Installation and operating instructions

JUDO JRSF 1" - 2"

Backwash protective filter

Model JRSF

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.

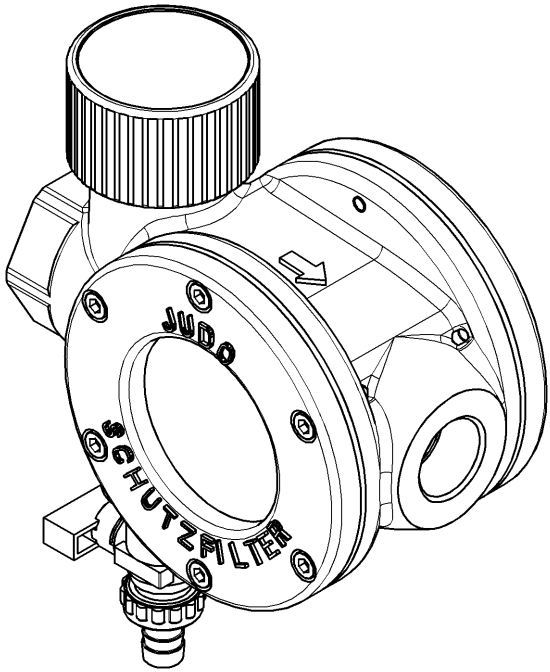


Fig. 1: JRSF 1" - 2"

Water Treatment

Coorporate Head Office

JUDO Wasseraufbereitung GmbH

P.O. Box 380

D-71351 Winnenden

Germany

e-mail: info@judo.eu

www.judo.eu

Manufacturing

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. Nevertheless, should difficulties occur, please contact the responsible customer service (see back page).

Table of contents

1. About this instruction manual

ATTENTION

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

The instruction manual must be permanently available at the place in which 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 inserted under the other main items.

1.1 Symbols used

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

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
– rating plate
– cleaning information

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

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 = System International), the following units are used:

Units	Conversion
°F	°F = 9/5 °C + 32
psi	1 kPa = 0.15 psi
gpm	1 m³/h = 4.4 gpm
1"	DN 25
1¼"	DN 32
1½"	DN 40
2"	DN 50

2. Intended use

The installation and operation of the backwash protective 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 which is to be treated should fulfil the requirements stipulated by European drinking water directives!

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

The backwash protective filter has been developed and manufactured using state of the art technology and the safety regulations generally accepted in Germany.

The backwash protective 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 exist in case of non-intended use and where the danger symbols and safety information are not observed. The manufacturer/supplier are not liable for any losses or damage resulting from such use. The risk is borne solely by the user.

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 backwash protective filter other than in the operational areas stated in these operating instructions.

The backwash protective 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 150 kPa (22 psi) and 1000 kPa (145 psi).

The water pressure must not exceed 150 kPa (22 psi) 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 1000 kPa (145 psi)**, the pressure reduction valve should be fitted **in front** of the filter (see fig. 2). If the operating pressure is above 1000 kPa (145 psi), this may result in defects during operation.

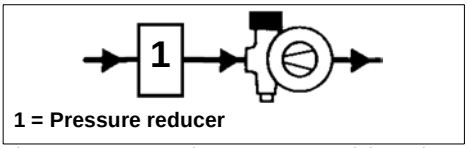


Fig. 2: Pressure reducer upstream of the unit

The installation of a pressure reduction valve is recommended for **water pressures between 500 kPa (73 psi) and 1000 kPa (145 psi)**.

2.2 Instructions concerning specific dangers

2.2.1 Electrical devices / equipment

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).

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).

ATTENTION

(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 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 the German standards DIN EN 13443-1 and DIN 19628 (“Mechanical filters in drinking water installations”). All materials are hygienically and physiologically safe. Plastics fulfill the official guidelines of the German Federal Environmental Agency as well as the DVGW working sheet W270. Metallic materials fulfill the requirements of the DIN 50930-6 standard (Impact on the drinking water quality).

4. Installation

4.1 General

ATTENTION

(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.

A space of at least 200 mm (8 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 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 filter **upstream of** the water meter!

4.2 Discharging the backwashing water

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

For the backwashing water a wastewater connection (for example a floor drainage) in accordance with DIN 1986 must be in place. If there is no wastewater connection an appropriately sized bucket can be used.

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. 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 in accordance with DIN EN 1717.

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 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

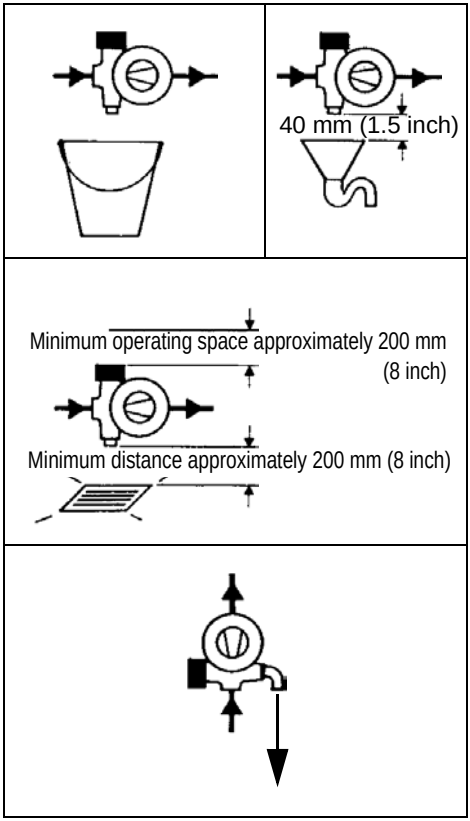


Fig. 3: Backwashing water discharge options

5. Operation

ATTENTION

(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 filter station with water and **vent**!

– To this end, after installation the filter 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 in order to avoid damage to the installation caused by pressure surges. The filter is vented by means of backwashing (see chapter “Discharging the backwashing water”).

After backwashing and venting the filter is ready for use.

5.2 Functional discription

The filter removes all coarse and fine-grained impurities which cause pitting in cold-water and hot-water supply lines and may lead to the malfunctioning of fitting and control elements, as well as sensitive instruments.

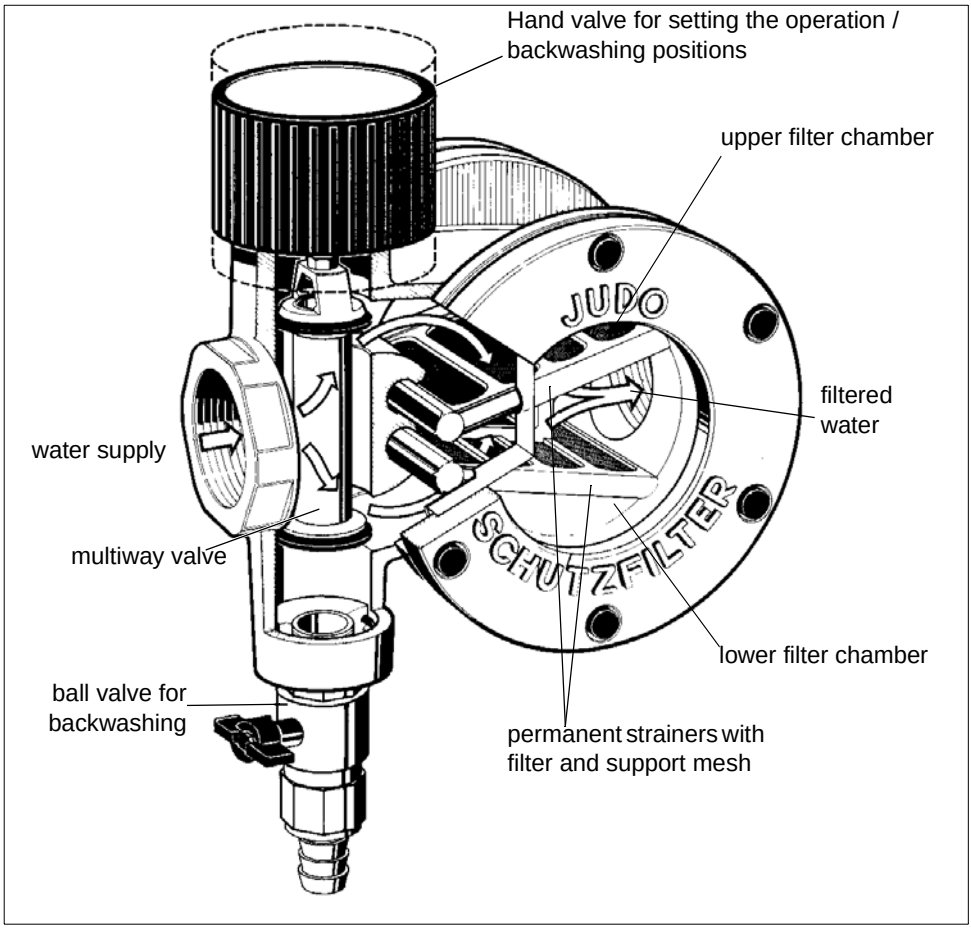


Fig. 4: Functional discription

5.3 Backwashing

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

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

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.

Depending on the water-flow volume and the kind and extent of coarse and fine-grained impurities found in the water, filter is to be flushed back at 2-month intervals, **unless serious pollutants necessitate backwashing at shorter intervals**.

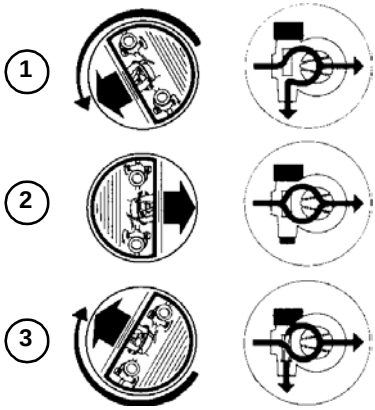


Fig. 5: Backwashing

1 Hand valve turned upward:

Backwashing the lower filter chamber while simultaneously supplying water via the upper filter chamber.

2 Hand valve in mid-position:

Water supplied via both filter chambers.

3 Hand valve turned downward:

Backwashing the upper filter chamber while simultaneously supplying water via the lower filter chamber.

Backwashing is done at full water-tap pressure. Open the ball valve. Turn hand valve to one side (**1**) for about 2 to 5 seconds **until the stop is reached** (at least ½ rotation). Subsequently turn the hand valve in the other direction (**3**). **If the** filter **is very soiled, repeat this procedure several Times.**

Then turn the hand valve again to mid-position (**2**), so that the arrow on the hand valve points to the direction of flow. Close the ball valve. In case of high water pressure, it is advisable not to fully open the ball valve in order to reduce the consumption of flushing water.

5.3.1 Backwashing interval

The filter must be backwashed:

– every two months at the latest
– if the water pressure falls
– if the filter is visibly dirty

ATTENTION

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

If the interval until the next backwashing is longer than two 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 concerning the backwashing function.

5.4 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.

5.4.1 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.

5.5 Stoppages

ATTENTION

(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 flange 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 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. Faults

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

Help with faults:

Fault	Cause	Remedy
Backwashing water continues running!	Ball valve not fully closed.	Repeat the backwashing and then turn the handwheel until it locks into place!
Water flow rate falls!	Screen is blocked.	Carry out backwashing.
Leaks in the filter!		Inform the fitter or nearest customer service centre. (The filter cover must be replaced immediately.)
Sight glass becomes turbid!	Filter has been exposed to high temperatures or solvents.	
Hairline cracks on the sight glass!		

7. Maintenance

ATTENTION

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

Always observe the chapter “Intended use”!

7.1 Cleaning

ATTENTION

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

Only use clear, clean drinking water to clean the housing.

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

Warranty is offered in accordance with the minimum legal requirements in the country of use.

Warranty is invalid where caused by improper use or improper or lack of correct maintenance.

In order to ensure your unit a long and efficient working life, we recommend signing up for a service agreement with your local service agent and ensuring regular maintenance inspections by suitably qualified personnel.

9. Data Sheet

9.1 Type

JUDO JRSF backwash protective filter

Abbreviated name: JRSF

9.2 Models

Model	Order no.
JRSF 1"	8030081
JRSF 1¼"	8030082
JRSF 1½"	8030076
JRSF 2"	8030070

9.3 Technical data

The following applies for all the models of the device:

- The filters come factory equipped with a stainless-steel sieve with a mesh size of 0.1 mm (0.004 inch).
- nominal flow rate after backwashing at a pressure loss of 0.2 / 0.5 bar (20 kPa / 50 kPa) as given in the corresponding 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 EN 10226-1

Nominal pressure

Model	Operating pressure	Nominal pressure
JRSF 1" – 2"	150 - 1000 kPa (22 - 145 psi)	PN 16

Weight

Model	Weight
JRSF 1"	7.0 kg
JRSF 1¼"	7.0 kg
JRSF 1½"	12.0 kg
JRSF 2"	12.0 kg

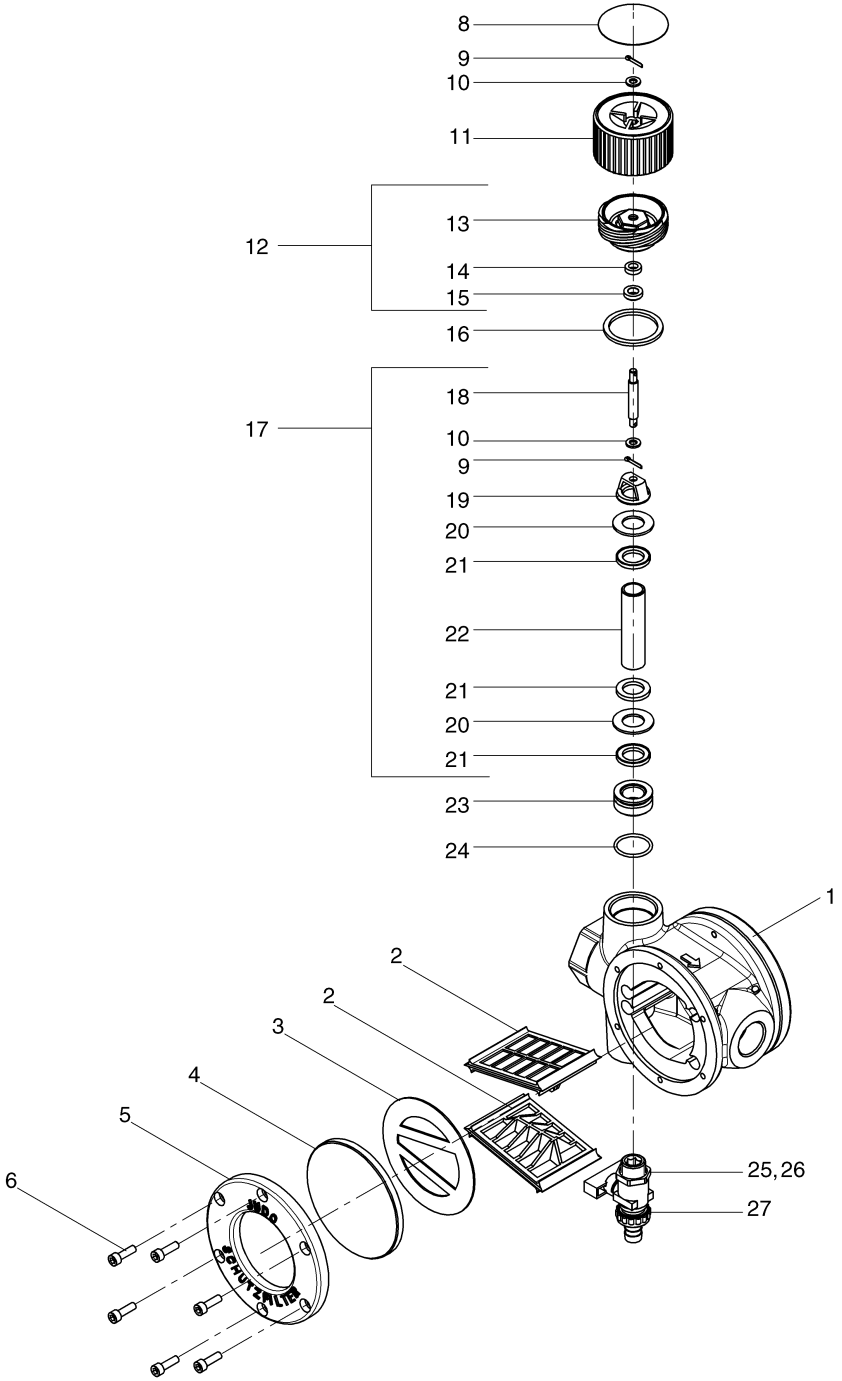
Water flow rate

Model	Nominal flow rate [m³/h (gpm)] after backwashing at a pressure loss of 0.2 / 0.5 bar (20 kPa / 50 kPa)
JRSF 1"	5 (22) / 8 (35)
JRSF 1¼"	6 (26.5) / 10 (44)
JRSF 1½"	14 (61.5) / 20 (88)
JRSF 2"	15 (66) / 22 (97)

9.4 Extent of supply

- pre-installed backwash protective filter
- installation and operating instructions

10. Spare parts JRSF 1" - 2"



List of spare parts JRSF 1" - 2"

Item	Designation (Recommended average replacement interval for wearing parts [*])	Piece(s)	JRSF 1" - 1¼" order no.	JRSF 1½" - 2" order no.
1	Housing R 1"	1	2610121	-
1	Housing R 1¼"	1	2611121	-
1	Housing R 1½"	1	-	2612121
1	Housing R 2"	1	-	2613121
2	Strainer, 0.1 mm (0.004 inch) ****	2	2030141	2030142
3	Web seal ****	2	1610124	1612124
4	Sight glass ****	2	2610125	2612125
5	Cover	2	2610126	2612126
6	Cheese-head screw	12	1633347	1612127
8	Identification plate R 1"	1	2030164	-
8	Identification plate R 1¼"	1	2030165	-
8	Identification plate R 1½"	1	-	2030131
8	Identification plate R 2"	1	-	1700994
9	Splint	2	1610139	1612139
10	Disk	2	1607156	1607125
11	Hand valve	1	1610147	1612147
12	Threaded flange, complete, items 13-15	1	2610150	2612150
13	Threaded flange	1	1610146	1612146
14	Lip seal ****	1	1610145	1612145
15	Scraper ring ****	1	1610149	1612149
16	Flat gasket ****	1	1610144	1612144
17	Slide valve, complete, items 9,10, 18-22	1	2030056	2030057
18	Valve spindle	1	1610143	1612143
19	Head of slide valve	1	1610137	1612137
20	Gasket ****	2	1610140	1612140
21	Counter pulley	3	1610141	1612141
22	Connecting pipe	1	1610142	1612142
23	Reducing nipple	1	1 440061	1440062
24	O-ring 28x2.5	1	1200027	-
24	O-ring 38x4	1	-	1612131
25	Spherical faucet, complete, JRSF 1" & 1¼"	1	1610561	-
26	Spherical faucet JRSF 1½" & 2"	1	-	1610252
27	Hose nozzle JRSF 1½" & 2"	1	-	1440060

Replacement interval: **** = 4 years

11. Customer service

JUDO Water Treatment Inc.
2060 Steeles Ave. West, Unit #4
Concord, Ontario L4K 2V1

phone: (905) 761-1555
fax: (905) 761-3335
e-mail: service@judo-online.com
www.judo-online.com

Installed by: