

Indoor use only

Installation and operating instructions JUDO PROFIMAT $\frac{3}{4}$ " - 4"

Automatic backwash protective filter

Model JPF-A

Valid for: Canada

Attention:

Carefully read through the installation and operating instructions and safety information before installing and putting the unit into service.

These instructions must always be issued to the owner/user.

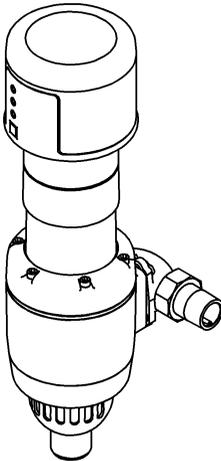


Fig.: JPF-A $\frac{3}{4}$ " - 1 $\frac{1}{4}$ "

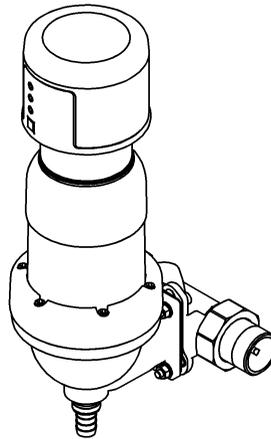


Fig.: JPF-A 1 $\frac{1}{2}$ " - 2"

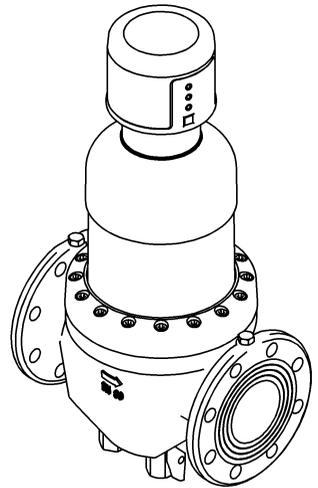


Fig.: JPF-A 2 $\frac{1}{2}$ " - 4"



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Dear Customer,

we would like to thank you for your confidence in us, which you have shown by purchasing this device. The product you have purchased is a filter developed using state of the art technology.

This filter is suitable for use in cold drinking water up to a maximum ambient temperature of 30 °C (86 °F).

It removes coarse and fine-grained particles larger or equal in size to the filter screen (strainer) mesh from the filter through screen filtration.

Particles smaller than the screen mesh size used, turbidities (i.e. substances that make the water turbid) and substances dissolved in the water cannot be filtered out of the water.

Each unit is thoroughly checked before delivery. Should difficulties nevertheless occur, please contact the responsible customer service. See back page.

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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1. About this instruction manual



(see chapter “Safety information and dangers due to non-compliance”)

The instruction manual must permanently be available at the place where the filter is used.

This instruction manual is intended to make it easier to familiarize yourself with the filter and its possible intended uses.

The instruction manual contains important information in order to safely, properly and economically run the filter.

It contains fundamental information, which must be observed during installation, operation and maintenance. Observance of this information helps to avoid dangers, reduce repair costs and increase the reliability and service life of the filter.

The instruction manual must be read and used by each person entrusted with carrying out work on the filter, for example:

- **installation**
- **operation**
- **maintenance**
(servicing, inspection, repair)

Installation and maintenance may only be carried out by personnel authorized by the manufacturer, who are capable of fulfilling the instructions given in the installation and operating instructions and the country-specific regulations.

Apart from the instruction manual and the legally binding accident prevention provisions applicable in the country and place of use, the recognized technical regulations for safe and proper work must also be observed.

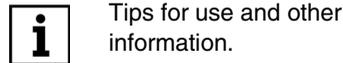
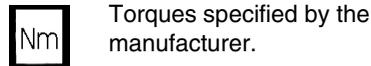
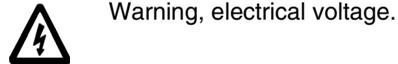
Therefore, this instruction manual must always be read by the fitter and responsible

skilled personnel/owner or operator before installation, putting into service and maintenance.

Not only the general safety notes given in the chapter “Intended use” are to be observed, but also the special safety notes in the other main chapters.

1.1 Symbols used

The safety notes contained in this instruction manual are labelled with the following symbols:



Notes directly attached to the filter, e.g.

- Direction of flow (see fig. 1)
- Rating plate
- Cleaning information

must always be observed and kept in a fully legible condition.

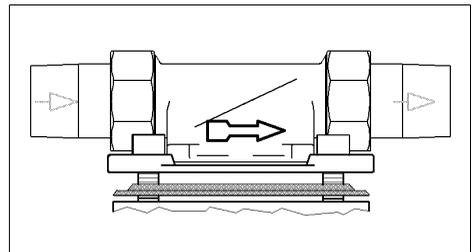


Fig. 1: Built-in rotary flange

1.2 Safety information and dangers due to non-compliance

In detail, failure to observe the general danger symbols can result, for example, in the following risks:

- Failure of important functions of the filter.
- Danger to persons due to electrical and mechanical effects.
- Danger to persons and the environment due to leaks.

Refrain from any unsafe working methods.

Failure to comply with this instruction manual and the safety information can not only result in dangers for people but can also harm the environment and the unit.

1.3 Units used

In derogation of the International System of Units (SI = Système international d'unités), the following units are used:

Unit	Conversion		
°F	°F = 9/5 °C + 32		
psi	1 bar = 100 kPa = 14.5 psi		
gpm	1 m ³ /h = 4.4 gpm		
¾"	= DN 20	2"	= DN 50
1"	= DN 25	2½"	= DN 65
1¼"	= DN 32	3"	= DN 80
1½"	= DN 40	4"	= DN 100

2. Intended use

The installation and operation of the filter is subject to the following existing national regulations.

In addition to the operating instructions and the obliging regulations concerning accident prevention that exist in the country of operation and the location of use, the established technical regulations concerning safe and professional work, should also be observed.

The water to be filtered must possess quality of drinking water!

It is absolutely essential that the manufacturer / supplier will be consulted prior to any operation of the device using water of a different quality, respectively with water that contains additives.

This filter is suitable for use in cold drinking water up to a maximum ambient temperature of 30 °C (86 °F).

The filter has been developed and manufactured using state of the art technology and the established safety regulations in Germany.

The filter may only be operated in accordance with the manufacturer's specifications. Any other operation or operation beyond the specified use, is not in accordance with the manufacturer's specifications.

Additional dangers may result in the event of the device not being operated in accordance with the manufacturer's specifications and non-observance of the danger symbols or safety instructions. The manufacturer / supplier cannot be made liable for any damages caused by these additional dangers. The operator is responsible for these risks.

The use of the device in accordance with the customer's specifications includes the observance of the operating instructions.

The manufacturer / supplier should be consulted prior to any operation of the filter other than in the operational areas stated in these operating instructions.

The filter may only be operated in a technically faultless condition, in accordance with the manufacturer's specifications and the stated safety and danger relevant instructions and under observance of the operating instructions!

Any functional defects are to be removed immediately!

2.1 Water pressure

The water pressure should be between 22 psi (150 kPa) and 150 psi (1000 kPa).

The water pressure must not exceed 22 psi (150 kPa) as otherwise the backwashing can be impaired! If the filter is not backwashed regularly a pressure loss can result and this can impair the filter function.



ATTENTION

(see chapter “Safety information and dangers due to non-compliance”)

In the event of **water pressure above 150 psi (1000 kPa)**, the pressure reduction valve should be fitted **in front** of the automatic backwash protective filter (see fig. 2). If the operating pressure is above 150 psi (1000 kPa), this may result in defects during operation.

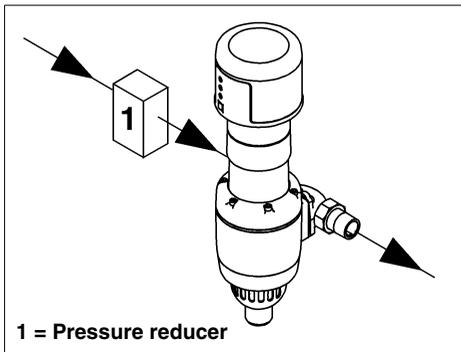


Fig. 2: Pressure reducer upstream of the unit

i The installation of a pressure reduction valve is recommended for **water pressures between 73 psi (500 kPa) and 150 psi (1000 kPa)**.

2.2 Notes on special dangers

2.2.1 Electrical equipment / installations



There must not be any electrical cables and devices underneath or in the immediate vicinity of the filter!

Electrical devices / equipment that are not splash-water proof and are situated in the direct vicinity of the filter may be damaged by water leaking from the filter caused as a result of the device not being operated in accordance with the manufacturer’s specifications. In addition this may also result short circuits if these electrical devices / equipment being connected to the electrical power supply. In the event of such cases persons are at risk and may sustain electrical shocks. Therefore any electrical devices / equipment situated in the direct vicinity should be splash-water proof, respectively comply with the statutory requirements for wet areas (IP44).

2.2.2 Potential-free input



Only potential-free switching contacts may be connected to the potential-free Input. No external voltage may be impressed on the potential-free Input! Applicable safety requirements and electrical regulations must be observed without exception!

2.2.3 Isolated output



Only extra-low voltage may be used for the remote transmission of the fault message by means of the isolated output!

Switched voltage.....maximum 24 V
Current..... maximum 1 A
 (see chapter “Potential-free message”)

3. Product information

3.1 Intended purpose

This filter is suitable for use in cold drinking water up to a maximum ambient temperature of 30 °C (86 °F).



(see chapter “Safety information and dangers due to non-compliance”)

Please refer to the chapter on “Intended use” for use restrictions.

This filter removes coarse and fine-grained particles from the water which are larger than or equal in size to the mesh size of the filter.



Particles smaller than the supplied mesh size and impurities causing turbidity cannot be filtered out of the water.

3.2 Test mark

CSA



Fig. 3: Test mark

The automatic backwash protective filter has been checked by the CSA, and has been marked with the CSA sign for certified safety (see fig. 3).

3.3 Materials used

The materials used are resistant to the physical, chemical, and corrosive loads to be expected in the drinking water and fulfil the requirements specified in DIN EN 13443-1 and DIN 19628 (“Mechanical filters in drinking water installations”). All materials are hygienically and physiologically safe. Plastics fulfil the KTW guideline of the UBA (Umweltbundesamt / Federal Environmental Agency) and the DVGW working sheet W270, and metallic materials fulfil the requirements of DIN 50930-6 (Impact on the drinking water quality).

4. Installation

4.1 General



(see chapter “Safety information and dangers due to non-compliance”)

The unit may only be installed by skilled personnel.

The chapter on “Intended use” must always be observed!

The pipes must be able to safely support the filter.

Otherwise mechanical damage or fractures/bursts can occur in the pipes. This can result in major water damage. People close to the filter are exposed to a health risk due to the large quantities of water released. Therefore, if necessary, the pipes must be additionally fixed or supported.

For convenient operation and maintenance it is absolutely necessary to ensure the given spacings (see chapter “Discharging backwash water”).

A space of at least 100 mm (4 inch) should be maintained above and below the filter. These distances are necessary to be able to properly carry out the backwashing (see chapter “Backwashing”).

4.1.1 Transport / storage

The automatic backwash protective filter shall be protected towards heavy impacts.

4.1.2 Requirements for the place of installation

The room where the unit is installed must be dry and frost free!

Unauthorised persons must not have access to the filter!



(see chapter “Safety information and dangers due to non-compliance”)

- The ambient temperature must not exceed 30 °C (86 °F)! At higher temperatures or direct sun radiation the material can be damaged and the filter hood can even break.
- In order to be able to safely discharge the wastewater in operation and in case of any defects that occur in the system, precise compliance with the details given in the “Installation” chapter is necessary! If the wastewater (backwashing) cannot be safely and completely discharged, the house and installations can be damaged by water.
- A shut-off valve must be installed upstream of the filter! This enables the water supply to the filter to be interrupted during installation, servicing/maintenance, repairs and in case of malfunctions. Floods and serious water damage to house installations can therefore be avoided.
- The unit can be installed in all standard drinking water pipes.
- It is not permitted to install the automatic backwash protective filter **upstream of** the water meter!
- A power outlet above the filter with constant electricity supply within a distance of max. 1.5 m (60 inch) is required for the mains adapter of the automatic filter.

4.1.3 Installed position



(see chapter “Safety information and dangers due to non-compliance”)

Always install the filter in a vertical position ($\pm 5^\circ$)!

Failure to observe this can cause uncontrolled backwashing water to escape and can result in water damage.

4.1.4 Mounting the built-in rotary flanges

JPF-A ¾" - 2"

Install using the supplied built-in rotary flange. The built-in rotary flange is used as a connecting element between the pipe and the filter.

It is suitable for both horizontal and vertical pipes.

The built-in rotary flange must be installed in the direction of flow. This is marked by a cast in arrow.

(see fig. 5)

Failure to comply with this means the filter cannot work.



(see chapter “Safety information and dangers due to non-compliance”)

The flange surface of the built-in rotary flange must be in a horizontal position! The built-in rotary flange must be fitted so that mechanical stresses cannot occur! Otherwise mechanical damage can result in the built-in rotary flange. Otherwise mechanical damage can result, the pipe may burst or the built-in rotary flange can break. This can result in major water damage.

In this case, people close to the filter are exposed to a health risk due to the large quantities of water.

Therefore, during installation, ensure that no large forces act on the pipe, built-in rotary flange and filter.

4.1.5 Installing the automatic backwash protective filter

JPF-A ¾" - 2"

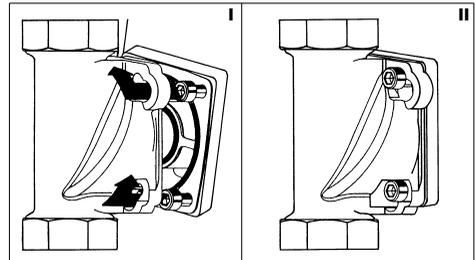


Fig. 4: Built-in rotary flange with bayonet fixture

The built-in rotary flange for the filter is supplied with bayonet drill holes. The necessary seals and screws for this filter have already been mounted.

Do not unscrew the screws!

- Insert the four flange screws in the bayonet drill holes on the built-in rotary flange (see fig. 4 I).
- Turn the filter in a clockwise direction as far as it will go (see fig. 4 II).
- Tighten the four flange screws.



Select the torque (approx. 4 Nm) so that the gasket closes and the filter is not damaged or strained!



(see chapter “Safety information and dangers due to non-compliance”)

The section of the profiled flange gasket must point towards the built-in rotary flange. Failure to observe this can lead to leaks and water escaping. This can in turn cause water damage to the house and its installations (see fig. 5).

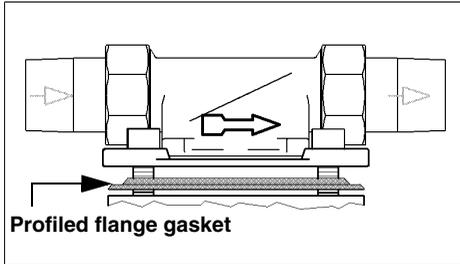


Fig. 5: Built-in rotary flange

JPF-A 2½" - 4"

Installation of filters of the nominal size 2½" to 4" should be accomplished perpendicularly only if there is no possibility for horizontal installation. During operation in a perpendicular conduit, the coarse particles deposited in the sludge collector cannot be as optimally flushed as while operating horizontally.

The filters of nominal sizes 2½" to 4" have a flange connection according to DIN 2633.

4.2 Discharging backwash water



(see chapter "Safety information and dangers due to non-compliance")

An adequately dimensioned wastewater connection (e.g. floor drain) must be available for the backwashing water.

The dimensioning depends on conditions on site (e.g. wastewater pipe gradient, number of pipe bends, length of the wastewater pipe, etc.). The dimensioning must at least allow all the wastewater to be discharged at the same time.



Ensure that the wastewater connection functions before plugging the power supply unit into the socket.

If it is not possible to provide a wastewater connection directly beneath the automatic backwash protective filter, the flushing water can be fed several metres to the next wastewater connection, either through a hose or a pipe to be fitted to the flushing water valve. This pipe must have the same dimension as the flushing water valve.

In all options, a free discharge must be ensured.

4.2.1 Instructions for safe use

To ensure a long life cycle of the filter and sieve insert it is necessary that the backwashing stream at pressures higher than 30 psi (200 kPa) is throttled by means of a flush-cock. Thus the screen cloth is prevented from being damaged by too effected cleaning-up streams. At the same time the flushing water consumption is reduced and possible flow noises are avoided.

4.2.2 Backwashing water discharge options

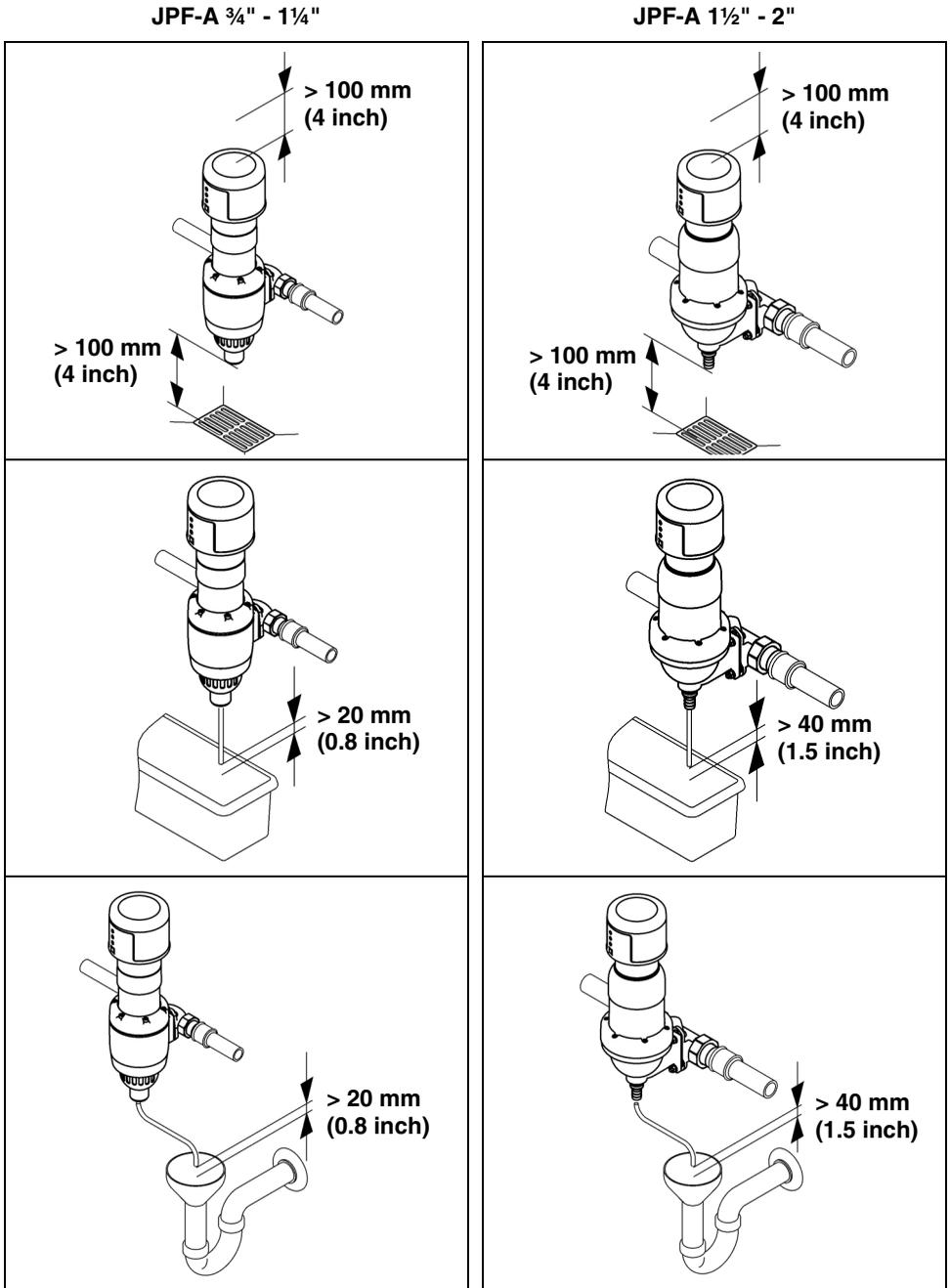


Fig. 6: Backwashing water discharge options

JPF-A DN 65 - 100

JPF-A DN 65 - 100

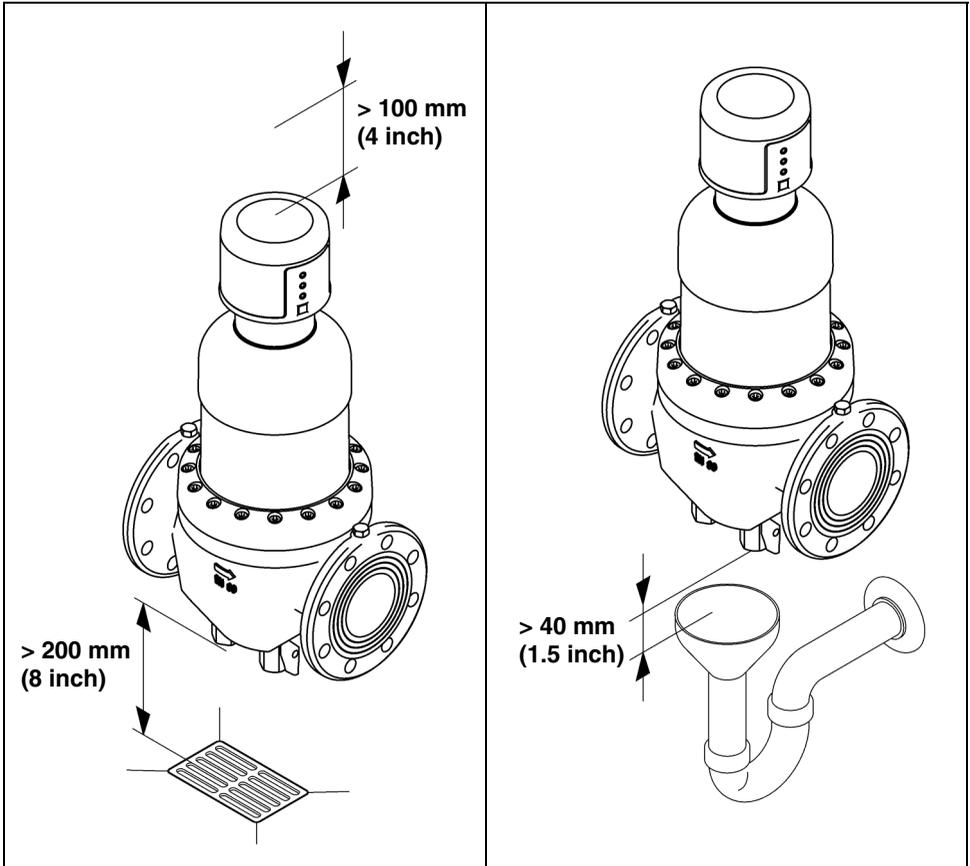


Fig. 7: Backwashing water discharge options

When screwing in a pipe to drain the backwash water, make certain not to twist the flushing valves. They are locked with gasket glue.

5. Operation



(see chapter “Safety information and dangers due to non-compliance”)

Imperatively observe the chapter “Intended use”!

5.1 Commissioning

Before starting up (initial putting into service or startup after maintenance work), **fill** the filter with water and **vent**!

- To this end, after installation the filter station is filled with water by opening the upstream shut-off valve.
- The filter is now under mains pressure.
- The enclosed air must then be immediately removed from the filter station in order to avoid damage to the installation caused by pressure surges. The filter station is vented by means of backwashing (see chapter “Discharging backwash water”).
- After backwashing and venting the filter station is ready for use.

5.2 Control lamps, manual pushbuttons

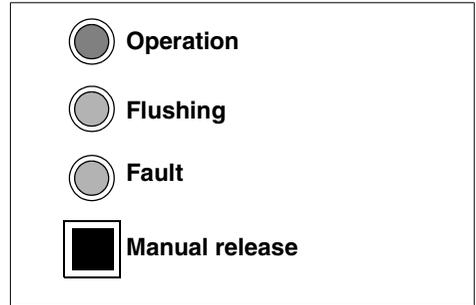


Fig. 8: Control lamps, manual pushbuttons

Operation

Permanent green light: The automatic backwash protective filter is ready for use.

Green light flashing: The filter is in flushing position while plugging in the power supply. The LED “Operation” is blinking till the flush valve is closed.

Flushing

Permanent yellow light: Backwashing is taking place.

Yellow light flashing: Call for backwashing when semi-automatic is set.

Fault



Red flashing light: the automatic backwash protective filter is not ready for use (see chapter “Fault”).

Manual release

Push the manual pushbutton.

Triggers backwashing.

Indication of maintenance

All three control lamps flash at the same time (see chapter “Warranty and services”).

5.3 Differential pressure control

Mode of operation:

The impurities filtered off and caught on the filter cloth cause an increased differential pressure between the inlet and the outlet of the filter at an adequate flow rate. The differential pressure switch registers the differential pressure prevailing on the filter. If the differential pressure reaches the set value, the backwashing procedure will be automatically initiated.

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

Setting of differential pressure:

The selector shaft of the differential pressure switch is set at the adjusting screw. The value can be adjusted with a screwdriver between 0.9 psi (6.2 kPa) and 9 psi (62 kPa), see scale.

If the value is set too high, dirt may accumulate with low flow rate. During times of higher water removal the differential pressure will increase to an extent that damages at the screen may occur.

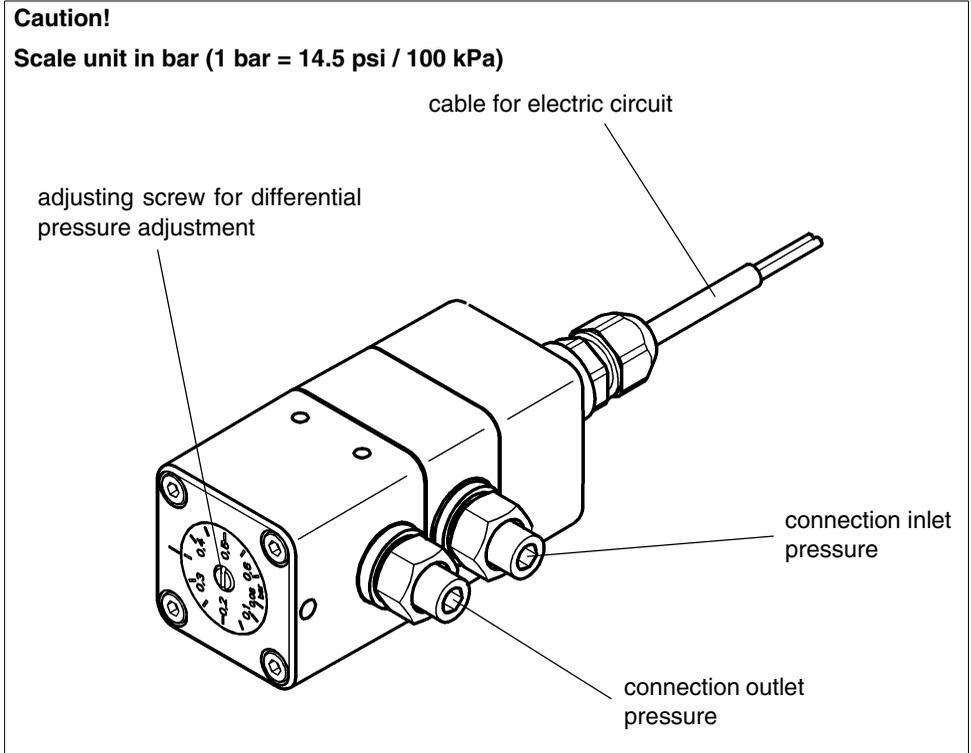


Fig. 9: Differential pressure switch

5.4 Setting of the backwashing interval



ATTENTION

(see chapter “Safety information and dangers due to non-compliance”)



Pull off the power supply out of the socket.

- Loosen the four screws of the cover hood and remove cover hood.
- Set backwashing interval via contacts 2 to 6 of DIP-switches S1, see tab. 1.

4 hours	8 hours	24 hours	1 week	1 month

Tab. 1: DIP switch S1
(factory setting: 1 week)

- For the setting only one contact may be changed to the left.

Selecting the backwashing intervals

Mesh size mm (inch)	Application cases	Backwashing intervals ¹⁾
0.03 (0.001)	Doctor's offices, laboratories, photo labs	24 hours
0.10 (0.004)	Domestic water installations in the private and commercial field	1 week, 1 month
0.10 (0.004) and 0.32 (0.01)	Domestic water installations Well water	24 hours, 1 week
0.32 (0.01) and 0.5 (0.02)	Industrial sector Air condition systems	24 hours, 1 week

1) Depending on the dirt accumulation

- The circuit reacts with a continuous signal to wrong settings (see chapter “Fault”).
- Remount the cover hood and tighten it by means of the four screws.



Ensure that the wastewater connection functions before plugging the power supply unit into the socket.

- The automatic backwash protective filter is once more ready for operation after the backwashing performance.



Manual start of backwashing performance:
Push manual button. The backwash interval is set back.

5.5 Functional description

The automatic backwash protective filter removes all coarse- and fine-grained impurities. These impurities may cause pitting corrosion as aeration elements in cold water pipes and warm water supply systems, leading to malfunction of fittings, control units and sensitive devices.

In the automatic backwash protective filter, the water flows outside-inside through a cylindrical screen insert. Impurities can be seen through the filter hood. If the filter is contaminated, it will be cleaned without interruption of operation.

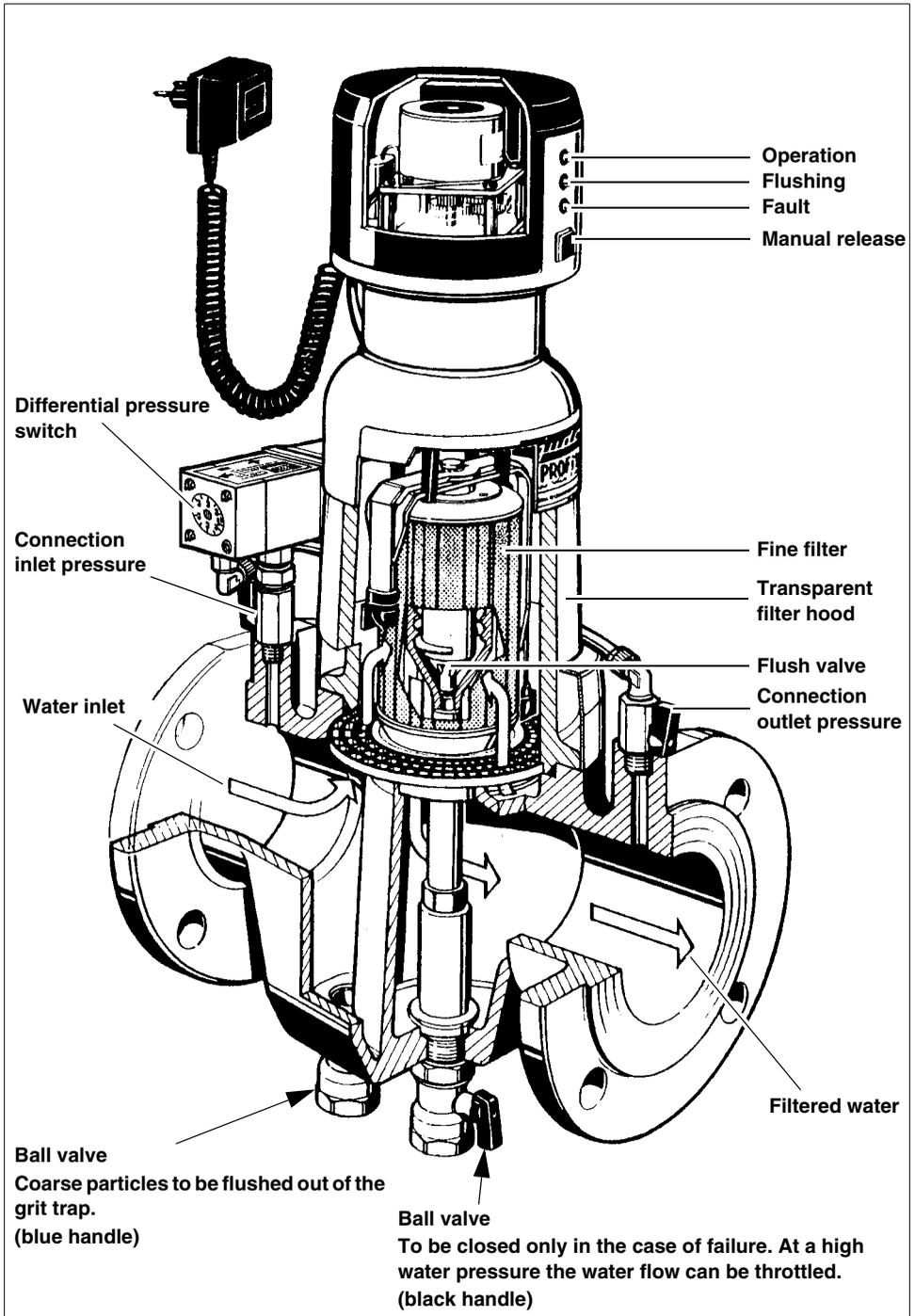


Fig. 10: Functional description (e.g. JPF-ATP 2½")

5.6 Backwashing

The filter must be backwashed (= cleaned) at the specified cycles in order to remove the filtered dirt from the fine filter screen.



All filter sizes are backwashed with treated water. The treated water supply within the domestic installation is maintained throughout the backwashing performance. During the backwashing any wastewater can't get into the pure water side.

The cleaning-off is effected by means of the ***point-rotation method***:

Spiralled rotation of suction trunks around the sieve cloth of the fine filter. These progress upwards with each turn till the entire sieve cloth will have been sucked off once.

At the same time, the flushing valve at the bottom of the filter opens and the backwash water can exit. During this time, pure water streams inside-outside passing through the sieve surface into the suction trunks, carrying away the adhering particles.

After reaching the upper limit-stop, the flushing valve is closed again and the sieve cloth of the fine filter is sucked off a second time by the suction trunks. Repeat this performance till reaching the lower limit-stop. During this step, the suction trunks do not only clean the sieve cloth of the fine filter but also the transparent filter hood by means of a rubber lip on its exterior (see fig. 10).



The degree of pollution as well as the cleaning off operation can be watched from outside.

5.6.1 Backwashing interval

Unauthorized persons must not operate the filter! Persons who operate the filter must observe the operating instructions. Failure to observe these instructions can result in damage to property and personal injuries.



ATTENTION



(see chapter "Safety information and dangers due to non-compliance")

The smaller the mesh size of the screen insert the more frequently backwashing has to be effected!

Experience shows that increased dirt is deposited during the initial running period. If so, the unit has to be flushed more often than usual.

Failure to flush in good time can cause damage to the screen. Larger quantities of filtered particles can deform the screen and as an extreme incident cause the tearing of the sieve. As a result a filter function is not any longer ensured. In addition, larger quantities of dirt can cause mechanical impairment concerning the backwashing function.

5.7 Modifications / changes / spare parts



ATTENTION

(see chapter “Safety information and dangers due to non-compliance”)

Only original spare parts are to be used!

Arbitrary modifications and changes are prohibited for safety reasons! They can impair the function of the filter, lead to leaks and as an extreme incident they can lead to the bursting of the filter.

The imprinted test marks are only valid if original spare parts are used.

Only the original power supply from JUDO may be used!

5.8 Potential-free message

Filters identified “p-free” and filters with potential-free signalling relays can transfer in a potential-free mode the following messages (see fig. 11 and fig. 15):

- Fault message
- Message to backwash



The power supply unit has to be unplugged from the socket for accomplishment of electric installation and for setting the DIP-switch!

The chapter “Notes on special dangers” and the chapter “Installation” have to be imperatively observed!

The maximum switching current and switching voltage have to be imperatively observed!

(see chapter “Notes on special dangers”).

In fig. 11 “Relay contact assignment” the contacts of the potential-free relay are marked in their electroless state.

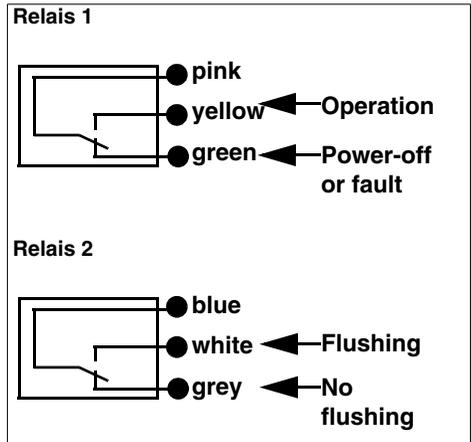


Fig. 11: Relay contact assignment

The relay can be connected as a make contact or as a breaker.

If the power supply unit of the filter is plugged in the relay 01 changes its switched condition!

If a fault message occurs the relay switches to “Power-off or fault”-state.

At the start of a backwash, relay 02 will switch to state “Flushing”.

After a backwash, relay 02 switches to the state “No flushing”.

5.9 Potential-free input

Filters with potential-free signalling relay have an additional input (potential-free input) and an additional DIP-switch S2 (see chapter “Connecting diagram for filter control with potential-free relays”). This input can be used for the filter control (see tab. 2).



The power supply unit has to be unplugged from the socket for accomplishment of electric installation and for setting the DIP-switch!

The chapter “Notes on special dangers” and chapter “Installation” have to be observed imperatively!

Function	DIP switch S2	Specification
External flush start up		Starting of the flushing operation: By closing a switch contact (brown and red core) connected to the potential-free input.
External flush stop		If the switch contact at the potential-free input (brown and red core) is closed the filter cannot effect a flushing. If the backwashing interval time has expired the flushing is carried out as soon as the switch contact of the potential-free input is opened.
Semi-automatic		Relay 2 closes after the backwashing interval having expired or after pressure exceed occurring at the differential pressure sensor and thus displays the call to backwash. Simultaneously the yellow LED blinks: “Flushing”. The flushing can only be started by means of the manual button or a switch contact connected to the potential-free input.
		Not allowed. Continuous sound signal till the switch is adjusted.

Tab. 2: Potential-free input

5.10 Integration of the filter in the building control systems

The filter can be integrated in a building control system (e.g. EIB, LCN or LON) via the potential-free signalling relay and the external input of the filter control ("potential-free" version only).

The potential-free signalling relays are connected, for example, to a binary bus coupling unit.

Thus, fault messages or the filter flushing signal can be forwarded to the building control system.

In addition, the external input of the filter control can be used concerning the remote control (flush start-up, flush-blocking).

5.11 Servicing / Repair

Before carrying out any work on the filter, that is beyond pure operation induced control, the filter has to be depressurised! Failure to observe this can lead to an uncontrolled escape of water and therefore lead to water damages in the building. Strictly comply with the instructions given in the "Installation" and "Maintenance" chapters.

5.12 Stoppages



(see chapter "Safety information and dangers due to non-compliance")

If a filter has to be removed from the flange or unscrewed, the chapter "Intended use" has imperatively to be observed!

- Protect the flange surfaces from damage! Damaged flanged surfaces cannot close tight any longer. As a result, escaping water can damage the building and installations.
- Ensure that no dirt can get into the filter! Upon recommissioning this dirt can get into contact with the drinking water and be discharged into the drinking water. The health of people consuming polluted water is at risk.
- Store the filter in frost-free conditions! The water contained in the hollows of the filter can freeze due to frost and thus the filter can be mechanically damaged to a degree that it will become untight at operating pressure or that it can burst. Leaking water can cause major material-damages to the building. In addition, people near the filter can be injured by blistering filter parts.
- When recommissioning the filter, same course of action as applied to the new filter.

6. Fault

Deletion of the error message:

The opening of the units and the replacement of the water pressure charged parts may only be effected by authorized personal in order to ensure the unit security and its tightness.



Pull of the power supply out of the socket. Replug it again after approximately 5 seconds!

The occurrence of a failure is indicated by the red control lamp.

Fault Help:

Fault	Cause	Removal
Continuous signal tone.	The DIP-switch was wrongly adjusted.	Set DIP-switches to the correct position (see chapter "Setting of the backwashing interval" and "Potential-free input")!
Red indicator lamp "Fault" blinks, signaller beeps.	Electrical or mechanical defect.	<ul style="list-style-type: none"> – Delete the error message! – Start backwashing again by hand release! If the fault occurs again: <ul style="list-style-type: none"> – Pull of the power supply out of the socket! – Inform the plumber or nearest customer service centre! – If water escapes close spherical faucets!
All three LEDs blink.	Services to be needed.	See chapter "Warranty and services"
Backwash water continues to enter.	Flush valve not fully closed.	<ul style="list-style-type: none"> – Start backwashing again by hand release!
	Dirt in the flush valve.	
Decrease in water flow rate.	Sieve is clogged.	
Leaks in the filter hood.		<ul style="list-style-type: none"> – Pull of the power supply out of the socket! – Close spherical faucets! – Inform the plumber or nearest customer service centre! – If water escapes close spherical faucets!
Filter hood becomes turbid.	Filter hood was exposed to higher temperatures or solvents.	
Hairline cracks in the filter hood.		

7. Maintenance



(see chapter “Safety information and dangers due to non-compliance”)

The chapter “Intended use” has to be obligatorily observed!

7.1 Cleaning



(see chapter “Safety information and dangers due to non-compliance”)

Use only clear, drinking water concerning the cleaning of the housing and the transparent filter hood.

Domestic all-purpose cleaners and glass cleaners can contain up to 25 % solvents or alcohol (spirits).

These substances can chemically attack the plastic parts, which can lead to brittleness right up to [brittle] fractures.

These kinds of cleaners must therefore not be used.

8. Warranty and services

In order to comply with the legal warranty claim, according to DIN EN 806-5, it is necessary that the backwashing takes place according to the existing operating conditions, at the latest, however, every 2 months.

In order to achieve an operation success also after the putting into service and over many years a regular maintenance of the unit is indispensable. In the domestic engineering field it is regulated in accordance with the DIN standards [DIN EN 806-5].

The filter signals the required maintenance within a yearly cycle by the blinking of three LEDs: “Operation”, “Flushing” and “Maintenance”. The filter continues to remain ready for service. After the maintenance has been completed the maintenance signal is reset by interrupting the mains voltage.

A servicing agreement is the best way to ensure a good operating function beyond the warranty period.

Wherever possible, the regular servicing work and supply with consumables and wearing materials, etc. should be carried out by the specialist trade or the factory’s customer service department.

9. Data sheet

9.1 Type

Automatic backwash protective filter

JUDO PROFIMAT $\frac{3}{4}$ " - 4"

Abbreviated name:

JPF-A $\frac{3}{4}$ " - 4"

9.2 Models

Model	Time control	Pressure differential control with differential pressure switch	Order no.	Pipe connection
JPF-AT $\frac{3}{4}$ "	•		8020218	$\frac{3}{4}$ inch
JPF-AT 1"	•		8020219	1 inch
JPF-AT 1 $\frac{1}{4}$ "	•		8020268	1 $\frac{1}{4}$ inch
JPF-AT 1 $\frac{1}{2}$ "	•		8020269	1 $\frac{1}{2}$ inch
JPF-AT 2"	•		8020270	2 inch
JPF-AT 2 $\frac{1}{2}$ "	•		8025031	2 $\frac{1}{2}$ inch
JPF-AT 3"	•		8025032	3 inch
JPF-AT 4"	•		8025033	4 inch
JPF-ATP $\frac{3}{4}$ "	•	•	8020220	$\frac{3}{4}$ inch
JPF-ATP 1"	•	•	8020221	1 inch
JPF-ATP 1 $\frac{1}{4}$ "	•	•	8020273	1 $\frac{1}{4}$ inch
JPF-ATP 1 $\frac{1}{2}$ "	•	•	8020243	1 $\frac{1}{2}$ inch
JPF-ATP 2"	•	•	8020274	2 inch
JPF-ATP 2 $\frac{1}{2}$ "	•	•	8025029	2 $\frac{1}{2}$ inch
JPF-ATP 3"	•	•	8020210	3 inch
JPF-ATP 4"	•	•	8020211	4 inch

9.3 Special designs

The filters come factory equipped with a stainless-steel sieve with a mesh size of 0.1 mm (0.004 inch).

If desired, mesh sizes of 0.03 / 0.32 and 0.5 mm (0.001 / 0.01 and 0.02 inch) are available for technical and industrial use.



You must make sure that the filter is backwashed latest every two months as described in the chapter "Backwashing interval".



ATTENTION



(see chapter "Safety information and dangers due to non-compliance")

Filters with mesh sizes larger than 0.1 mm (0.004 inch) only filter correspondingly large particles from the water. But backwashing must also be carried out here latest after two months to prevent germ formation.

A mesh size smaller than 0.1 mm (0.004 inch) causes smaller particles to also be filtered out of the water. That means that the filter can become contaminated faster. The backwash intervals should be shortened in such cases. Carry out backwashing latest when the filter is visibly soiled or the water pressure drops.

9.4 Technical data

The following applies for all the models of the device:

- Pressure loss when clean (after backwashing): 3 psi (20 kPa) at the water flow rate (nominal flow rate) given in the table.
- Maximum ambient temperature and water temperature: 30 °C (86 °F).
- **The water to be filtered must possess quality of drinking water!**
- Threaded connection to DIN 2999.
- Flange connection according to DIN 2633.

Power requirements

Current supply	120 V AC, 60 Hz
Rated input during backwash	max. 15 W

Nominal pressure

Model	Operating pressure	Nominal pressure
JPF-A ¾" - 2" JPF-A 2½"	22 - 150 psi (150 - 1000 kPa)	PN 16
JPF-A 3" - 4"	22 - 150 psi (150 - 1000 kPa)	PN 10

The nominal pressure denotes the pressure class, according to which the filter must fulfill the requirements to DIN EN 13443-1 and DIN 19628. The maximum operating pressure is lower, in order to ensure the optimum function of the filter.

Weight

Model	manual	AT	ATP
JPF-A ¾"	2,6 kg	4,2 kg	5,7 kg
JPF-A 1"	2,7 kg	4,4 kg	5 kg
JPF-A 1¼"	3,3 kg	1,9 kg	5,6 kg
JPF-A 1½"	9 kg	10,2 kg	11,5 kg
JPF-A 2"	10,3 kg	11,5kg	11,5 kg
JPF-A 2½"	15 kg	16,5 kg	17,5 kg
JPF-A 3"	29 kg	30 kg	30,5 kg
JPF-A 4"	31 kg	33,5 kg	33,5 kg

Water flow rate

Model	Water flow rate for a pressure loss of 3 psi (20 kPa) with clean sieve insert ¹⁾
JPF-A ¾"	4.0 m ³ /h (17.5 gpm)
JPF-A 1"	4.5 m ³ /h (20 gpm)
JPF-A 1¼"	5.5 m ³ /h (24 gpm)
JPF-A 1½"	16.0 m ³ /h (70 gpm)
JPF-A 2"	17.0 m ³ /h (75 gpm)
JPF-A 2½"	27.0 m ³ /h (119 gpm)
JPF-A 3"	50.0 m ³ /h (220 gpm)
JPF-A 4"	70.0 m ³ /h (308 gpm)

- 1) Data concerning the water flow rate are valid for drinking water. The maximum water flow rate for more polluted water is lower, depending on the mesh size. If so, a larger dimension has to be chosen.

Backflush volume stream

Model	Backflush volume stream	Back-flush time [minutes]
JPF-A ¾" - 1¼"	0.2 - 0.4 l/s (3 - 6.5 gpm)	ca. 2
JPF-A 1½" - 2"	0.3 - 0.8 l/s (5 - 13 gpm)	ca. 2
JPF-A 2½"	0.3 - 0.8 l/s (5 - 13 gpm)	ca. 2
JPF-A 3" - 4"	0.5 - 1.5 l/s (8 - 25 gpm)	ca. 2

The backwashing volumetric flow given applies to 29 - 44 psi (200 - 300 kPa) mains pressure and for a completely opened flushing water valve.

9.5 Installation dimensions JPF-A $\frac{3}{4}$ " - 2"

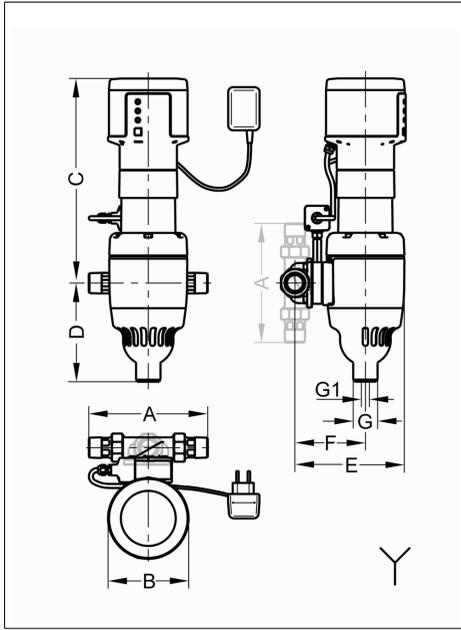


Fig. 12: Installation dimensions JPF-A $\frac{3}{4}$ " - 2"

9.6 Installation dimensions JPF-A $2\frac{1}{2}$ " - 4"

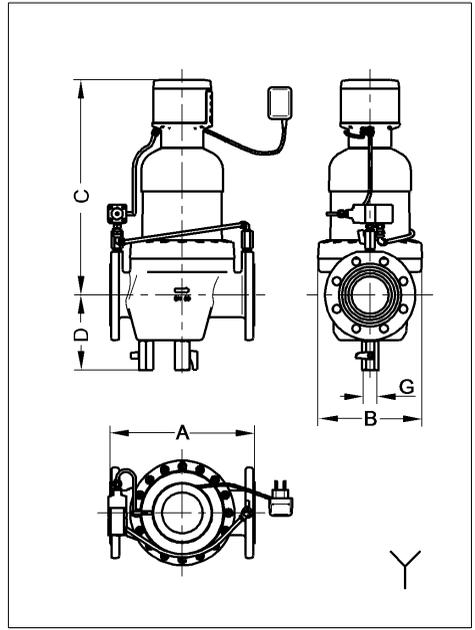


Fig. 13: Installation dimensions JPF-A $2\frac{1}{2}$ " - 4"

Data sheet

Model	A	B	C	D	E	F	G
JPF-AT ¾"	180 (7.0)	133 (5.2)	335 (13.2)	165 (6.5)	165 (6.5)	100 (3.9)	40 (1.5)
JPF-AT 1"	195 (7.5)	133 (5.2)	335 (13.2)	165 (6.5)	165 (6.5)	100 (3.9)	40 (1.5)
JPF-AT 1¼"	230 (9.0)	133 (5.2)	335 (13.2)	165 (6.5)	170 (6.7)	105 (4.1)	40 (1.5)
JPF-AT 1½"	252 (9.9)	158 (6.2)	402 (15.8)	84 (3.3)	207 (8.1)	129 (5.1)	20 (0.8)
JPF-AT 2"	280 (11.0)	158 (6.2)	402 (15.8)	84 (3.3)	215 (8.5)	137 (5.4)	20 (0.8)
JPF-AT 2½"	240 (9.4)	185 (7.3)	405 (15.9)	159 (6.3)	-	-	¾"
JPF-AT 3"	320 (12.5)	232 (9.1)	475 (18.7)	166 (6.5)	-	-	¾"
JPF-AT 4"	320 (12.5)	232 (9.1)	485 (19.1)	176 (6.9)	-	-	¾"
JPF-ATP ¾"	180 (7.0)	133 (5.2)	335 (13.2)	165 (6.5)	180 (7.0)	100 (3.9)	40 (1.5)
JPF-ATP 1"	195 (7.5)	133 (5.2)	335 (13.2)	165 (6.5)	180 (7.0)	100 (3.9)	40 (1.5)
JPF-ATP 1¼"	230 (9.0)	133 (5.2)	335 (13.2)	165 (6.5)	180 (7.0)	105 (4.1)	40 (1.5)
JPF-ATP 1½"	252 (9.9)	158 (6.2)	402 (15.8)	84 (3.3)	227 (8.9)	149 (5.9)	20 (0.8)
JPF-ATP 2"	280 (11.0)	158 (6.2)	402 (15.8)	84 (3.3)	235 (9.6)	157 (6.2)	20 (0.8)
JPF-ATP 2½"	240 (9.4)	185 (7.3)	405 (15.9)	159 (6.3)	-	-	¾"
JPF-ATP 3"	320 (12.5)	232 (9.1)	475 (18.7)	166 (6.5)	-	-	¾"
JPF-ATP 4"	320 (12.5)	232 (9.1)	485 (19.1)	176 (6.9)	-	-	¾"
	Sewer junction required						

All dimensions in mm (inch)

A = installation length

B = unit width

C = height above pipe centre

D = height below pipe centre

E = installation depth to pipe centre

F = waste water connection centre to pipe centre

G = connection dimension waste water

G1 = connection dimension waste water (alternative)

9.7 Connecting diagram for filter control

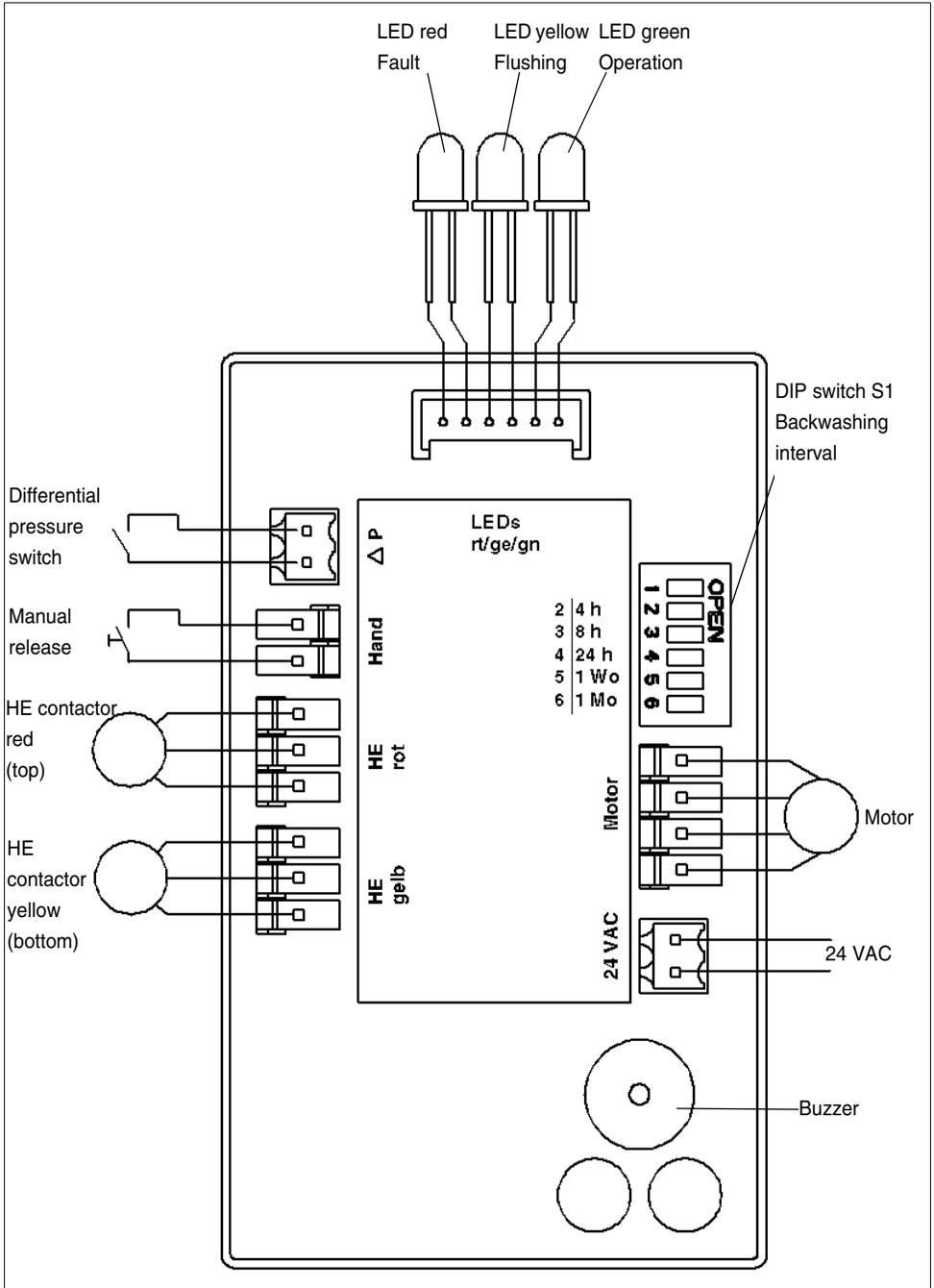


Fig. 14: Connecting diagram for filter control

9.8 Connecting diagram for filter control with potential-free relays

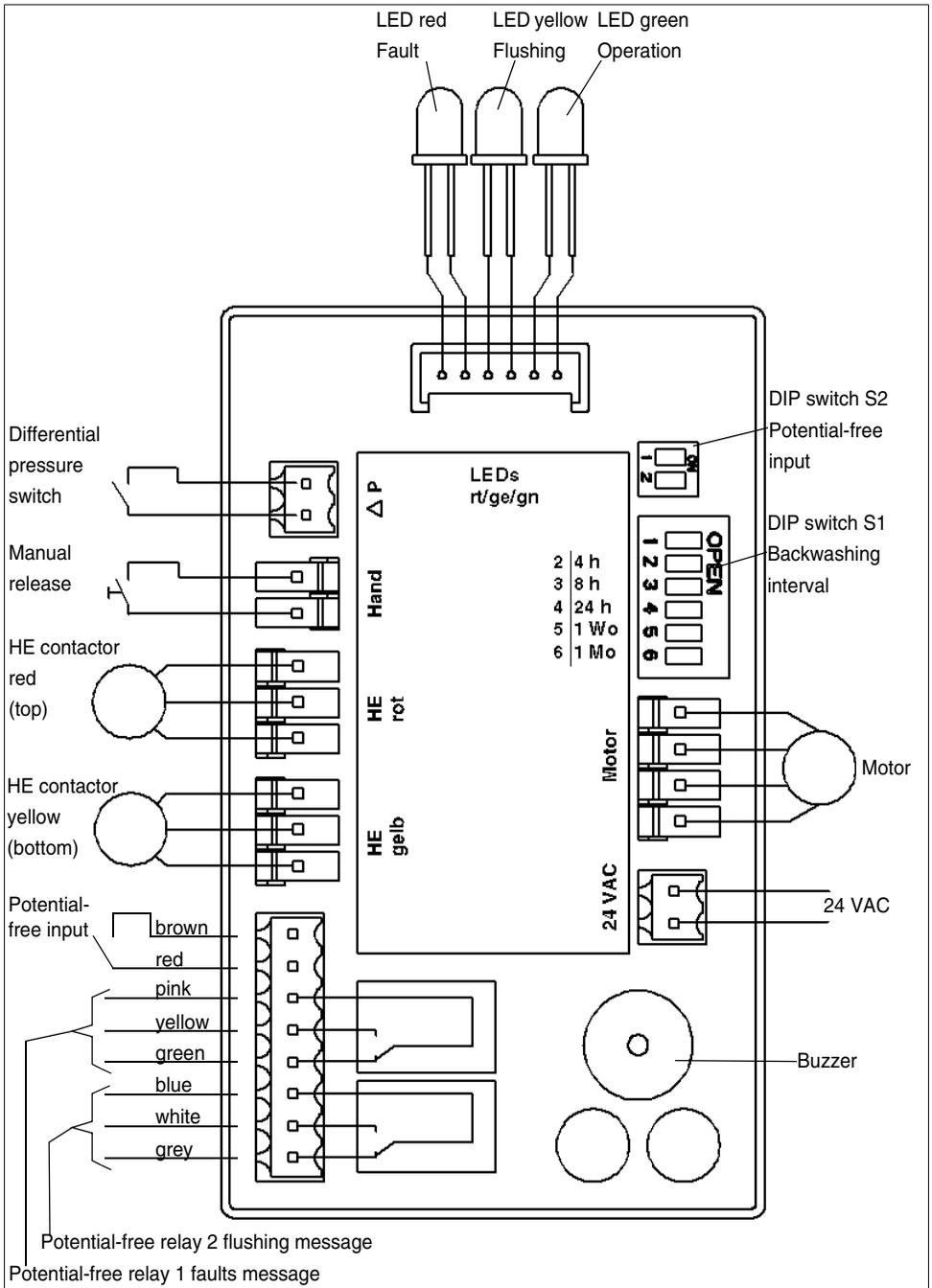


Fig. 15: Connecting diagram for filter control with potential-free relays

9.9 Extent of supply

- Pre-installed automatic backwash protective filter
- Installation and operating Instructions

JPF-A ¾" - 1¼":

- Built-in rotary flange JQE ¾", 1" or 1¼" with bayonet and screw connection
JPF-A ¾" – 1¼"

JPF-A 1½" - 2":

- Built-in rotary flange JQE 1½" or 2" with bayonet fixture and screw connection

9.10 Accessories

- Electric circuit for potential-free fault message, order no. 2020710.
- Cable set for potential-free input-output, order no. 2020774.

JPF-A ¾" - 1¼":

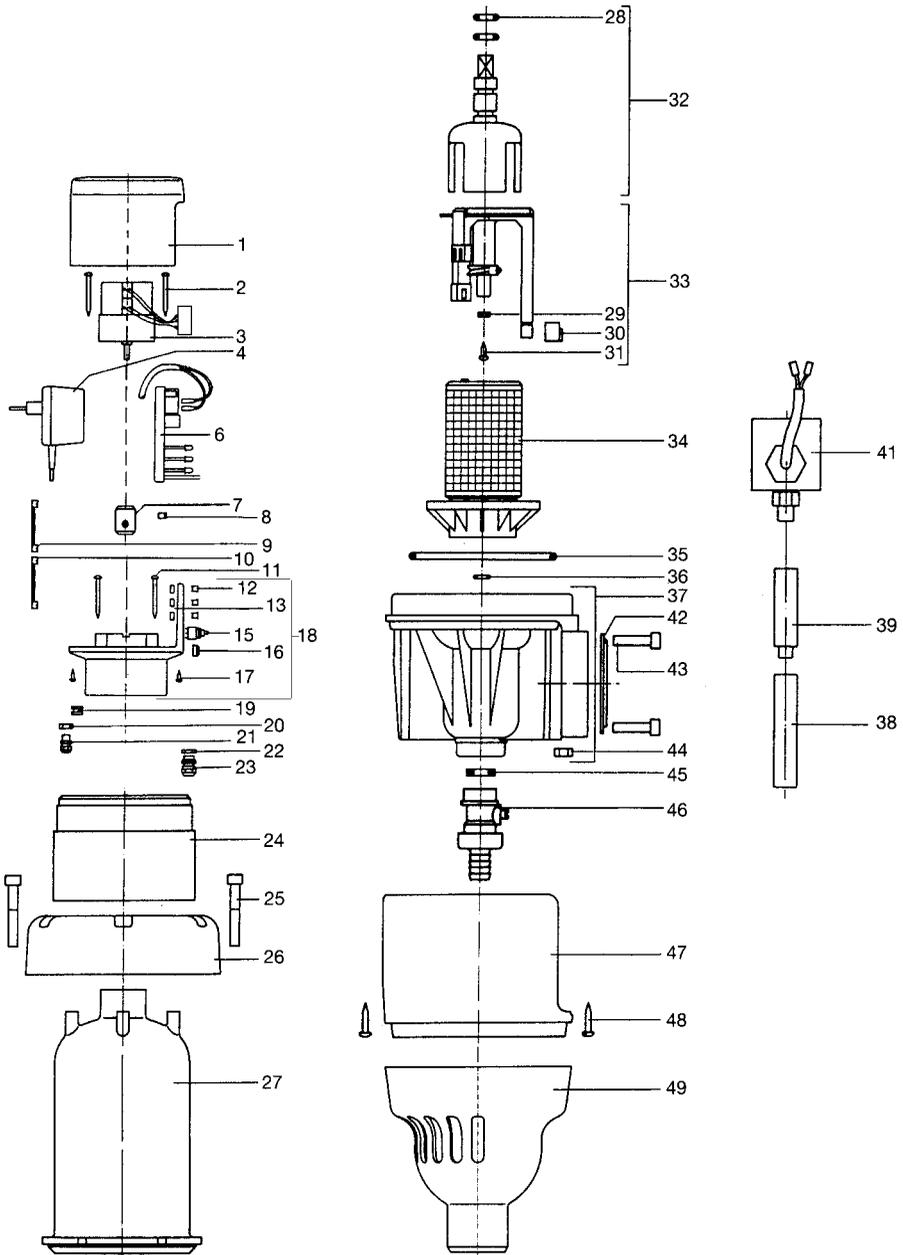
- JUDO JQR expansion QUICKSET (order no. 8250041) for the series connection of two devices, e.g. filter and water treatment system.
- JUDO safety block JSB (order no. 8735260). For subsequent filter retrofitting to house water stations. Contains a pressure reducer, non-return valve, inlet and outlet pressure manometer.

JPF-A 1½" - 2":

- JUDO safety block JSB (order no. 8105001). For subsequent filter retrofitting to house water stations. Contains a pressure reducer, non-return valve, inlet and outlet pressure manometer.

10. Spare parts

10.1 JPF-A 3/4" - 1 1/4"



List of spare parts JPF-A ¾" - 1¼"

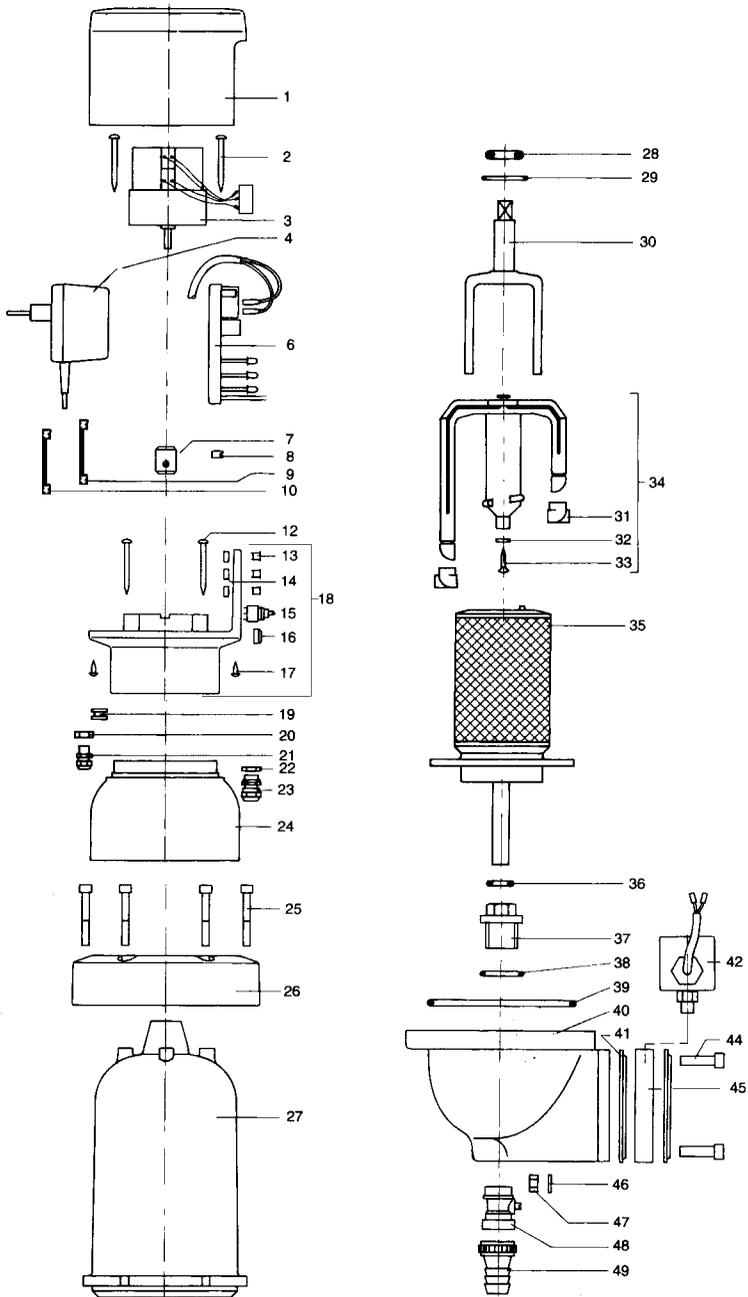
Item	Designation (Recommended average replacement interval for wearing parts [*)	Piece(s)	Order no.
1	Cover of housing	1	1607204
2	Sheet-metal screw	4	1650191
3	Synchronous motor	1	2320135
4	Plug power supply unit	1	2020721
5	Cable pot.free	1	1500369
6	Electric circuit pot.free	1	2020710
7	Motor flange	1	2020110
8	Threaded pin M6x5	1	1607216
9	HE contactor red	1	1500365
10	HE contactor yellow	1	1500366
11	Sheet-metal screw 3.9x45	4	1607213
12	Assembly clip	3	1607207
13	Ring for assembly clip	3	1500136
15	Manual pushbutton	1	2020714
16	Manual key button	1	1120355
17	Sheet-metal screw 3.5x9.5	4	1650130
18	Motor housing (silver) completely from pos. 12/15/16/18/19/20/21/22/23	1	2020766
19	Grommet T	1	1607215
20	Hexagonal nut M8	1	1650010
21	Cable connection M8	1	1609447
22	Hexagonal nut T pot.free, TP	1	1440056
22	Hexagonal nut TP pot.free	2	1440056
23	Cable connection T pot.free, TP	1	1440057
23	Cable connection TP pot.free	2	1440057
24	Top of housing	1	2010383
	Type plate	1	1701780
25	Cylinder screw M6x40	6	1650123
26	Flange ring	1	2010382

List of spare parts JPF-A ¾" - 1¼"

Item	Designation (Recommended average replacement interval for wearing parts [**])	Piece(s)	Order no.
27	Filter hood	1	2020122
28	O-ring 10x3	2	1120332
29	Suction pipe gasket ****	1	1607410
30	Nozzle ****	3	1200166
31	Sheet-metal screw 2.9x9.5	1	1607411
32	Driver, complete	1	2010146
33	Suction pipe, complete	1	2010171
34	Screen MW 0.1 mm (0.004 inch)	1	2010378
35	O-ring 90x4	1	1120333
36	O-ring 6.5x2	1	1120334
37	Filter bottom	1	2020152
38	Intermediate flange TP, TP pot.free	1	2020058
39	Hexagonal extension TP, TP pot.free	2	2020176
41	Differential pressure switch TP, TP pot.free	1	1500367
42	Profile flange seal	1	1200218
43	Cylinder screw M6x25 T, T pot.free	4	2010199
43	Cylinder screw M6x40 TP, TP pot.free	4	1650123
44	Hexagonal nut M6	10	1633145
45	RK gasket 19x9x4	1	1200122
46	KFE spherical mini-faucet	1	1610319
47	Cover T, TP	1	2020758
48	Sheet-metal screw 3.5x13	3	1607114
49	Filter funnel	1	1120298

Replacement interval: ** = 2 years, **** = 4 years

10.2 JPF-A 1½" - 2"



List of spare parts JPF-A 1½" - 2"

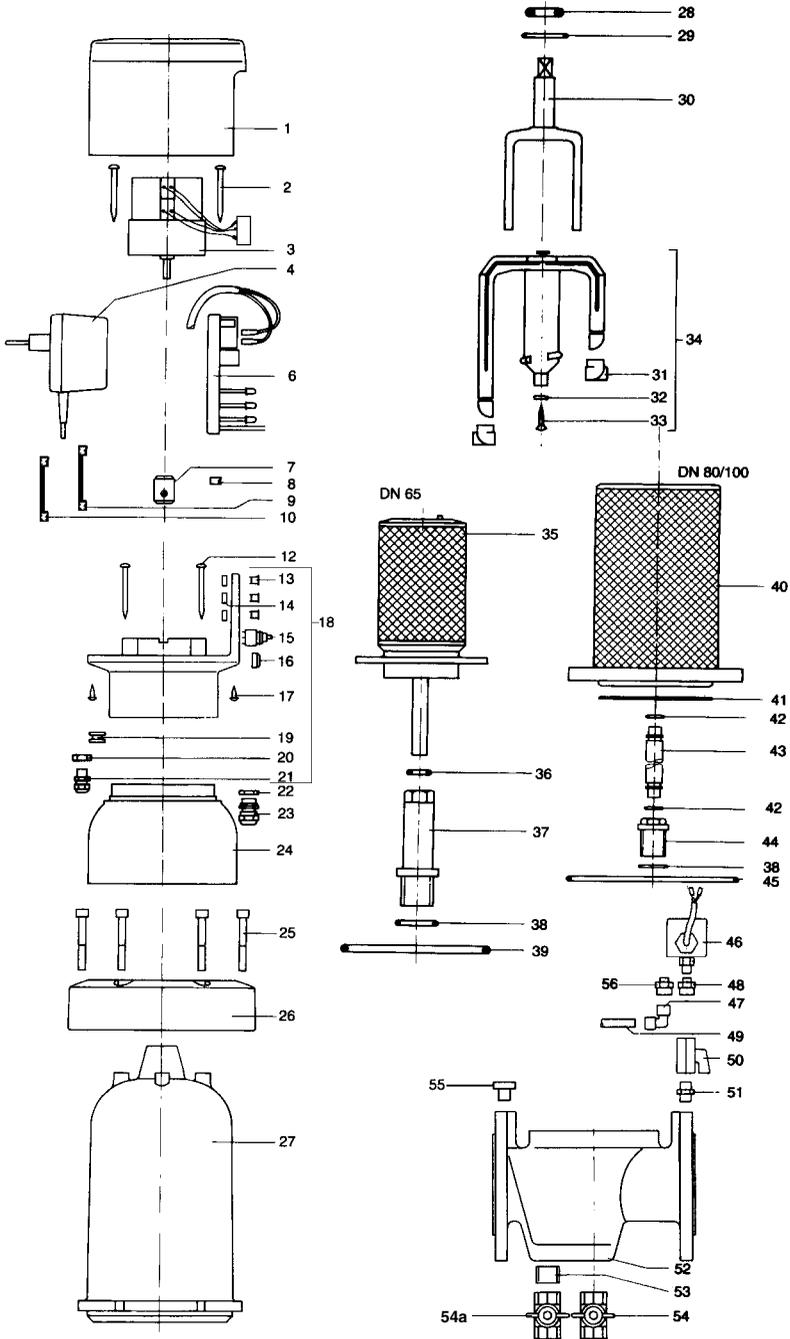
Item	Designation (Recommended average replacement interval for wearing parts [*)	Piece(s)	Order no.
1	Cover of housing	1	1607204
2	Sheet-metal screw 3.9x22	4	1650191
3	Synchronous motor	1	2320135
4	Plug power supply unit	1	2020721
5	Cable pot.free	1	1500369
6	Electric circuit pot.free	1	2020710
7	Motor flange	1	2020110
8	Threaded pin M6x5	1	1607216
9	HE contactor red	1	1500365
10	HE contactor yellow	1	1500366
12	Sheet-metal screw C 3.9x45	4	1607213
13	Assembly Clip	3	1607207
14	Ring for assembly clip	3	1500136
15	Manual pushbutton	1	2020714
16	Manual key button	1	1 120355
17	Sheet-metal screw 3.5x9.5	4	1650130
18	Motor housing completely from pos. 13/14/15/16/18/19/20/21	1	2020768
19	Grommet T	1	1607215
20	Hexagonal nut M8	1	1650010
21	Cable connection M8	1	1609447
22	Hexagonal nut T pot.free, TP	1	1440056
22	Hexagonal nut TP pot.free	2	1440056
23	Cable connection T pot.free, TP	1	1440057
23	Cable connection TP pot.free	2	1440057
24	Top of housing	1	1120035
	Type Plate	1	1701780
25	Cylinder screw M6x45	6	1607417
26	Flange ring	1	2020102

List of spare parts JPF-A 1½" - 2"

Item	Designation (Recommended average replacement interval for wearing parts [**])	Piece(s)	Order no.	
27	Filter hood	1	2020025	
28	O-ring 15x3.2	****	1607420	
29	O-ring 28x2.5	****	1200027	
30	Driver	1	2020034	
31	Nozzle	****	2	1607104
32	Suction pipe gasket	****	1	1607113
33	Sheet-metal screw 3.5x13	****	1	1607114
34	Suction pipe, complete	1	2607535	
35	Screen MW 0.1 mm (0.004 inch)	**	1	2010380
36	O-ring 12x3	1	1607110	
37	Connecting pipe	1	1607572	
38	O-ring 26x3	1	1607111	
39	O-ring 113.67x5.33	****	1	1607112
40	Filter bottom	1	2607102	
41	Profile flange seal	T, T pot.free	1	1200230
41	Profile flange seal	TP, TP pot.free	2	1200230
42	Differential pressure switch	TP, TP pot.free	1	1500367
44	Cylinder screw M8x30	T, T pot.free	4	1607116
44	Cylinder screw M8x50	TP, TP pot.free	4	1650122
45	Intermediate flange	TP, TP pot.free	1	2020059
46	Disk A 8.4	4	1607125	
47	Hexagonal nut M8	4	1607117	
48	Spherical faucet	1	1607242	
49	Hose coupling	1	1607157	

Replacement interval: ** = 2 years, **** = 4 years

10.3 JPF-A 2½" - 4"



List of spare parts JPF-A 2½" - 4"

Item	Designation (Recommended average replacement interval for wearing parts [*])	Piece(s)	Order no.
1	Cover of housing	1	1607204
2	Sheet-metal screw 3.9x22	4	1650191
3	Synchronous motor	1	2320135
4	Plug power supply unit	1	2020721
5	Cable pot.free	1	1500369
6	Electric circuit pot.free	1	2020710
7	Motor flange	1	2020110
8	Threaded pin M6x5	1	1607216
9	HE contactor red JPF-A 2½"	1	1500365
9	HE contactor red JPF-A 3"-4"	1	2320137
10	HE contactor yellow JPF-A 2½"	1	1500366
10	HE contactor yellow JPF-A 3"-4"	1	2320136
12	Sheet-metal screw C 3.9x45	4	1607213
13	Assembly clip	3	1607207
14	Ring for assembly clip	3	1500136
15	Manual pushbutton	1	2020714
16	Manual key button	1	1 120355
17	Sheet-metal screw 3.5x9.5	4	1650130
18	Motor housing completely from pos. 13/14/15/16/18/19/20/21/22/23	1	2020768
19	Grommet T	1	1607215
20	Hexagonal nut M8	1	1650010
21	Cable connection M8	1	1609447
22	Hexagonal nut T pot.free, TP	1	1440056
22	Hexagonal nut TP pot.free	2	1440056
23	Cable connection T pot.free, TP	1	1440057

List of spare parts JPF-A 2½" - 4"

Item	Designation (Recommended average replacement interval for wearing parts [*)	Piece(s)	Order no.
23	Cable connection TP pot.free	2	1440057
24	Top of housing JPF-A 2½"	1	1120035
24	Top of housing JPF-A 3" - 4"	1	1120136
	Type plate	1	1701780
25	Cylinder screw M6x45 JPF-A 2½"	6	1607417
25	Cylinder screw M8x45 JPF-A 3"-4"	16	1 650208
26	Flange ring JPF-A 2½"	1	2020102
26	Flange ring JPF-A 3"-4"	1	2010181
27	Filter hood JPF-A 2½"	1	2020025
27	Filter hood JPF-A 3"-4"	1	2020038
28	O-ring 15x3.2 ****	1	1607420
29	O-ring 28x2.5	1	1200027
30	Driver	1	2020034
31	Nozzle JPF-A 2½"	2	1607104
31	Nozzle JPF-A 3"-4"	4	1120135
32	Suction pipe gasket JPF-A 2½" ****	1	1607113
32	Suction pipe gasket JPF-A 3"-4" ****	1	1200056
33	Sheet-metal screw 3.5x13 JPF-A 2½" ****	1	1607114
33	Sheet-metal screw 4.2x9.5 JPF-A 3"-4" ****	1	1650125
34	Suction pipe, complete JPF-A 2½"	1	2607535
34	Suction pipe, complete JPF-A 3"-4"	1	2020040
35	Screen MW 0.1 mm (0.004 inch) JPF-A 2½" **	1	2010380
36	O-ring 12x3 JPF-A 2½"	1	1607110
37	Connecting pipe JPF-A 2½"	1	2010018
38	O-ring 26x3	1	1607111

List of spare parts JPF-A 2½" - 4"

Item	Designation (Recommended average replacement interval for wearing parts [*])	Piece(s)	Order no.
39	O-ring 113.67x5.33 JPF-A 2½" ****	1	1607112
40	Screen MW 0.1 mm (0.004 inch) JPF-A 3"-4" **	1	2010376
41	O-ring 1 00 x1. 5 JPF-A 3"-4"	1	1200124
42	O-ring 12x3 JPF-A 3"-4"	2	1607110
43	Water-jet pipe JPF-A 3"	1	2010039
43	Water-jet pipe JPF-A 4"	1	2010044
44	Connecting pipe JPF-A 3"-4"	1	2010031
45	O-ring 178x6 JPF-A 3"-4"	1	1200058
46	Differential pressure switch TP, TP pot.free	1	1500367
47	Treaded pipe angle TP, TP pot.free	2	1440059
49	Differential pressure hose JPF-A 2½" TP, TP pot.free	1	2020050
49	Differential pressure hose JPF-A 3"-4" TP, TP pot.free	1	2020062
50	Spherical faucet ¼" TP, TP pot.free	2	1610308
51	Double nipple TP, TP pot.free	2	1450103
52	Filter bottom JPF-A 2½" T, T pot.free	1	2020048
52	Filter bottom JPF-A 3" T, T pot.free	1	2020752
52	Filter bottom JPF-A 4" T, T pot.free	1	2020753
53	Nipple	1	2010012
54	Spherical faucet black handle	1	1610004
54a	Spherical faucet blue handle	1	1610613
55	Plug ¼" T, T pot.free	2	2290001
56	Reducing socket ⅛" - ¼" TP, TP pot.free	2	1450248

Replacement interval: ** = 2 years, **** = 4 years

11. Customer service



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