

Installation and operating instructions JUDO FIMAT

Backwash protective filter

Model JFXL-M 1½" - 2"

Model JFXL-T 1½" - 2"

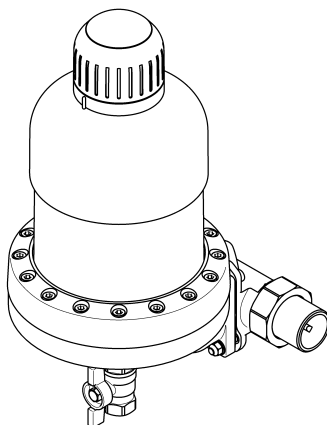
Model JFXL-TP 1½" - 2"

Valid for: Canada

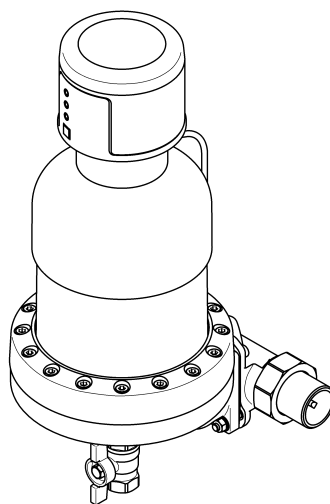
Attention:

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.



JFXL-M 1½" - 2"



JFXL-TP 1½" - 2"



Corporate head office

JUDO Wasseraufbereitung GmbH
P.O. Box 380
D-71351 Winnenden
Germany
e-mail: info@judo.eu
judo.eu

Manufacturing plant

JUDO Wasseraufbereitung GmbH
Hohreuschstraße 39-41
D-71364 Winnenden
Germany

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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D-71364 Winnenden

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply within 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 installed.

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:

 **ATTENTION**  Notes on existing dangers

 Warning, electrical voltage.

 Torques specified by the manufacturer.

 Tips for use and other information.

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.

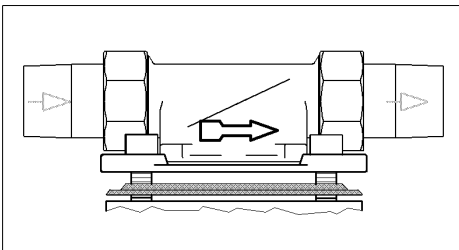


Fig. 1: Built-in rotary flange

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:

Units	Conversion
°F	°F = 9/5 °C + 32
psi	kPa = 0.001 N/mm ²
gpm	1 m ³ /h = 4.4 gpm (US.liq.gal.) 1 m ³ /h = 3.67 gpm (Imp.gal.)
1½"	DN 40
2"	DN 50

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 held 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!

Due to the large filter area of the backwash protective filter, the filter can also be used in the commercial and industrial sectors for filtering water of a greater content of solid matter.

The following table shows the standard values for some realms of application.

Drinking water	max. 20 m ³ /h	max. 88 gpm (US.liq.gal.) max. 73 gpm (Imp.gal.)
Air washer	max. 15 m ³ /h	max. 66 gpm (US.liq.gal.) max. 55 gpm (Imp.gal.)
Well water	max. 10 m ³ /h	max. 44 gpm (US.liq.gal.) max. 37 gpm (Imp.gal.)
Cooling water	max. 10 m ³ /h	max. 44 gpm (US.liq.gal.) max. 37 gpm (Imp.gal.)
Car-wash plants	max. 5 m ³ /h	max. 22 gpm (US.liq.gal.) max. 18 gpm (Imp.gal.)

2.1 Water pressure

The water pressure should be between 22 psi (150 kPa) and 150 psi (1034 kPa).

The water pressure must not fall below 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.



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

In the event of **water pressure above 150 psi (1034 kPa)**, a pressure reduction valve should be fitted **in front** of the backwash protective filter (see fig. 2). If the operating pressure is above 150 psi (1034 kPa), this may result in defects during operation.

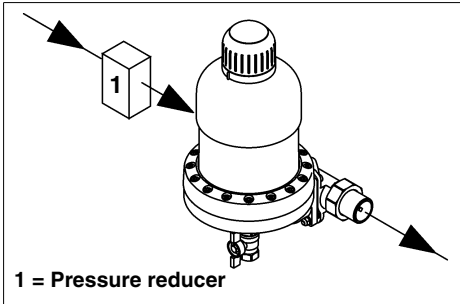



Fig. 2: Pressure reducer upstream of the unit (example: JFXL-M)

i The installation of a pressure reduction valve is recommended for **water pressures between 73 psi (500 kPa) and 150 psi (1034 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 backwash protective filter may be damaged by water leaking from the backwash protective filter caused as a result of the device not being operated in accordance with the manufacturer’s specifications. In addition this may also result in 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 isolated 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 Potential-free 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

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 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, DIN 19628 (“Mechanical filters in drinking water installations”) and DIN EN 1567

(“Building valves - Water pressure reducing valves and combination water pressure reducing valves”). All materials are hygienically and physiologically safe. All materials are hygienically and physiologically uncritical. Plastics fulfill the requirements of the CSA guidelines (CSA - Canadian Standards Association) and the DVGW work sheet W 270, 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 “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 “Backwashing water discharge options”).

A space of at least 100 mm above and 200 mm below the filter should be maintained. These distances are necessary to be able to properly carry out the backwashing (see chapter “Backwashing”).

4.1.1 Transport / Storage

The JUDO FIMAT backwash protective filter has to be guarded against great shock load.

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 backwash protective filter upstream of the water meter!**

- A socket outlet with earthing contact, for the automatic filter's power supply unit, is required above the backwash protective filter with a continuous power supply at a maximum distance of 60 inch (1.5 m).

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 flange

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

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. 4).

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 backwash protective filter

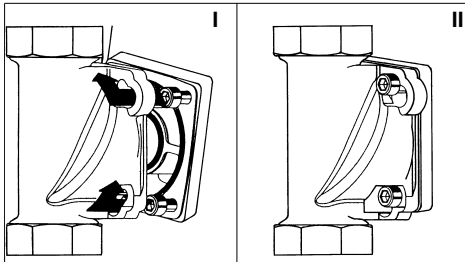


Fig. 4: Built-in rotary flange with Bayonet Fixture

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.

Nm 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).

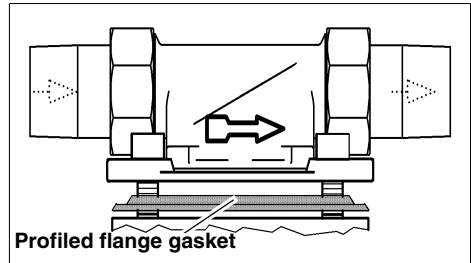


Fig. 5: Built-in rotary flange

4.2 Discharging the backwashing water



ATTENTION

(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 filter, the flushing water can be fed several meters 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.

only JFXL-M:

If there is no wastewater connection an appropriately sized bucket can be used. The following points must be noted if a bucket is used for backwashing:

- If the mains pressure is high, water can splash out of the bucket. In this case, damage to property close to the backwash protective filter is possible.
- When the bucket is half-filled the backwashing process must be stopped. Otherwise it is possible for the bucket to overflow. Therefore the bucket must be adequately dimensioned and the backwashing should be carried out quickly.

4.2.1 Backwashing water discharge options

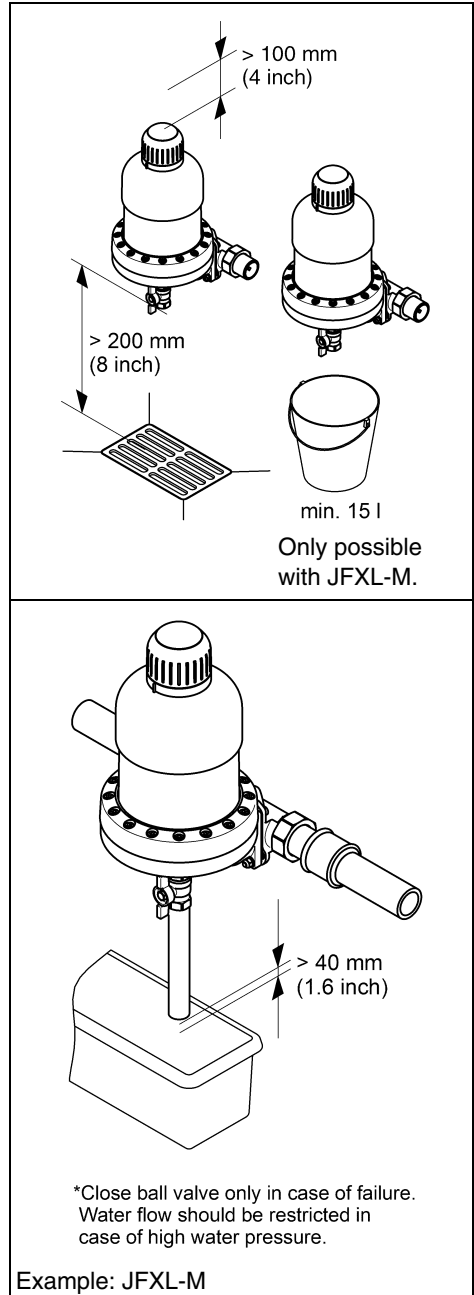


Fig. 6: Backwashing water discharge options

5. Operation



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

Always observe the chapter “Intended use”!

5.1 Commissioning

Before starting up (initial putting into service or startup after maintenance work), **fill** the backwash protective 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 at the same pressure as the water system.

- 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 “Backwashing”).

After backwashing and venting the filter station is ready for use.

5.2 Control lamps, manual pushbuttons

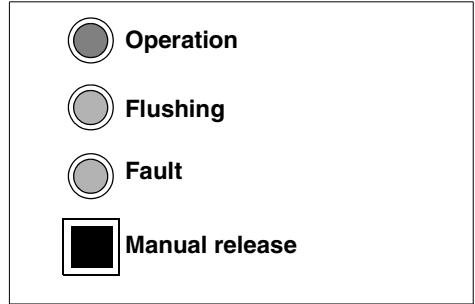


Fig. 7: Control lamps, manual pushbuttons

Operation

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

Green light flashing: The filter is in flushing position while plugging in the mains adapter. The LED “Operation” is blinking until the flushing 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 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

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 to the screen may occur.

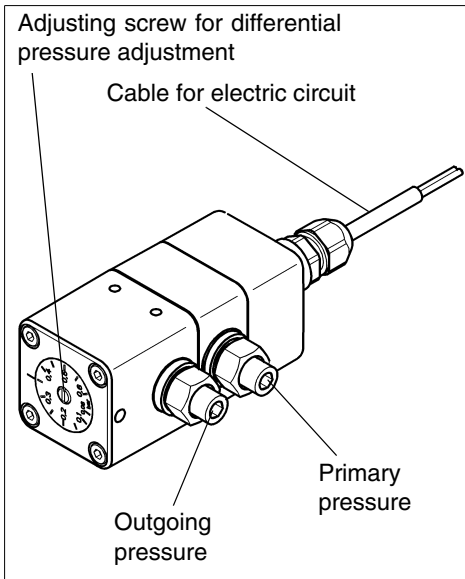


Fig. 8: Differential pressure switch

5.4 Setting the backwashing interval



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



Disconnect the power supply from the socket.

- Unwind the four screws of cover hood and remove cover.
- Set backwashing interval via contacts 3 to 6 of DIP-switches S1, see tab. 1.

4 hour	8 hour	24 hour	1 week	1 month

Tab. 1: DIP switch S1

- Only one contact may be switched to the left for adjustment.
- When adjusted the wrong way, the switch will react with an acoustic signal (see chapter "Fault").
- Reattach cover and tighten it with the four screws.



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

- The backwash protective filter is ready for operation after backwashing.



Manual start of backwashing procedure:
Push manual button. The backwash time is set back.

Selecting the backwashing intervals

Mesh size mm (inch)	Application cases	Backwashing intervals ¹⁾
0.03 (0.001)	Doctor's practices, laboratories, photo labs	24 hours
0.10 (0.004)	Domestic water installations in private and commercial buildings	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 0.50 (0.02)	Industrial sector Air conditioning systems	24 hours, 1 week

1) Depending on the amount of dirt arising

5.5 Function

The JUDO FIMAT backwash protective filter removes all coarse and fine-grained impurities. Such impurities can cause pitting in cold and warm water pipelines, or they can lead to the malfunctioning of fittings and control elements, as well as sensitive instruments.

In the JUDO FIMAT backwash protective filter the water flows from the outside to the inside through a cylinder strainer, so that the impurities are visible on the strainer through the filter housing. If the filter is soiled, it will be cleaned without interruption of operations.

JUDO FIMAT manual backwash protective filter JFXL-M:

Depending on the volume of water flow and on the kind and extent of coarse and fine-grained impurities existing in the water, the JUDO FIMAT backwash protective filter should be backwashed at six month intervals maximum, provided extensive impurities do not necessitate backflushing at shorter intervals. Backwashing should be done at full pressure of waterline. To clean the filter, turn the hand valve six rotations to the left until you reach the stop. To close the hand valve, turn it six rotations to the right until no flushing water discharges.

JUDO FIMAT backwash protective filter with time control JFXL-T:

With respect to JFXL-T, the automatic backwashing procedure has been set for one week by the factory. Depending on more or less accumulation of dirt, it is necessary to set the automatic backwashing procedure alternatively to one month, one day or to one hour (see chapter "Setting the backwashing interval").

JUDO FIMAT backwash protective filter, including time and differential pressure control JFXL-TP:

Due to the impurities deposited on the filter mesh, an increased differential pressure between the inflow and the outflow will occur at a respective flow. The differential pressure switch records the differential pressure existing at the filter. If the differential pressure reaches the set value, the backwashing procedure is automatically triggered. The differential pressure control is connected in priority to the time interval.

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

With respect to JFXL-TP, the automatic backwashing procedure has been set for one week and 4.4 psi (30 kPa) by the factory.

The selector shaft of the differential pressure switch is set at the adjusting screw (see chapter “Differential pressure control”).

Due to the triggering of the backwashing by means of the differential pressure switch the time interval for backwashing is set back.

5.6 Backwashing

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

During the backwashing process three suction pipes rotate around the screen. At the same time a flushing valve on the underside of the backwash protective filter station opens so that the backwashing water can flow out. The treated water flows from the inside outwards through the screen into the suction pipe, taking the adhering particles with it.

The fine filter screen is cleaned. At the same time the inside of the transparent filter cover is cleaned together with the wiper lips of the suction pipe.

After approx. 2 minutes the flushing valve closes again and the backwashing process is completed.

This backwashing process can be repeated if necessary.



All sizes of backwash protective filter are backwashed with treated water. The supply of treated water to the backwash protective filter station is maintained throughout the backwashing process. Dirty water cannot get into the clean water side during backwashing.



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

5.6.1 Backwashing interval



ATTENTION



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

If the interval until the next backwashing is longer than six months, the particles on the filter screen can stick or a large filter pressure resistance can result.

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.

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


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 of the backwashing function.

5.7 Potential-free message

Filters identified “pot.free” and filters with potential-free status relays can potential-free transfer the following messages (see fig. 9 and fig. 11):

- Fault message
- Message of backwash

 **The mains adapter shall be unplugged from the socket to carry out electric installation and for setting the DIP-switch!**

The chapter “Notes on special dangers” and the chapter “Installation” must always be observed!

The maximum switching and switching voltage must always be observed! (see chapter “Notes on special dangers”).

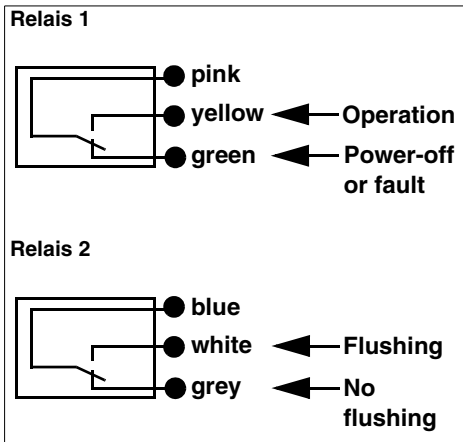


Fig. 9: Relay contact assignment

In fig. 9 the contacts of the potential-free relay are labelled in their power-off condition.

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

If the filter power supply unit is plugged in the relay changes 1 its switched condition.


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

At the start of a backwash, relay 2 will switch to “Flushing”-state.





After a backwash, relay 2 will switch to “no Flushing”-state.

5.8 Potential-free input

Filters identified “pot.free” and filters with potential-free status relays have an additional input (potential-free input) and an additional DIP-switch S2, which can be used for control of the filter, if external switching contacts are required (see tab. 2).

 **The power supply shall be unplugged from the socket to carry out electric installation and for setting the DIP-switch!**

The chapter “Notes on special dangers” and chapter “Installation” must always be observed!

Function	DIP-switch S2	Specification
External start of flushing		Starting of the flushing operation: By closing a switch contact (brown and red core) connected to the potential-free input.
External flushing 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

5.9 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 ("pot.-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).

5.10 Modifications / changes / spare parts



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

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.

5.11 Servicing / Repair

- Before carrying out any work on the filter, that is beyond pure operation induced control, the filter has to be depressurized! 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” must be observed!

- Protect the flange surfaces from damage! Damaged flange surfaces cannot close tight any longer. As a result, escaping water can damage the building and its installations.
- Ensure that no dirt can get into the filter! Upon re-commissioning 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 loose 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 re-commissioning the filter, same course of action as applied to the new filter.

6. Fault

Deleting 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.



Disconnect the power supply from the socket. Plug it back in after approx. 5 seconds!

The occurrence of a failure inside the device will be indicated by the red control lamp.

Help with faults:

Fault	Cause	Remedy
Permanent acoustic signal sounding.	The DIP-switch was set incorrectly.	Correct the position of the DIP-switch! (see chapter "Setting the backwashing interval")
Red control lamp flashes and acoustic signal sounding.	Electrical or mechanical failure.	<ul style="list-style-type: none"> – Delete the error message! – Start backwashing again by using the manual pushbutton! If failure is occurring again: Remove mains plug from the socket.! – Inform the fitter or nearest customer service centre! – Close ball valves!
All three control lamps flash.	Services is necessary.	See chapter "Warranty and services"!
Backwashing water continues running.	Flushing valve not fully closed.	– Start backwashing again by using the manual pushbutton!
	Dirt in the flushing valve.	
Water flow rate falls.	Screen is blocked.	
Leaks in the filter.		<ul style="list-style-type: none"> – Remove mains plug from the socket! – Close ball valves! – Inform the fitter or nearest customer service centre!
Filter cover becomes turbid.	Filter hood has been exposed to high temperatures or solvents.	
Hairline cracks on the filter hood.		

7. Maintenance



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

Always observe the chapter “Intended use”!

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, it is necessary that backwashing takes place according to the existing operating conditions (see chapters 5.4 and 5.6.1). DIN EN 13441-1 specifies that backwashing must take place at least every six months. However, JUDO recommends to carry out backwashing every two months!

Regular inspection and routine servicing are indispensable in order to continue to achieve a successful treatment for many years after the unit is put into service. In the building services sector this is covered by DIN EN 806-5.

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.

JFXL-T/TP:

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.

9. Data sheet

9.1 Type

JUDO FIMAT Backwash protective filter

Abbreviated name: JFXL

9.2 Models

Model	Manual model	Time control	Differential pressure control	Order no.
JFXL-M 1½"	•			8020266
JFXL-M 2"	•			8020267
JFXL-T 1½"		•		8020271
JFXL-T 2"		•		8020272
JFXL-TP 1½"		•	•	8020275
JFXL-TP 2"		•	•	8020230

9.2.1 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 six months as described in the chapter "Back-washing".



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

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.

9.3 Technical data

The following applies for all the models of the device:

- Maximum ambient temperature and water temperature: 30 °C (86 °F)
- Threaded connection to DIN EN 1092-1

Power requirements

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

Weight

Model	Weight
JFXL-M 1½"	17.5 kg
JFXL-M 2"	18.8 kg
JFXL-T 1½"	18.4 kg
JFXL-T 2"	19.7 kg
JFXL-TP 1½"	18.8 kg
JFXL-TP 2"	20.1 kg

Nominal pressure

Model	Operating pressure	Nominal pressure
JFXL 1½" - 2"	22 - 150 psi (150 - 1034 kPa)	PN 10

Nominal flow rate

Model	Nominal flow rate ¹⁾ after backwashing at a pressure loss of 3 psi (20 kPa) and clean sieve
JFXL 1½" - 2"	88 gpm (US.liq.gal.) 73 gpm (Imp.gal.) 20 m³/h

1) Information on water flow apply to drinking water. For service water and more polluted water the maximum water flow is lower, depending on the chosen mesh size. It then has to be chosen a bigger mesh size.

Backwashing volumetric flow

Model	Backwashing volumetric flow ¹⁾
JFXL 1½" - 2"	8 - 24 gpm (US.liq.gal.) 6.5 - 20 gpm (Imp.gal.) 0.5 - 1.5 l/s

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

9.4 Installation dimensions

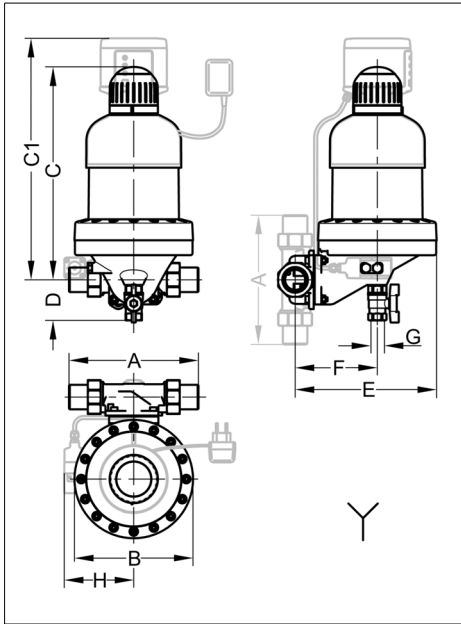


Fig. 10: Installation dimensions

A = Installation length

B = Unit width

C/C1 = Height above pipe centre

D = Height below pipe centre

E = Depth up to pipe centre

F = Waste water connection centre to pipe centre

G = Connection dimension waste water

H = Width differential pressure switch to pipe centre

Y = sewer junction necessary

Model	A	B	C/C1	D	E	F	G	H
JFXL-M 1½"	252 (9.9)	231 (9.1)	416 (16.4)	80 (3.1)	276 (10.9)	160 (6.3)	¾"	-
JFXL-M 2"	280 (11.0)	231 (9.1)	416 (16.4)	80 (3.1)	284 (11.2)	168 (6.6)	¾"	-
JFXL-T 1½"	252 (9.9)	231 (9.1)	475 (18.7)	80 (3.1)	276 (10.9)	160 (6.3)	¾"	-
JFXL-T 2"	280 (11.0)	231 (9.1)	475 (18.7)	80 (3.1)	284 (11.2)	168 (6.6)	¾"	-
JFXL-TP 1½"	252 (9.9)	231 (9.1)	475 (18.7)	80 (3.1)	276 (10.9)	160 (6.3)	¾"	136 (5.4)
JFXL-TP 2"	280 (11.0)	231 (9.1)	475 (18.7)	80 (3.1)	284 (11.2)	168 (6.6)	¾"	136 (5.4)

All dimensions in mm (inch) (see fig. 10)

9.5 Extent of supply

- Pre-installed backwash protective filter
- Installation and operating instructions
- Built-in rotary flange JQE 1½" or 2" with bayonet fixture and screw connection

9.6 Connecting diagram for filter control with potential-free relays

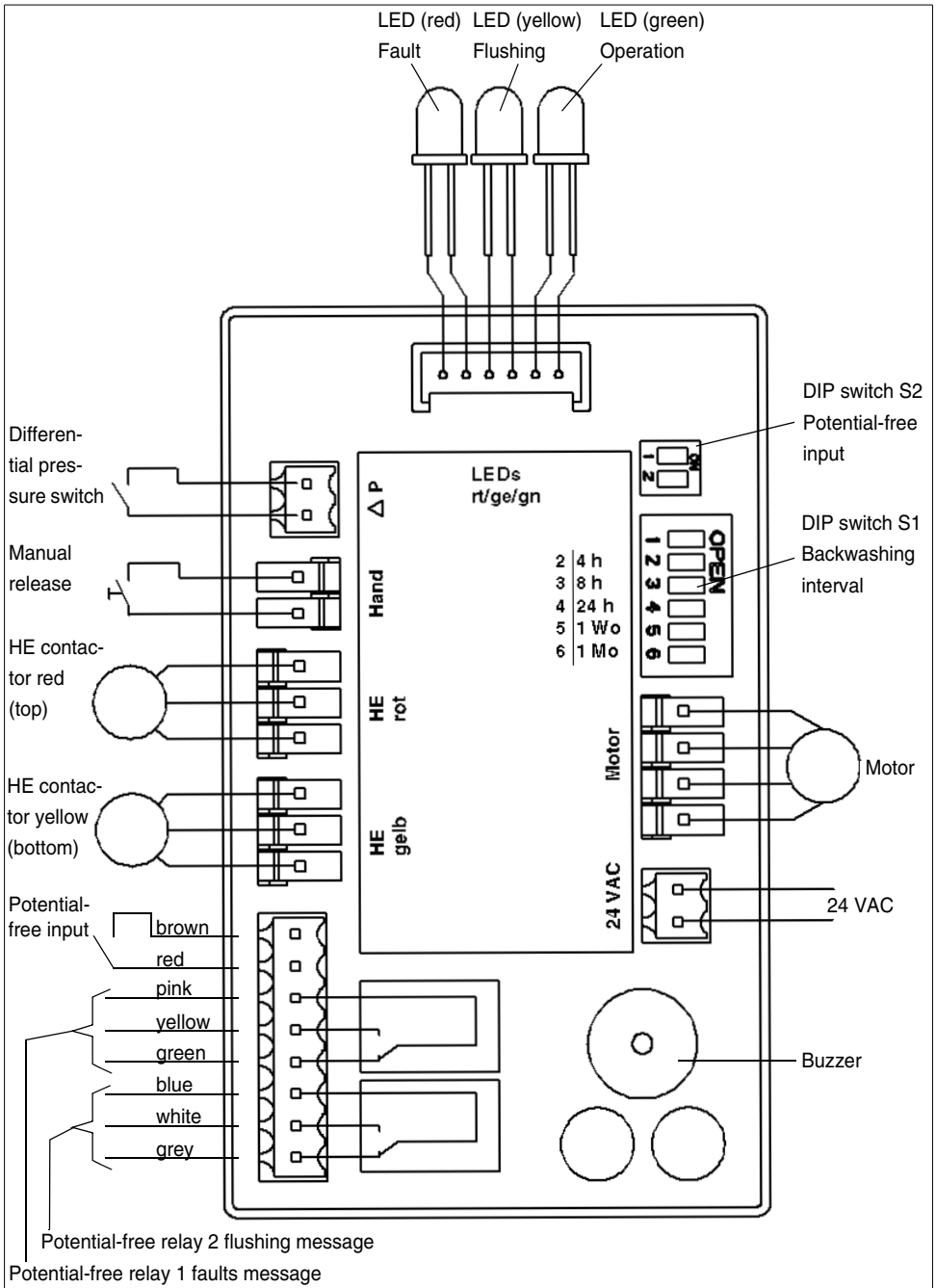
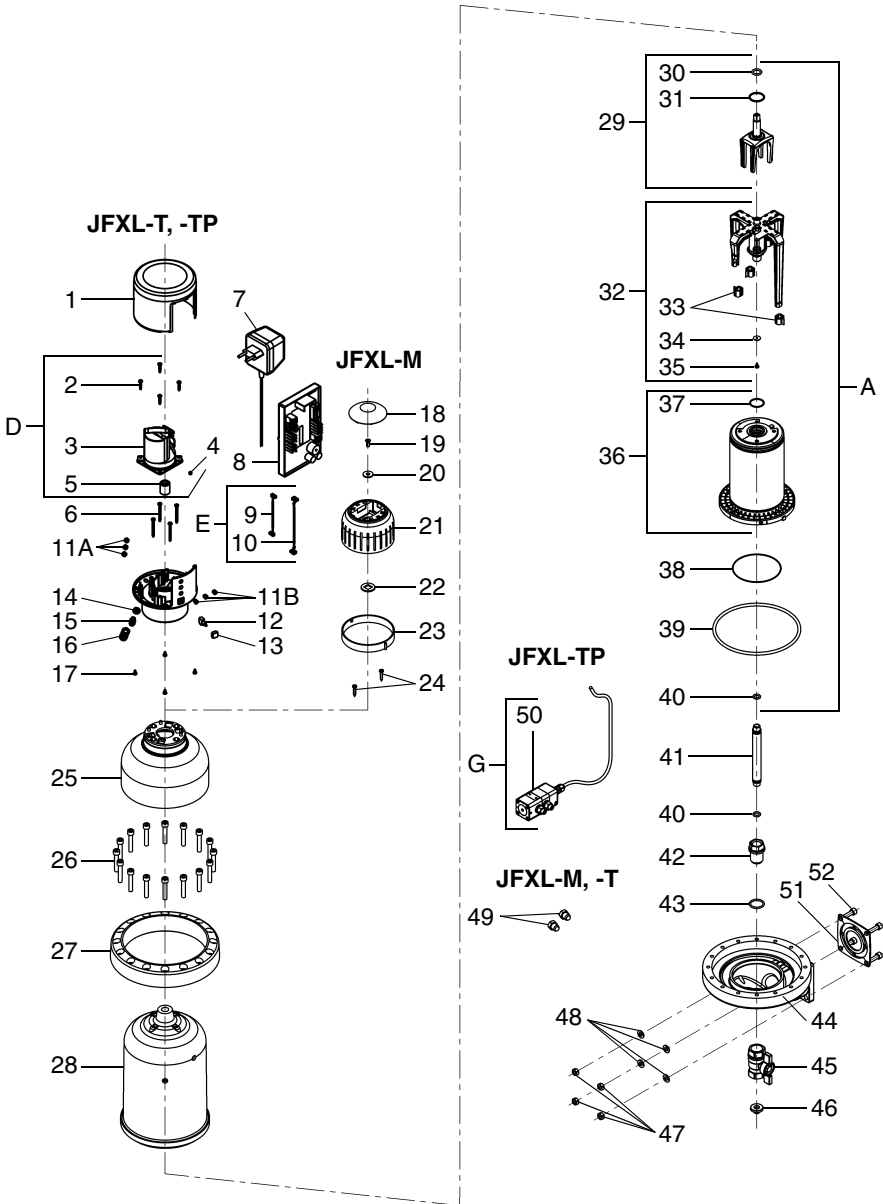


Fig. 11: Connecting diagram for filter control with potential-free relays

10. Spare parts



10.1 Spare parts list

Item	Designation (recommended average replacement interval for wearing parts [*])	Piece(s)	Order no.	AU ¹⁾ / piece
A	Wearing parts set "Sieve 0,1 mm, suction pipe and gaskets" (consisting of pos. 30, 31, 32, 36, 38, 39, 40) ***	1	2020823	AU ²⁾
	Wearing parts set "Gaskets" (consisting of pos. 30, 31, 33, 34, 35, 38, 39, 40) ****	1	2010339	76
	Spare parts set "Handwheel" (consisting of pos. 18, 19, 20, 21, 23)	1	2020994	25
D	Spare parts set "Motor" (consisting of pos. 2, 3, 4, 5)	1	2020970	268
E	Spare parts set "HE contactor" (consisting of pos. 9, 10)	1	2020988	83
	Spare parts set "Motor housing" (consisting of pos. 1, 6, 11A, 11B, 12, 13, 14, 15, 16, 17)	1	2021239	AU ²⁾
G	Spare parts set "Differential pressure switch" JFXL-TP (consisting of pos. 50)	1	2020972	466
1	Cover of housing	1		
2	Sheet metal screw 3.9x22	4		
3	Synchronous motor	1		
4	Threaded pin M6x5	1		
5	Motor flange	1		
6	Sheet metal screw C 3.9x45	4		
7	Plug-in power supply unit	1	2020721	AU ²⁾
8	Electronics pot.free	1	2020788	347
9	HE contactor red	1		
10	HE contactor yellow	1		
11A	Ring for assembly clip	3		
11B	Assembly clip	3		
12	Push key	1		
13	Manual key button	1		
14	Hexagonal nut M8	1		
15	Cable connection M8	1		
16	Grommet	1		
17	Sheet metal screw 3.5x9.5	4		
18	Handwheel lid	1		
19	Countersunk screw M5x12	1		
20	Disc A 6.4	1		
21	Handwheel	1		
22	Spacer disc	1	1120137	3
23	Adjusting ring for the next backwash date	1		

Spare parts

Item	Designation (recommended average replacement interval for wearing parts [**])	Piece(s)	Order no.	AU ¹⁾ / piece
24	Sheet metal screw 3.9x22	2	1650191	1
25	Top of housing (JFXL-M)	1	1120930	48
25	Top of housing (JFXL-T, -TP)	1	2320156	48
25a	Type plate	1	1701779	-
26	Cylinder screw M8x45	16	1650208	2
27	Flange ring	1	2010181	180
28	Filter hood	1	2021140	590
29	Driver, complete	1	2020034	25
30	O-ring 15x3.2	1		
31	O-ring 28x2.5	1		
32	Suction pipe unit, complete	1		
33	Nozzle	4		
34	Suction pipe gasket	1		
35	Pan-head sheet metal screw 4.2x9.5	1		
36	Sieve 0.1 mm	1		
37	O-ring 29.87x1.78	1		
38	O-ring 100x1.5	1		
39	O-ring 178x6	1		
40	O-ring 12x3	2		
41	Water-jet pipe	1	2020113	15
42	Connecting pipe	1	2010031	38
43	O-ring 26x3	1	1607111	8
44	Filter bottom	1	2020112	560
45	Ball valve (black handle)	1	1610004	32
46	Orifice disc (only JFXL-M)	1	1440248	AU ²⁾
47	Hexagonal nut M8	4	1607117	2
48	Disc A 8.4	4	1607125	1
49	Plug ¼" M / T	2	2290001	12
50	Differential pressure switch TP	1		
51	Profiled flange seal	1	1200230	9
52	Cylinder head screw M8x35	4	1650107	2

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

2) Accounting unit not yet defined at press time.

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

11. Customer service



JUDO Water Treatment Inc.

240 Lesmill Road
Toronto, ON M3B 2T5
Canada

Telephone: (416) 441-1556

Toll-free (Canada/USA): (866) 451-5836

Fax: (416) 391-4273

Toll-free fax (Canada/USA): (877) 761-3335

e-mail: info@judo-online.com

judo-online.com

Installed by:

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