PN 16	PN 16	PN 16	PN 16
Operating pressure	1,5 - 16 bar	1,5 - 16 bar	1,5 - 16 bar	1,5 - 16 bar	1,5 - 16 bar
Rated flow after backwashing with a pressure loss of 0,2 (0,5) bar	4,1 (6,7) m³/h	4,7 (7,6) m³/h	5,3 (8,5) m³/h	13 (18) m³/h	16 (22) m³/h
Mesh size sieve insert ²⁾	0.1 mm	0.1 mm	0.1 mm	0.1 mm	0.1 mm
Water temperature and ambient temperature	max. 30 °C	max. 30 °C	max. 30 °C	max. 30 °C	max. 30 °C
Threaded connection according to	DIN EN 10226-1				
Power connection	230 V AC / 50 Hz				
Power consumption Operation	3 W	3 W	3 W	3 W	3 W
Power consumption Backwashing	max. 10 W	max. 10 W	max. 10 W	max. 10 W	max. 10 W
Weight AT	NN kg	NN kg	NN kg	10,2 kg	11,4 kg
Weight ATP	NN kg	NN kg	NN kg	11,2 kg	12,4 kg
Order no. AT	8020663	8020664	8020665	8001019	8001020
Order no. ATP	8020666	8020667	8020668	8001017	8001018

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

2) Standard sieve mesh size

Available special sieve mesh sizes (0.03 mm, 0.32 mm and 0.5 mm) for the industrial use are not part of the testing acc. to DIN EN 13443-1 and DIN 19628 and therefore can not bear the DIN-DVGW mark.

8.1 Versions

Model	Time control	Differential pressure control with differential pressure switch	Order No.	Pipe connection
JPF+-AT DN 20	•		8020663	¾ inch
JPF+-AT DN 25	•		8020664	1 inch
JPF+-AT DN 32	•		8020665	1¼ inch
JPF+-AT DN 40	•		8001019	1½ inch
JPF+-AT DN 50	•		8001020	2 inch
JPF+-ATP DN 20	•	•	8020666	¾ inch
JPF+-ATP DN 25	•	•	8020667	1 inch
JPF+-ATP DN 32	•	•	8020668	1¼ inch
JPF+-ATP DN 40	•	•	8001017	1½ inch
JPF+-ATP DN 50	•	•	8001018	2 inch

8.2 Installation dimensions

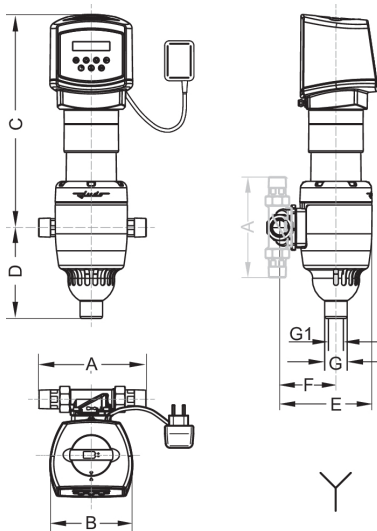


Fig. 12: JPF+-A 3/4" - 1 1/4"

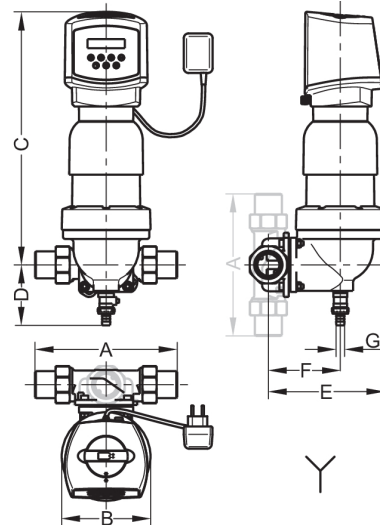


Fig. 13: JPF+-A 1 1/2" - 2"

	JPF-PLUS-AT / ATP 3/4"	JPF-PLUS-AT / ATP 1"	JPF-PLUS-AT / ATP 1 1/4"	JPF-PLUS-AT / ATP 1 1/2"	JPF-PLUS-AT / ATP 2"
A	180	195	230	252	280
B	145	145	145	158	158
C	378	378	378	450	450
D	161	161	161	107	107
E (AT/ATP)	164/184	164/184	169/189	207/227	215/235
F (AT/ATP)	100/120	100/120	105/125	128/148	136/156
G	40	40	40	14	14
G1	14	14	14	-	-
Y	Sewer connection necessary				

Table 3: All dimensions in [mm]

- | | | | |
|---|--|----|--|
| A | Installation length | F | Waste water connector mid. to p-
ipe mid. |
| B | Device width | G | Waste water nominal diameter |
| C | Height above the pipe middle | G1 | Waste water nominal diameter (alt.) |
| D | Height below the pipe middle | | |
| E | Installation depth up to the pipe middle | | |

8.3 Accessories

- JUDO QUICKSET JQR (order no. 8250041) for series connection of two devices, e.g. filter and water treatment system
- JUDO Bypass valve JQX (Best.-Nr. 8735210)
- JUDO Fault signalling cable (order no. 2200717)

8.4 Circuit diagram for device control

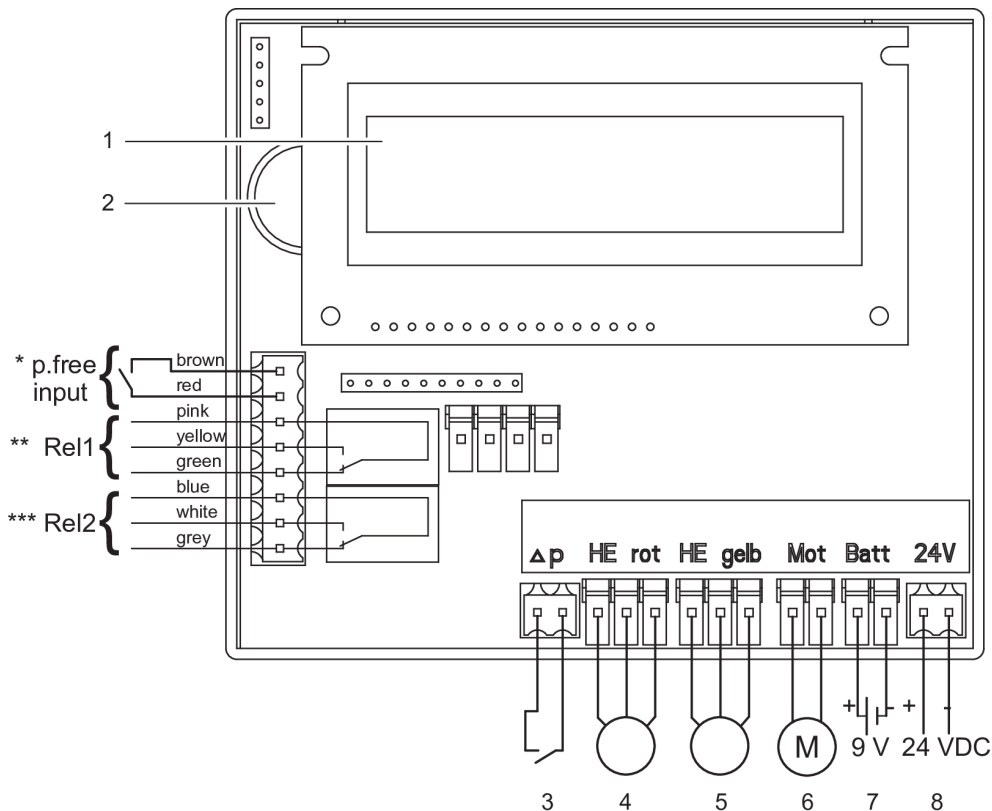
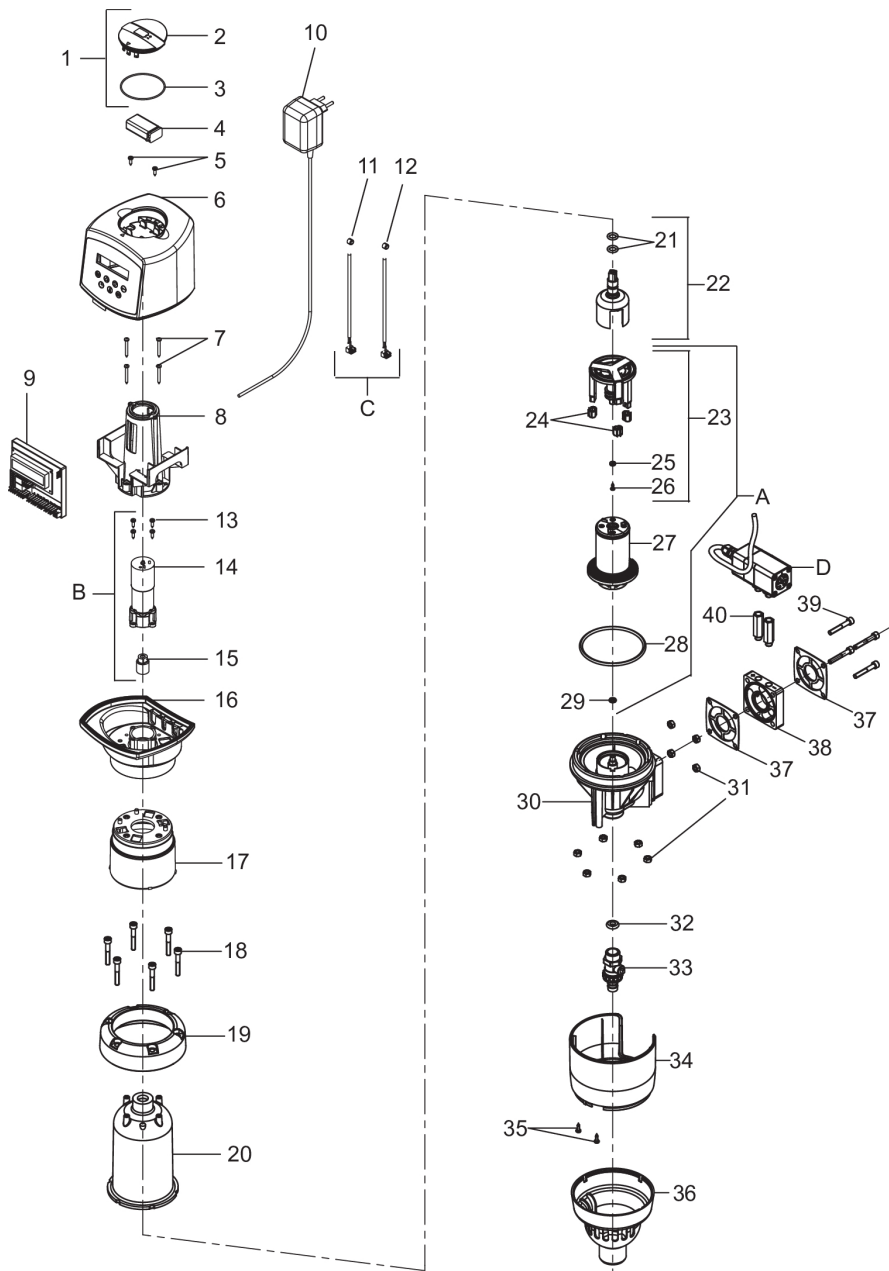


Fig. 14: Circuit diagram for device control

- | | |
|--------------------------------|---|
| 1 Display | 7 Power supply unit |
| 2 Audible signal transmitter | * Potential free input |
| 3 HE contactor red (top) | ** Potential free relay for fault indication |
| 4 HE contactor yellow (bottom) | *** Potential free relay for backwashing indication |
| 5 Motor | |
| 6 Battery | |

8.5 Spare parts

JPF-PLUS-AT/ATP ¾" - 1¼"



Item	Designation	Pcs	Order No.	AU ¹⁾ / Pce
A	Wear parts set "Sieve 0.1 mm, suction pipe and gaskets" (consisting of pos. 23, 27, 28, 29) ***	1	2021359	212
--	Wear parts set "Gaskets" (consisting of pos. 21, 24, 25, 26, 28, 29, 37) ****	1	2010335	42
B	Spare parts set "Motor" (consisting of pos. 13, 14, 15)	1	2021052	122
C	Spare parts set "HE-contactor" (consisting of pos. 11, 12)	1	2020974	83
D	Spare parts set "Differential pressure switch" (only ATP)	1	2020972	466
1	Lid battery compartment, complete	1	2021056	18
2	Lid battery compartment	1		
3	O-ring 63,22×1,78	1		
4	9V block battery (Alkaline)	1	2210518	8
5	Sheet metal screw 3,5×13	2		
6	Upper cover electronic circuit, complete	1	2020984	155
7	Sheet metal screw 3,5×32	4		
8	Electronic circuit holder	1		
9	Electronic control, potential free	1	2021066	270
10	Power supply unit	1	2021068	72
11	HE contact sensor red	1		
12	HE contact sensor yellow	1		
13	Sheet metal screw 3,5×13	1		
14	Motor, complete	1		
15	Motor coupling	1		
16	Bottom cover electronic circuit, complete (only AT)	1		
16	Bottom cover electronic circuit, complete (only ATP)	1		
16a	Cable gland, complete	1	2021200	55
17	Cover filter bowl	1		
18	Cylinder screw M6×40	6		
19	Flange ring	1		
20	Filter bowl	1	2021284	152
21	O-ring 10×3	2		

Table 4: List of spare parts JPF-PLUS-AT/ATP ¾" - 1¼"

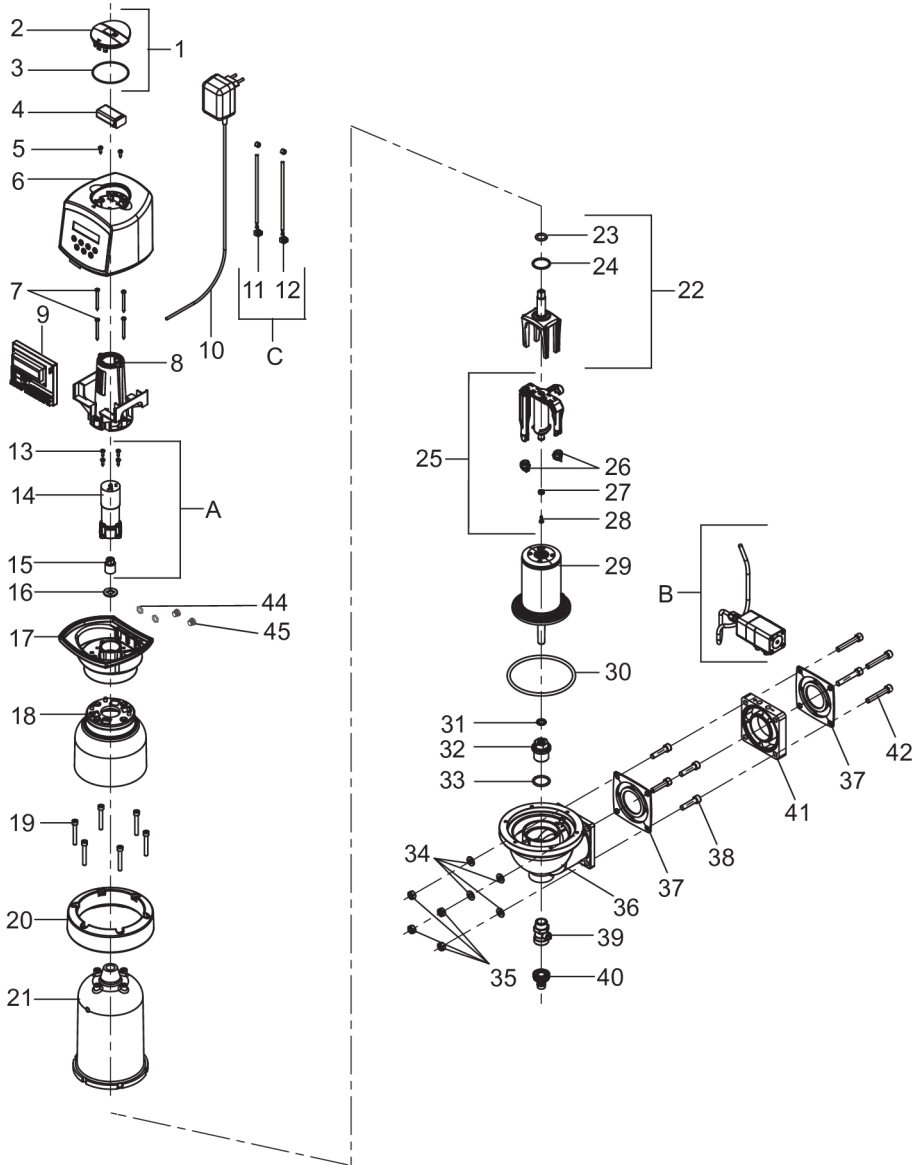
Item	Designation	Pcs	Order No.	AU ¹⁾ / Pce
22	Driver, complete	1	2010146	53
23	Suction pipe, complete	1		
24	Nozzle	3		
25	Suction pipe gasket	1		
26	Sheet metal screw 2,9×9,5	1		
27	Sieve insert Mesh size 0,1 mm	1		
28	O-ring 90×4	1		
29	O-ring 6,3×2,4	1		
30	Filter bottom	1		
31	Hexagonal nut M6	10		
32	RK gasket 19×9×4	1		
33	Safety ball valve	1	2021335	75
34	Cover	1		
35	Sheet metal screw 3,5×13	3		
36	Filter funnel	1		
37	Profile flange gasket	1		
38	Intermediate flange (only ATP)	1		
39	Cylinder screw M6×25 (only AT)	4		
39	Cylinder screw M6×40 (only ATP)	4		
40	Hexagonal extension (only ATP)	2	2021340	69

Table 4: List of spare parts JPF-PLUS-AT/ATP ¾" - 1¼"

1) AU = Accounting unit (items without AU are only available in a set)

Replacement interval: *** = 3 years **** = 4 years

JPF-PLUS-AT/ATP 1½" - 2"



Item	Designation	Pcs	Order No.	AU ¹⁾ / Pce
--	Wear parts set "Sieve 0.1 mm, suction pipe and gas-kets" (consisting of pos. 23, 24, 25, 29, 30, 31) ***	1	2021360	280
--	Wear parts set "Gaskets" (consisting of pos. 23, 24, 26×2, 27, 28, 30, 31×2, 37) ****	1	2010337	55
A	Spare parts set "Motor" (consisting of pos. 13, 14, 15)	1	2021052	122
B	Spare parts set "Differential pressure switch" (only ATP)	1	2020972	466
C	Spare parts set "HE-contactor" (consisting of pos. 11, 12)	1	2020974	83
1	Lid battery compartment, complete	1	2021054	18
2	Lid battery compartment	1		
3	O-ring 63,22×1,78	1		
4	9V block battery (Alkaline)	1	2210518	8
5	Sheet metal screw 3,5×13	2		
6	Upper cover electronic circuit, complete	1	2020998	175
7	Sheet metal screw 3,5×32	4		
8	Electronic circuit holder	1		
9	Electronic control	1	2021040	370
10	Power supply unit	1	2021068	72
11	HE contact sensor red	1		
12	HE contact sensor yellow	1		
13	Sheet metal screw 3,5×13	4		
14	Motor, complete	1		
15	Motor coupling	1		
16	Spacer	1		
17	Bottom cover electronic circuit, complete AT / ATP	1		
17a	Cable gland, complete AT / ATP	1	2021200	55
18	Cover filter bowl	1		
19	Cylinder screw M6×45	6		
20	Flange ring	1		
21	Filter bowl	1	2020811	415
22	Driver, complete	1	2021277	29

Table 5: List of spare parts JPF-PLUS-AT/ATP 1½" - 2"

Item	Designation	Pcs	Order No.	AU ¹⁾ / Pce
23	O-ring 15×3,2	1		
24	O-ring 28×2,5	1		
25	Suction pipe, complete	1		
26	Nozzle	2		
27	Suction pipe gasket	1		
28	Sheet metal screw 3,5×13	1		
29	Sieve insert 0,1 mm	1		
30	O-ring 113,67×5,33	1		
31	O-ring 12×3	1		
32	Connection piece	1	2021288	24
33	O-ring 26×3	1		
34	Disc A 8,4	4		
35	Hexagonal nut M8	4		
36	Filter bottom	1		
37	Profile flange gasket	2		
38	Cylinder screw M8×30	4		
39	Ball valve	1	2021335	75
40	Hose coupling	1	2021339	23
41	Intermediate flange (only ATP)	1		
42	Cylinder screw M8×35 (only AT)	4		
42	Cylinder screw M8×60 (only ATP)	4		
43	Counternut PG7 (for ATP: 1 pc.)	2		
44	Blanking plug PG7 (for ATP: 1 pc.)	2		

Table 5: List of spare parts JPF-PLUS-AT/ATP 1½" - 2"

1) AU = Accounting unit (items without AU are only available in a set)

Replacement interval: *** = 3 years **** = 4 years

9 Disposal

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

To protect environment, old appliances and used batteries 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.



10 EC Conformity Declaration

 Wasser- Aufbereitung	EC Conformity Declaration	Document no. 514 / 04.24
---	----------------------------------	-----------------------------

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

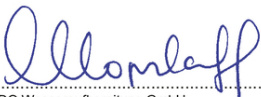
Product description: **PROFIMAT-PLUS-AT $\frac{3}{4}$ " - 2"**
PROFIMAT-PLUS-ATP $\frac{3}{4}$ " - 2"

- | | | |
|-------------------------|--|------------------------------|
| • EC Directive: | Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) | 2011/65/EU |
| • EC Directive: | Electromagnetic Compatibility (EMC) | 2014/30/EU |
| • Harmonized Standards: | Electromagnetic compatibility, generic standards for radiated interference and interference immunity | EN 61000-6-2
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, 10th April, 2024

Legally binding signature:


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.

11 Customer service

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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.