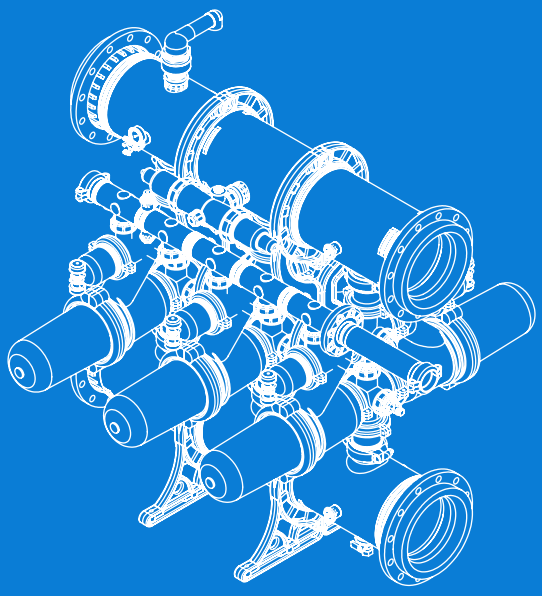
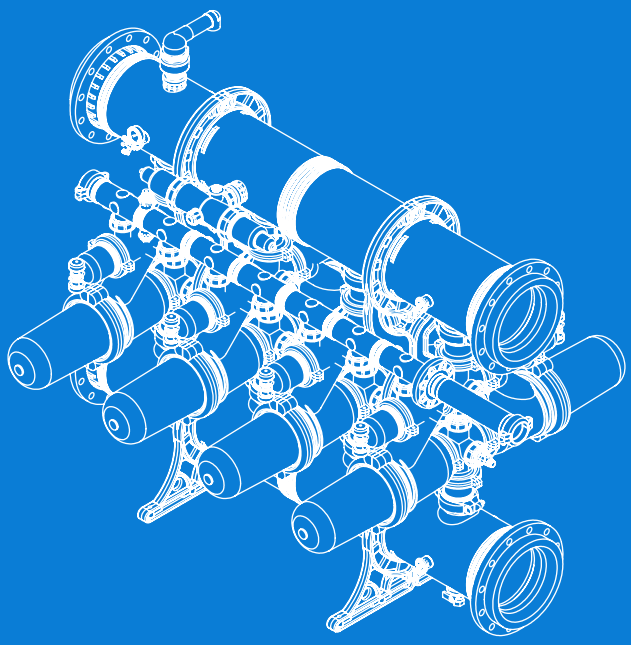
ALPHAPOLLO

/ Installation & Operation Manual





orbia | Precision Agriculture

NETAFIM™

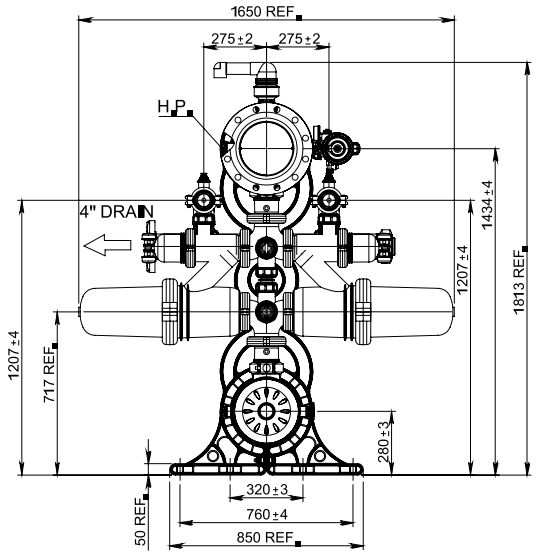
Contents

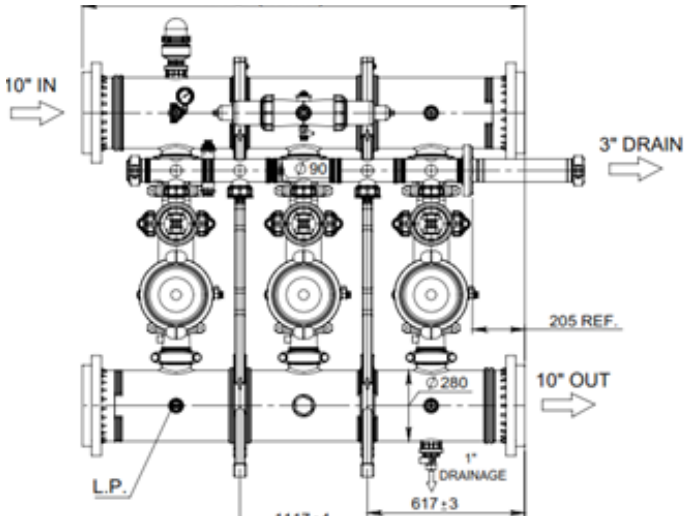
Introduction

Netafim™ congratulates you on purchasing Alphapollo .
These filters are easy to install, use and service; they require no special skills to operate.
For operation and maintenance of this filter, please follow the instructions in this manual.

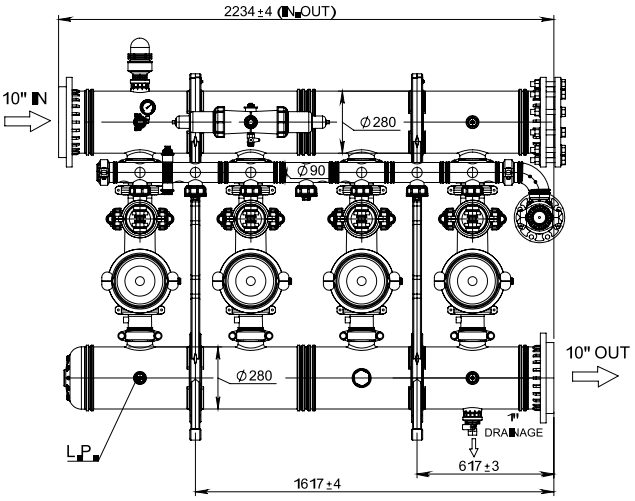
The Alphapollo is an automatic self-cleaning filter battery designed for non-hazardous liquids.
Alphapollo Battery is unique design configuration, combined of the well-known “Apollo Filter Battery" with excellent worldwide experience especially for medium/high flow rates systems, and the last revolutionary version “Alphapollo Filter” with upgrade and improve performances that designed to unlimited flow rate range.

Optional installation is a single battery or number of modules creating a battery system.

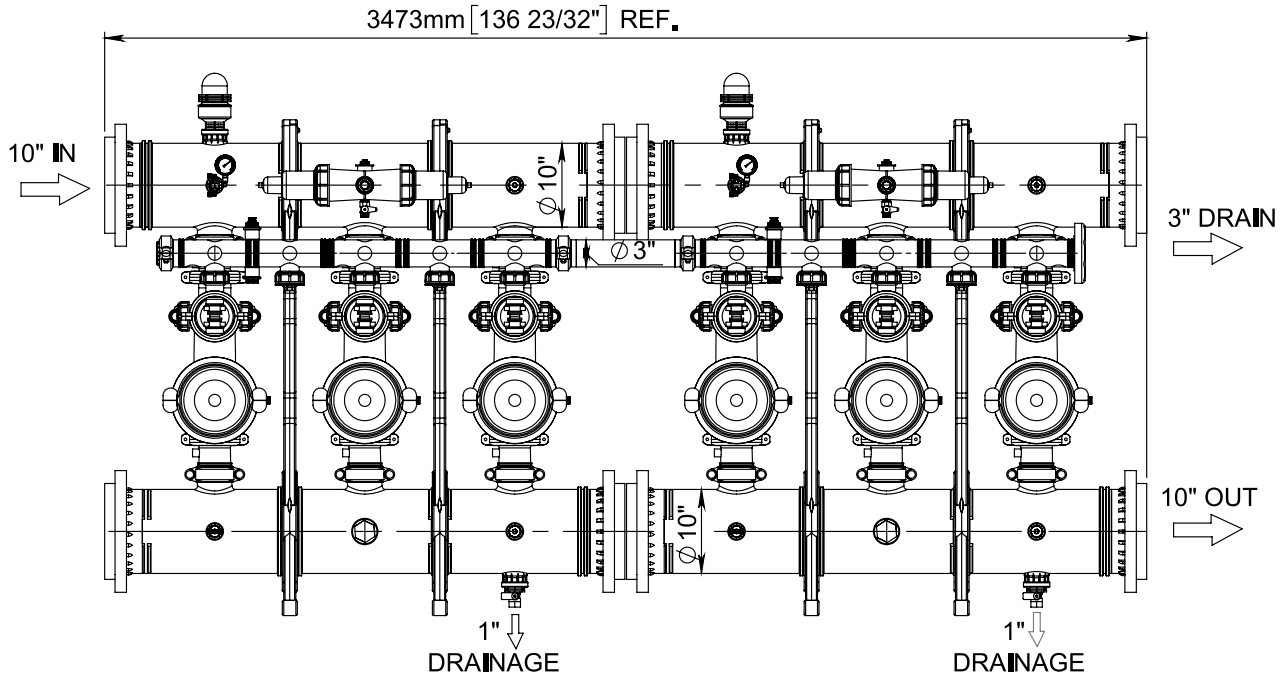


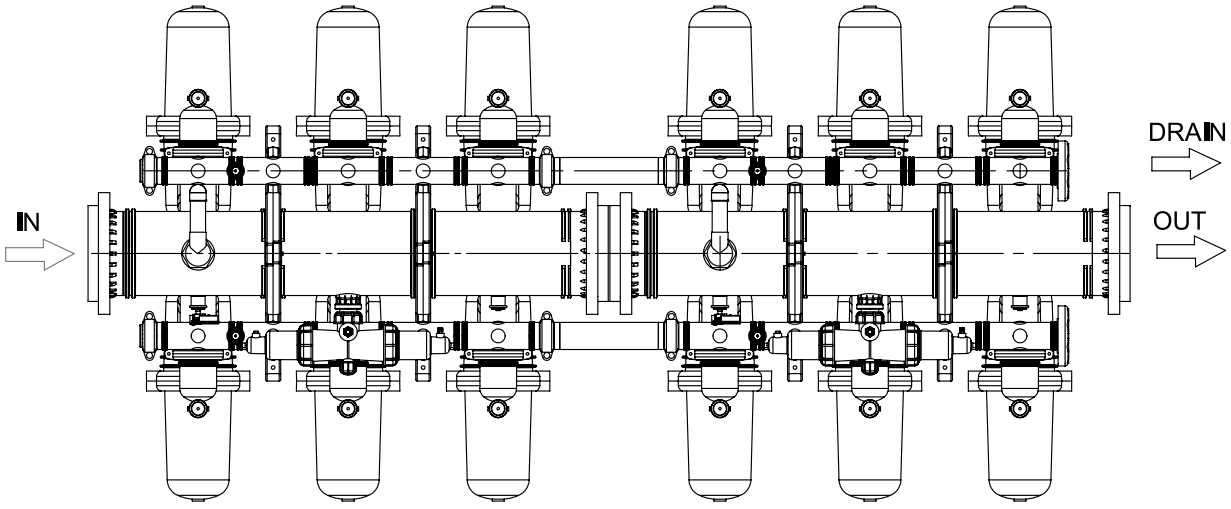


Modular



Battery


3473mm [136 23/32"] REF.
10" IN
∅10"
∅3"
3" DRAIN
10" OUT
∅10"
1"
DRAINAGE
1"
DRAINAGE


IN
DRAIN
OUT

General Safety Instructions

Note: Applicable local or national safety rules and regulations for preventing accidents must be applied in all work procedures in addition to the following instructions.

GENERAL SAFETY INSTRUCTIONS

- Netafim™ (manufacturer) filtration products always operate as components in a larger system. System designers, installers and operators must comply with all relevant safety standards.
- Prior to installation, operation, maintenance and/or any other type of action carried out on the filter, carefully read the safety, installation and operation instructions.
- During installation, operation and/or maintenance of the filter all conventional safety instructions must be observed to avoid danger to the workers, the public and/or to property in the vicinity.

Note: The filter enters the flushing mode automatically without prior warning.

- No change or modification to the equipment is permitted without advanced written notification given by the manufacturer or by its representative (s) on the manufacturer's behalf.
- Always observe standard safety instructions and good engineering practices whilst working in the filter's vicinity.
- Use the filter only for its intended purpose as designed by Netafim™. Any misuse of the filter may lead to damage and may affect your warranty coverage. Consult with Netafim™ prior to any non-regular use of this equipment.

INSTALLATION

- Install the filter according to the detailed Installation Instructions provided with the filter by the manufacturer and according to the description given in this manual.
- Make sure to leave enough clearance to enable easy access for safe maintenance operations.
- Make sure to have suitable lighting at the filter's location to enable good visibility and safe maintenance.
- Arrange suitable platforms and safety barriers to enable easy and safe access to the filter without needing to climb on pipes and other equipment. Verify that any platform, barrier, ladder, or other such equipment is built, installed and used in accordance with the relevant local authorized standards.
- Check and re-tighten all bolts during commissioning and after the first week of operation.
- Use only appropriate standard tools and equipment operated by qualified operators when installing, operating and maintaining the filter.
- When installation is required in hazardous environment sites, underground or high above ground, ensure that the site design and the auxiliary equipment are appropriate and that installation procedures are carried out in accordance with the relevant standards and regulations.
- Ensure walking areas around the installation are slip resistant when wet.

SHIPMENT AND TRANSPORTING

- Shipping and transporting the filter must be done in a safe and stable manner and in accordance with relevant standards and regulations.
- For shipping, lifting and positioning the filter, use only approved lifting equipment and authorized employees and contractors.

ELECTRICITY

- Electric wiring must be performed by an authorized electrician only, using standardized and approved components.
- Install a lockable main power cut-off switch close to the control panel.
- If due to site constraints, the control panel is installed without a clear line of vision to the filter, an additional lockable power disconnect cut-off switch should be installed near each filter unit.
- The filter should be installed in a manner in which the electrical components and/or the control panel are protected from direct contact with water.

PNEUMATICS

- Install a lockable main cut-off switch, equipped with a pressure release mechanism, on the compressed air supply line close to the control panel.
- If the control panel is installed without a clear line of vision to the filter, a lockable compressed air cut-off switch, equipped with a pressure release mechanism, should be installed near each filter unit.
- Ensure that the compressed air supplied to the filter never exceeds the maximum designated pressure for the filter. An air-pressure reduction valve should be installed on the compressed air supply line upstream of the filter's pneumatic inlet port.

HYDRAULICS

- Extra safety devices should be installed on hot water applications to avoid the danger of burns.
- The user should install a manual water cut-off valve next to the filter's inlet port.
- In cases where the downstream piping network downstream of the filter is pressurized an additional manual water cut-off valve should be installed next to the filter's outlet port.
- The user should ensure that the system includes a pressure release / drainage valve to enable release of residual pressure prior to any maintenance procedure performed on the filter.
- The user should ensure that the filter is never exposed to water pressure exceeding the maximum designated pressure for this filter, if needed, a pressure reduction valve should be installed upstream of the filter's water inlet port.
- The maximum working pressure indicated on the filter's specifications table includes the pressure caused by fluid hammer and pressure surge effects.

CIVIL ENGINEERING

- Ensure that the filter installation is performed by the manufacturer's qualified technicians.
- Ensure that any civil engineering work at the installation site such as construction, lifting, welding, etc. is performed by qualified workers / technicians / contractors and in accordance with relevant local standards.

While using lifting equipment, ensure that the filter or the lifted part is attached securely and in a safe manner.

- Do not leave lifted equipment unsupervised. Avoid working below lifted equipment.
- Wear a safety helmet while using lifting equipment.
- Ensure that the flooring is sloped for drainage and to avoid accumulation of liquids.

COMMISSIONING

- Carefully read the commissioning and the first start-up operation instructions prior to operating the filter.
- Perform the startup and first operation procedures exactly as described in this manual to achieve maximum performance and smooth operation of the filter.
- Commissioning the filter should be performed by an authorized manufacturer's technician only. Do not attempt to commission the filter unaccompanied. This may lead to damage and may affect your warranty coverage.

OPERATION AND CONTROL

- Do not operate the filter before carefully reading and becoming familiar with its operation instructions.
- Observe the safety stickers on the filter and do not perform any operation other than those given in this manual.
- Do not operate or use the filter for purposes other than its original design and operational envelope.

MAINTENANCE

Before any maintenance or non-regular operation, carefully read the following:

- Servicing the filter should be performed by an authorized manufacturer's technician only.
- Disconnect the filter from the power supply and lock the main power switch.
- Disconnect the compressed air supply, release the residual pressure, and lock the pneumatics main valve.
- Disconnect the filter from the water system by closing and securing the manual inlet valve. In cases where the downstream piping network is pressurized, also close and secure the manual outlet valve.
- Release the residual water pressure by opening the pressure release / drainage valve.
- Empty the filter by opening the drainage valve.
- In hot water systems wait until the filter components have cooled to a safe temperature.
- Place warning signs around the work area as required by local standards and procedures.
- Inspect the filter's safety stickers and replace any that are damaged or faded.

MECHANICAL

- Use only appropriate standard tools when working on the filter.
- Always open and close valves slowly and gradually.
- Remove grease and oily material residues to avoid slipping.
- Before disconnecting the filter from the water supply, electricity and pneumatics and before releasing the filter's residual pressure DO NOT:
  - Loosen or unscrew bolts.
  - Remove any protective covers.
  - Open any service port flanges.
- Avoid splashing and water leakage to minimize slippage, electrification or moisture damage to the equipment.
- While using lifting equipment, ensure that the filter or the lifted part is attached securely and in a safe manner.
- Do not leave lifted equipment unsupervised. Avoid working below lifted equipment.
- Wear a safety helmet, goggles, gloves, and any other personal safety equipment required by local standards and regulations.
- Entering a filter must be done in accordance with relevant local safety instructions, standards and regulations for working in hazardous environments.
- Manual cleaning of filter media using high water pressure or steam should be performed in accordance with cleaning system instructions, local standards and regulations and without endangering the operator or the vicinity.
- Manual cleaning of filter element using acid or other chemical agents should be performed in accordance with relevant material safety instructions, local standards and regulations and without endangering the operator or the vicinity.

BEFORE RETURNING TO REGULAR OPERATION

- Re-assemble any protective covers or protection mechanisms removed during service or maintenance operations.
- Ensure that all tools, ladders, lifting devices, etc. used during maintenance procedures are removed from the filter area and stored.
- In order to return the filter to regular operation, follow the First Start-up Operation instructions as detailed in your user manual.
- Filters used in potable water systems must be disinfected according to local water authority standards and regulations before putting it back into service.

GENERAL

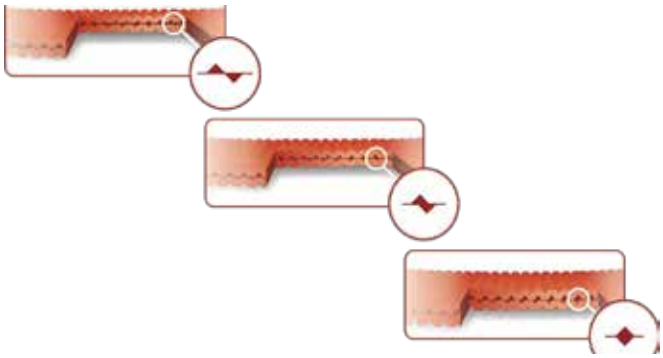
- Install the filter according to the detailed Installation Instructions provided with the filter by Netafim™ included in this manual.
- Tighten all bolts during commissioning and after the first week of operation.
- Use only appropriate or recommended tools and equipment when servicing the filter.
- Shipping and transporting the filter must be done in a safe and stable manner and in accordance with the local standards and regulations.

HYDRAULICS

- We recommend installing a manual water cut-off valve next to the filter's inlet port.
- In cases where the piping network is downstream, and the filter is pressurized, an additional manual water cut-off valve should be installed next to the filter outlet port.
- We recommend that the system includes a pressure release / drainage valve to enable release of residual pressure prior to any maintenance procedure. It is recommended to add an air release valve.
- Ensure that the filter is not exposed to water pressure that exceeds the maximum pressure defined by Netafim™. If needed, a pressure reducing valve should be installed upstream of the filter.
- Please note that the maximum working pressure indicated in the filter's specifications table includes the pressure caused by water hammer and pressure surge effects.
- If possible, prior to installation, thoroughly flush the main line at the connection point to remove large objects that may damage the filter's internal mechanism.

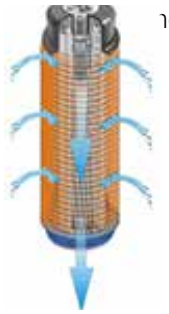
AlphaDisc™ Disc Technology

Netafim™ uses a specially designed disc filtration technology. Thin, color-coded polypropylene/nylon discs are diagonally grooved on both sides to a specific micron size. A series of these discs are then stacked and compressed on a specially designed spine. When stacked, the groove on top runs opposite to the groove below, creating a depth filtration element with a statistically significant series of grooves and traps for solids. The stack is enclosed in corrosion and pressure resistant housing.



ALPHADISC™ FILTRATION OPERATION

During the filtration process, the filtration discs are tightly compressed by a spring and differential hydraulic pressure, thus providing high filtration efficiency. Filtration occurs while water is flowing from the outer diameter to the inner ıe element.



ALPHADISC™ AUTOMATIC FLUSHING OPERATION

Differential pressure or backup time triggers the flushing controller to activate the flushing cycle. Solenoid number one sends a hydraulic command that closes the inlet 3-way valve and opens the drain. The compression cylinder on the disc ȷ. Tangential jets of filtered water flow through special nozzles in opposite directions causing the discs t the trapped solids.

Technical Specifications - Alphapollo

GENERAL DATA	3 FILTERS	4 FILTERS	5 FILTERS	6 FILTERS	7 FILTERS	8 FILTERS
MAX. FLOW RATE (130M) IN AVERAGE WATER QUALITY **	249 M3/H (1,095 GPM)	332 M3/H (1,461 GPM)	415 M3/H (1,826 GPM)	498 M3/H (2,191 GPM)	581 M3/H (2,556 GPM)	664 M3/H (2,921 GPM)
MIN. OPERATING PRESSURE WHEN FLUSHING	1.5 BAR (22 PSI)					
MAX. OPERATING PRESSURE	10 BAR (145 PSI)					
OPERATING TEMPERATURE	5-60°C (40-140°F)					
FILTRATION AREA	15,720 CM2 (1,149 IN2)	20,960 CM2 (1,532IN2)	26,200 CM2 (1,915 IN2)	31,440 CM2 (2,298 IN2)	36,680 CM2 (2,681 IN2)	41,920 CM2 (3,064 IN2)
INLET/OUTLET FLANGE DIAMETER	10" OR 12" (280 OR 315 MM)	10" OR 12" (280 OR 315 MM)	10" OR 12" (280 OR 315 MM)	10" OR 12" (280 OR 315 MM)	12" (315 MM)	12" (315 MM)

FLOW RATE (130 MICRON) 1 POD		M3/H	GPM
WATER QUALITY	GOOD	96	420
	AVERAGE	83	360
	POOR	69	300
	VERY POOR	55	240

		CCM CLOGGING
WATER QUALITY	GOOD	>15
	AVERAGE	5 - 15
	POOR	2.5 - 5
	VERY POOR	1.5 - 2.5

Electronic control (CLD)

CONTROL POWER SUPPLY	4 X D TYPE 1.5V BATTERIES / EXTERNAL POWER: SOLAR PANEL / AC ADAPTER
SOLENOID OPERATION DATA	9-12 V DC LATCH
DP SWITCH	INTEGRAL SENSORS / EXTERNAL DP INPUT (DIGITAL)

Flushing data*

	POD FLUSH	ELEMENT FLUSH
EXHAUST VALVE	4" (110 MM) FLANGE/GROOVED COUPLING	3"(76MM) GROOVED / FLANGED COUPLING - DEFAULT DIAMETER
FLUSHING TIME	18 SEC	18 SEC
REJECT WATER VOLUME PER FLUSH CYCLE *	65 LITERS (17.2 GALLONS)	32.5 LITERS (8.6 GALLONS)
FLUSHING FLOW RATE *	26 M3/H (114.4 GPM)	13 M3/H (57.2 GPM)

! Max. operating pressure and temperature are interdependent parameters and are given for general reference only. Please consult your authorized Netafim™ representative for the application specific parameters.
* At 1.5 bar (22 psi).
When the pressure on downstream is over 6 bar / 87 psi during backwash, installing an orifice valve in the drain manifold is recommend in order to prevent damage to the AlphaDisc spines.
**Consult Netafim™ for optimum flow depending on filtration degree and water quality.

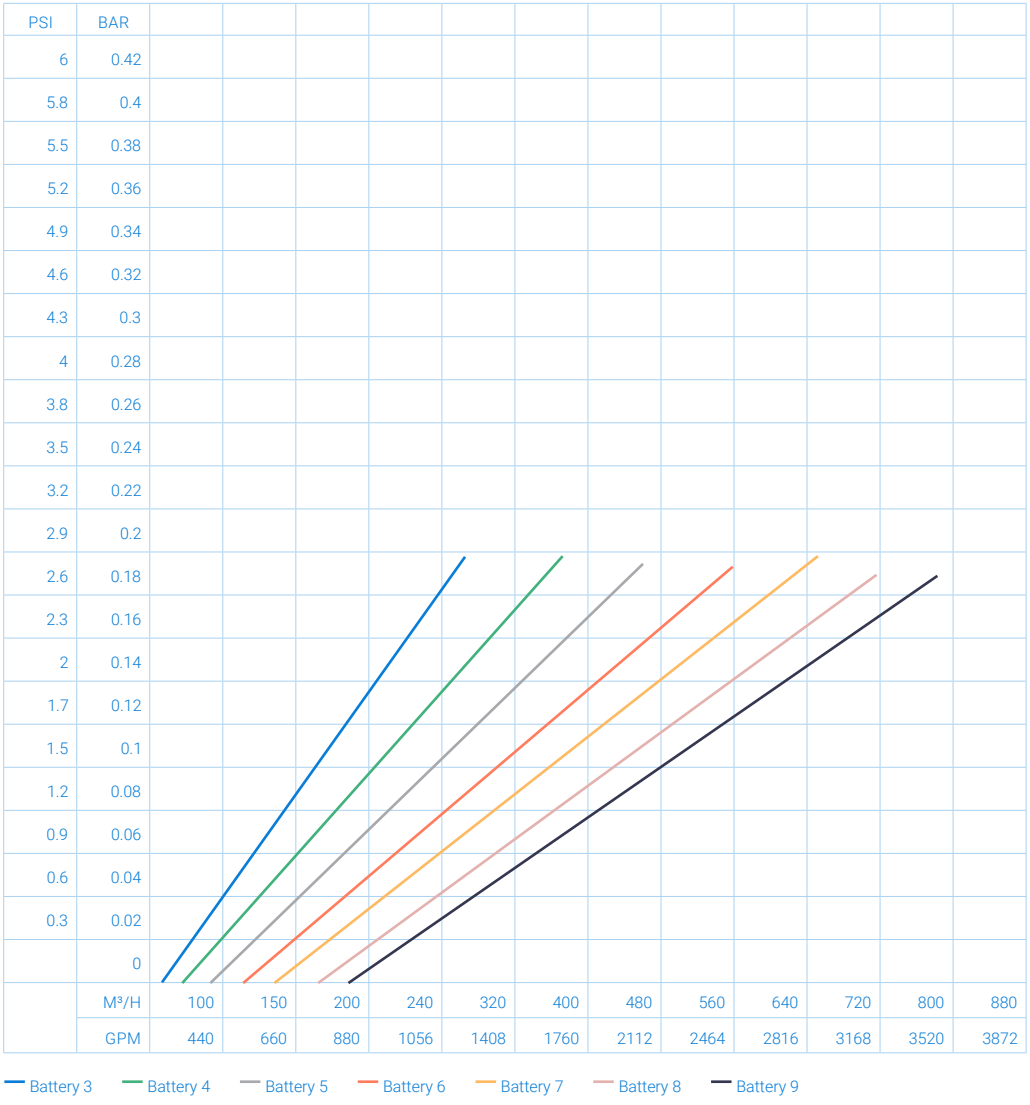
Construction materials

FILTER HOUSING, LID AND INTEGRAL BUILT IN VALVES	RPA (REINFORCED POLYAMIDE)
DISCS*	PP (POLYPROPYLENE) OR PA (POLYAMIDE)
SEALS	EPDM
SPRINGS AND BOLTS	SST

* Availability of disc type and micron size

MICRON	20	40	55	70	100	130	200	400
4" DISCS	PP	PP, PA	PP, PA	-	PP	PP	PP	PP

Head Loss Graph (Clean Water) At 130 microns



Alphapollo Configurations:

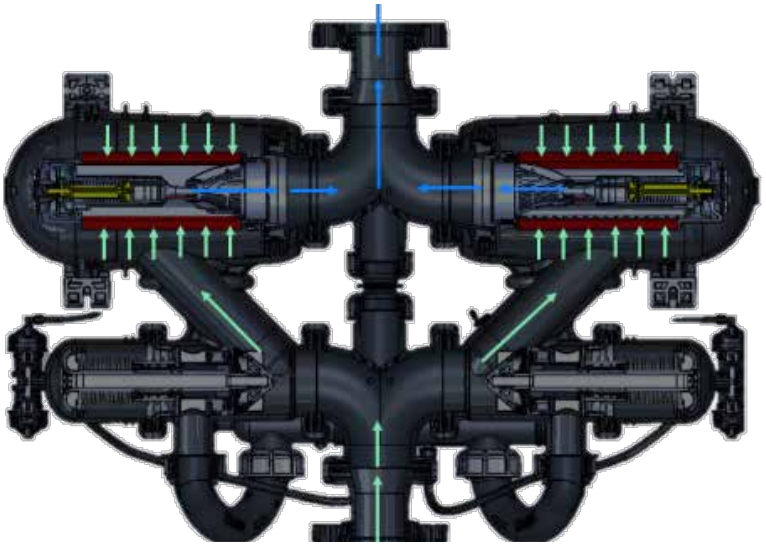
Modular Configurations

DESCRIPTION	WIDTH		LENGTH		HEIGHT		WEIGHT EMPTY	
	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(KG)	(LBS)
3X4", 10"	1650	65	1967	77	1813	71	377	831
3X4", 12"	1650	65	1967	77	1899	74	406	895
4X4", 10"	1650	65	2467	97	1813	71	455	1003
4X4", 12"	1650	65	2467	97	1899	74	476	1049

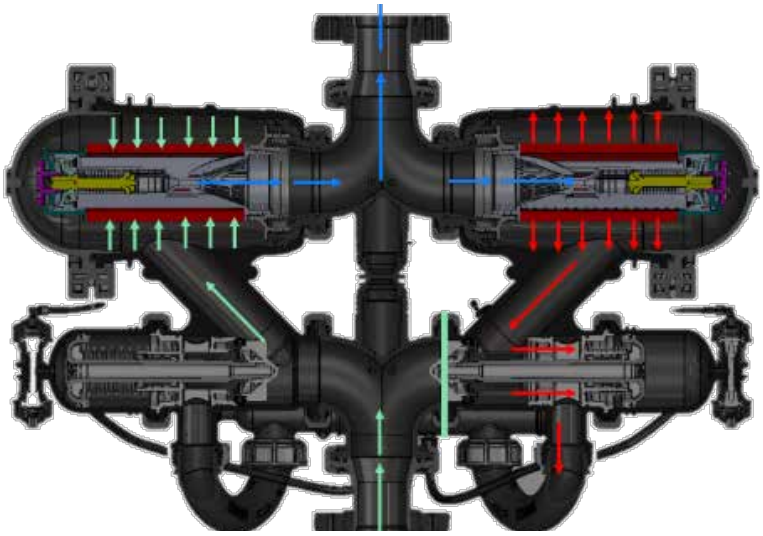
Battery Configurations

DESCRIPTION	WIDTH		LENGTH		HEIGHT		WEIGHT EMPTY	
	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(KG)	(LBS)
3X4", 10"	1650	65	1734	68	1813	71	332	731
4X4", 10"	1650	65	2234	87	1813	71	431	950
5X4", 10"	1650	65	2734	107	1813	71	575	1267
6X4", 10"	1650	65	3234	217	1813	71	635	1399
6X4", 12"	1650	65	3234	217	1899	74	714	1574
7X4", 12"	1650	65	3734	147	1899	74	831	1832
8X4", 12"	1650	65	4235	166	1899	74	942	2076
9X4", 12"	1650	65	5212	205	1899	74	1040	2292
10X4", 12"	1650	65	5557	218	1906	75	1262	2782

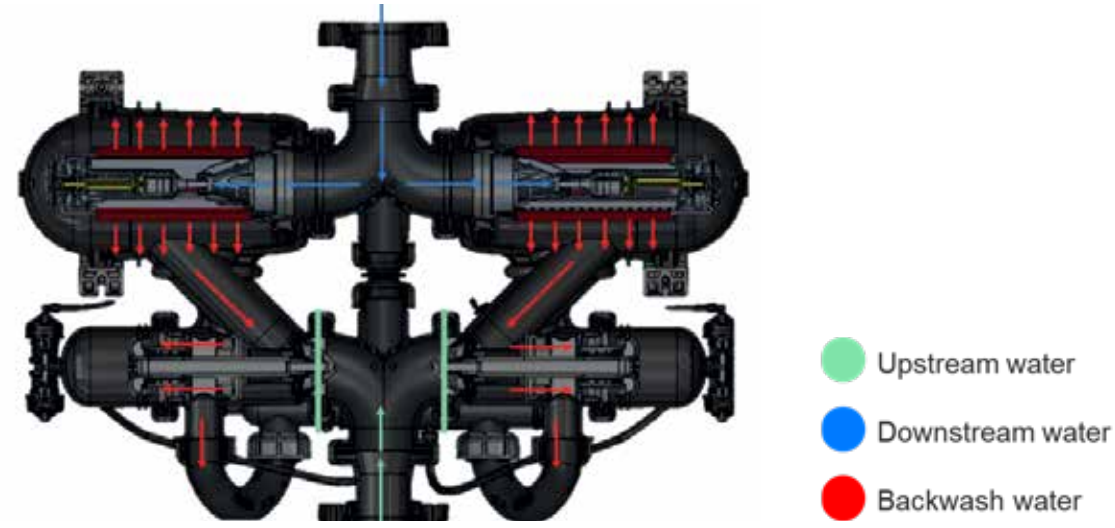
ALPHADISC™ FILTRATION PROCESS



ALPHADISC™ BACKWASH PROCESS (SINGLE SPINE)



ALPHADISC™ BACKWASH PROCESS (FULL POD)



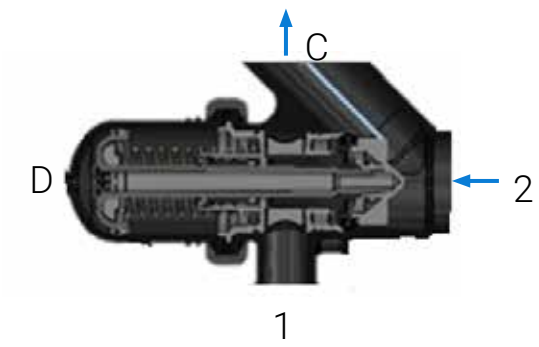
MODES OF THE FILTER'S CONTROL VALVE

Filtration Position:

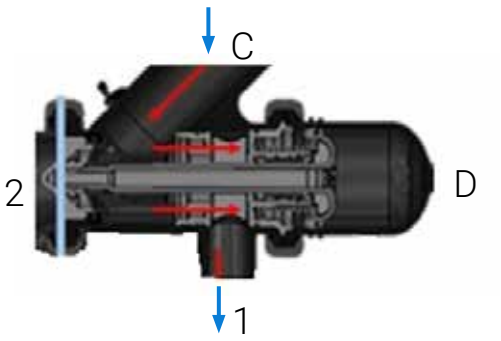
Inlet valve - Water flows from port [2] (main supply) to port [C] (filter connection). Port [1] (drain water outlet) is closed by the seal.

Back-flush Position:

Inlet valve - Command pressure is applied to the piston control chamber through the port [D]. The piston moves the sealed shaft, the port [2] closes, preventing flow to the filter. Port [C] opens, allowing flushing water to flow from port [C] (filter connection) to the drain [1].

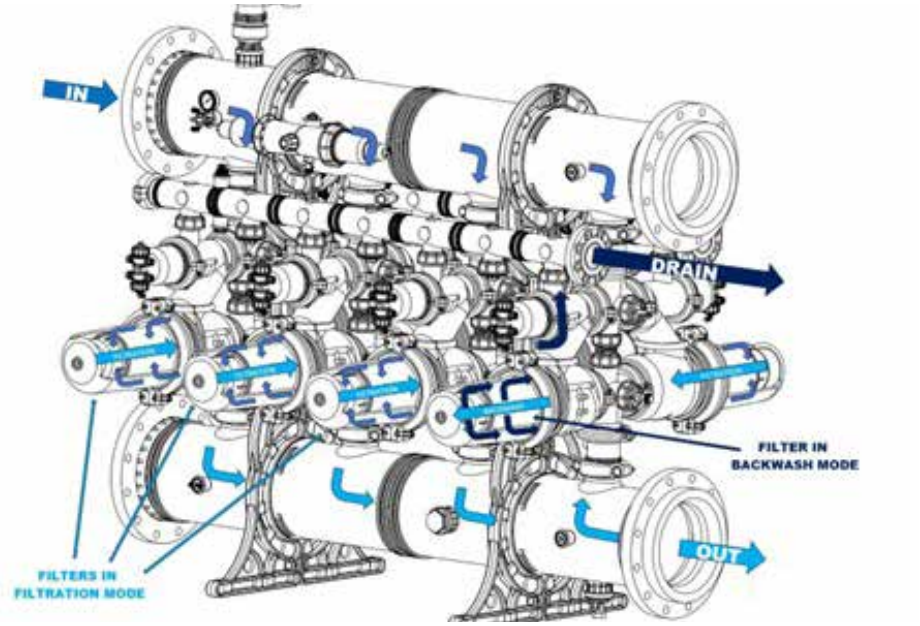


Filtration Mode



Flushing Mode

Alphapollo Filtration and flashing Process



AlphaDisc™ Multi-tool

A multifunction tool is provided with each AlphaDisc™ Filtration System.
See below various usage options:

FINGER FILTER SERVICING

UNIVERSAL NUT

COMMAND FILTER COVER NUT

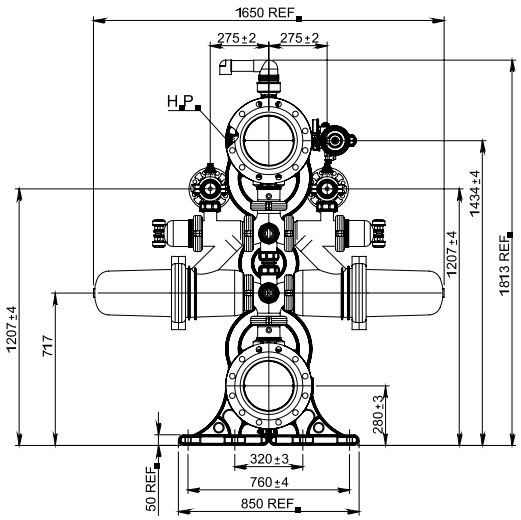
4" SPINE - BUTTERFLY TIGHTENING NUT

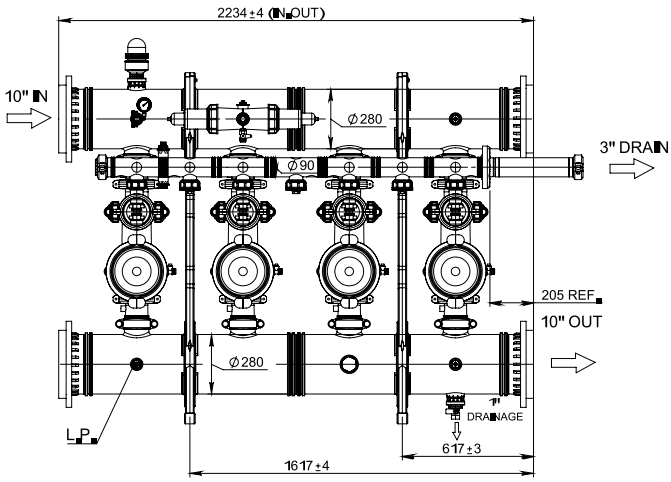
Installation & Initial Operation

Prior to installation, flush the main line thoroughly to remove large objects that may damage the filter's internal mechanism.

Inlet and Outlet Installation

Connect the inlet and outlet ports according to the installation configurations described below, keep the service clearance from both sides.



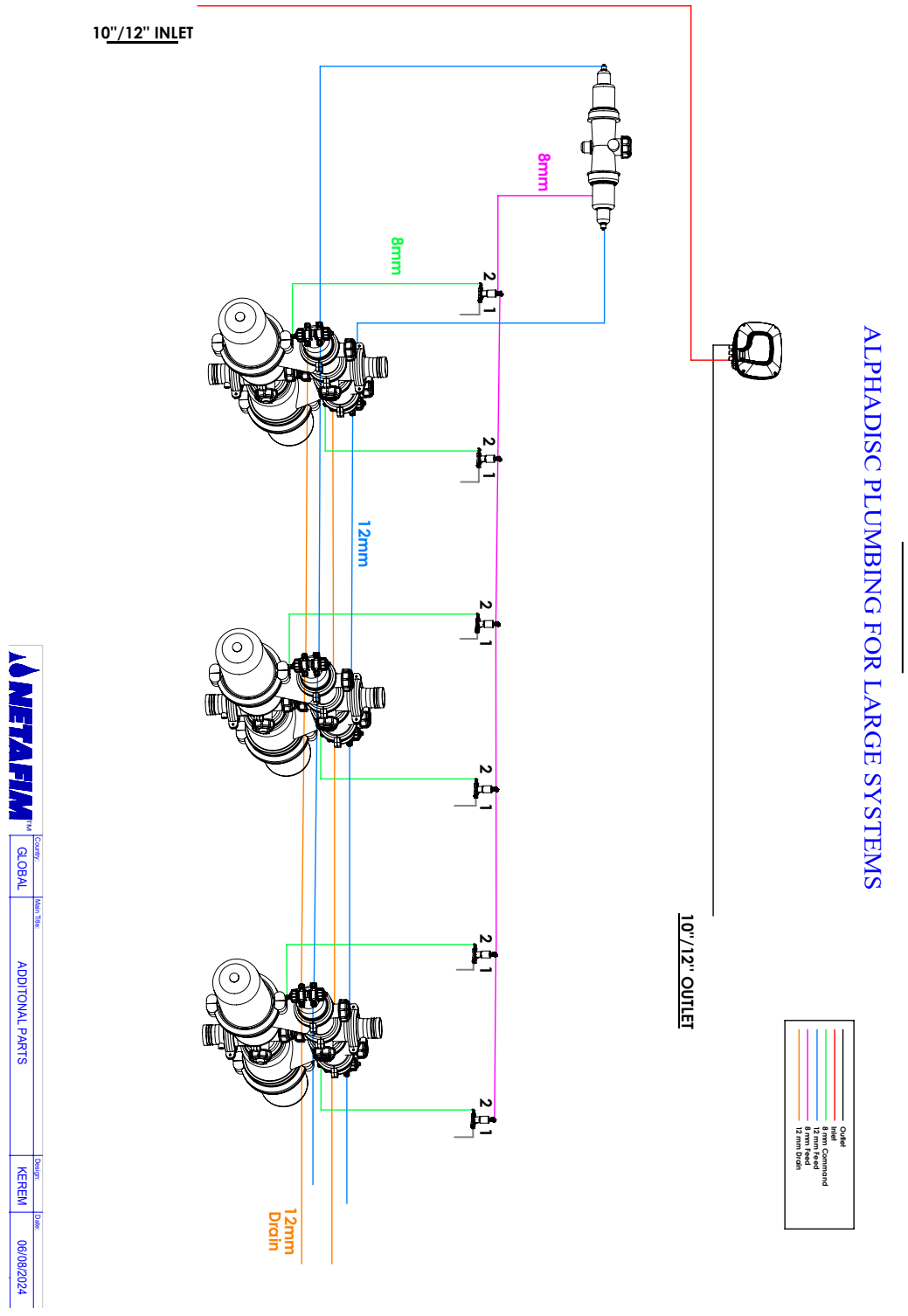


Initial Operation

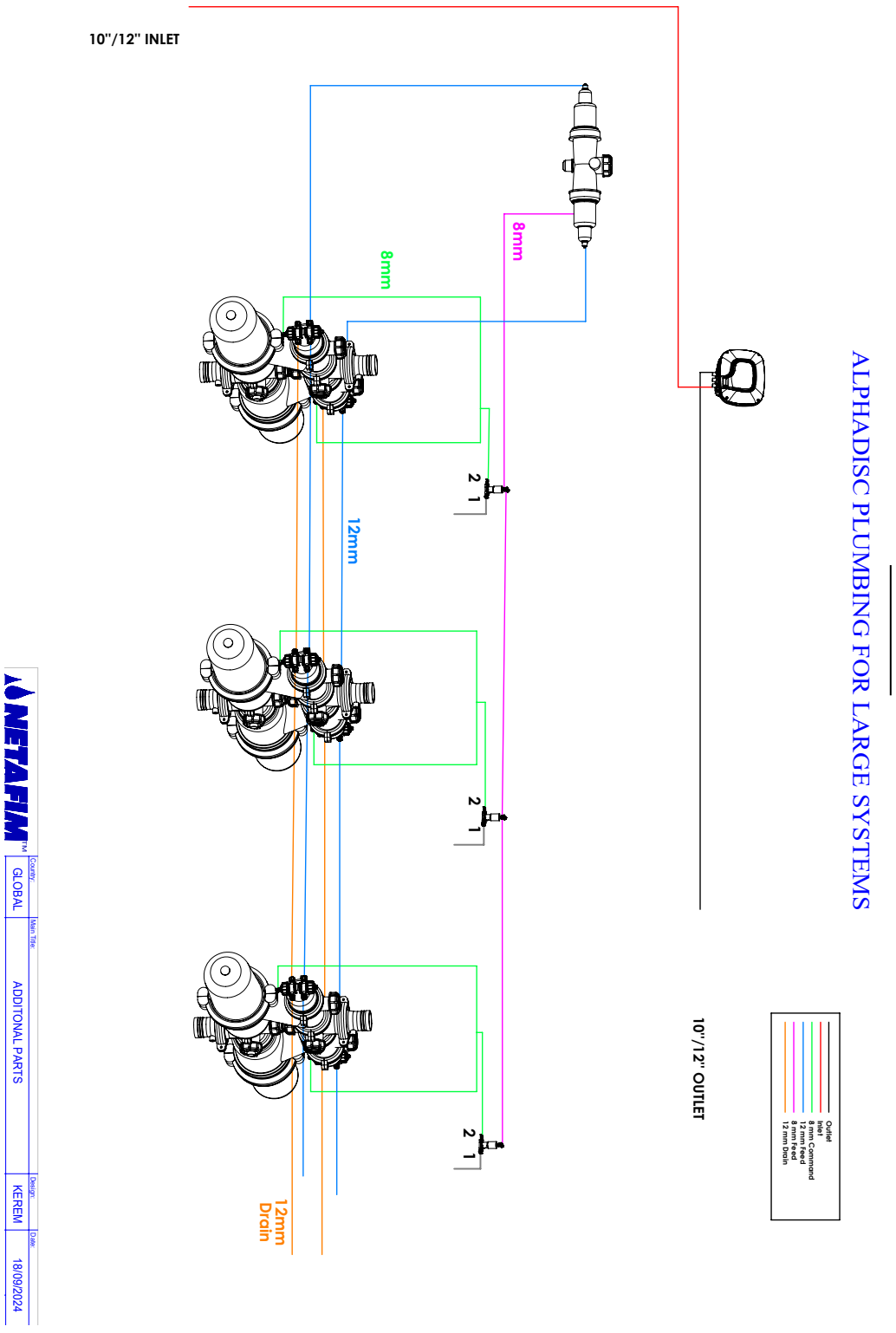
For initial operation or operation after maintenance, follow these steps:

1. Tighten the system's universal nuts.
2. Open the outlet valve.
3. Open the inlet valve slowly.
4. Make sure there are no leaks in the filter.
5. Initiate 1 flushing cycle by manually operating the controller.
6. Examine the filter again for any leaks.

Generic Control Scheme with CLD Controller - single spine



Generic Control Scheme with CLD Controller - Full POD



Maintenance Procedures

General Safety Instructions

- Netafim™ filtration products always operate as components in a larger system. It is essential for the system designers, installers, and operators to comply with all the relevant safety standards.
- Prior to installation, operation, maintenance, or any other type of action carried out on the filter, carefully read the safety, installation and operation instructions.
- During installation, operation or maintenance of the filter all conventional safety instructions should be observed in order to avoid danger to the workers, the public or to property in the vicinity.
- Please note: The filter enters into a flushing mode automatically, without prior warning.
- No change or modification to the equipment is permitted without a written notification given in advance by the manufacturer or by its representative, on the manufacturer's behalf.
- Always observe standard safety instructions and good engineering practices whilst working in the filter's vicinity.
- Use the filter only for its intended use as defined by Netafim™, any misuse of the filter may lead to undesired damage and may affect your warranty coverage. Please consult with Netafim™ prior to any non-regular use of this equipment.

Periodical Inspection

A general inspection of the filter operation should be done regularly and prior to any scheduled maintenance.
This includes pre-season, post-season, and seasonal check-ups.

Recommended Procedures:

1. Inspect the filter visually for any leakage and repair if needed.
2. Make sure the filter's area is clean and dry. Remove any disturbances.
3. Check the inlet and outlet pressure. Make sure that the filter is working under its designed flowrate.
4. Use your smartphone to export data from your controller.
5. Clean the command filter manually.
6. Inspect the flushing valve seals, apply silicon grease periodically, and replace the seals if needed.
7. Visually inspect the discs, and in cases of non-washed sediments clean the discs according to Netafim™ recommendations (see page 43).
8. Initiate one flushing cycle by manually operating the controller.

Filter Disassembly / Assembly

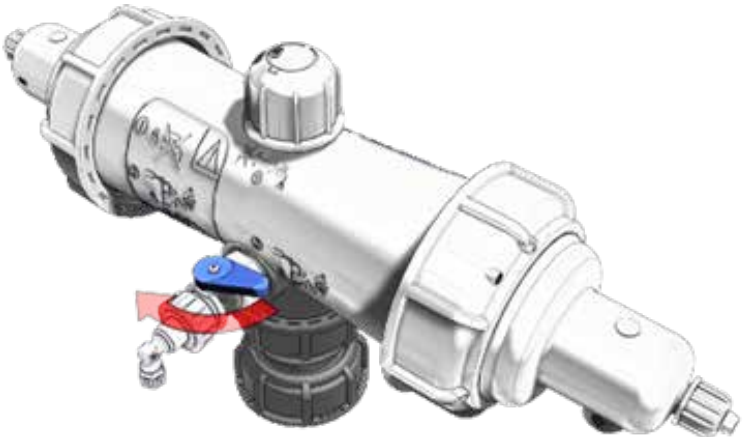
A multifunction tool is provided with each AlphaDisc™ Filtration System.

Flushing Valve Disassembly

Note:

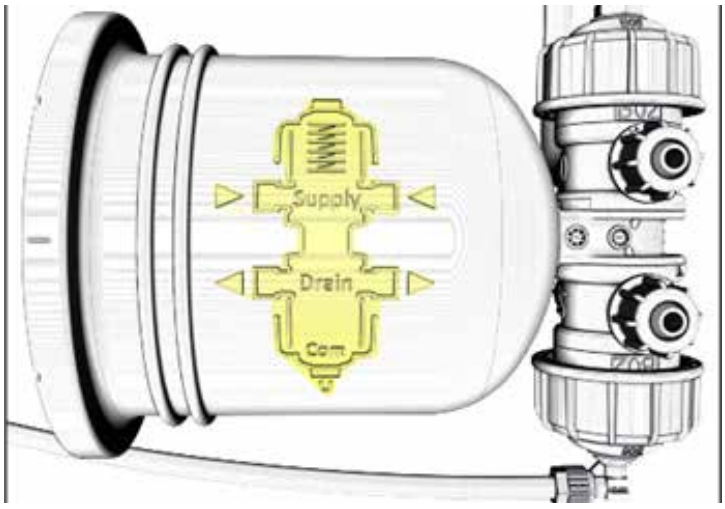
Before any maintenance procedure, please depressurize and empty the filter.

1. Close the inlet & outlet valves.
2. Open the drain valve located at the bottom part of the filter.
3. Open the command filter drain valve.
4. Open the drain valve located at the bottom of the ourlet manifold (the lower).
5. Open the command filter drain valve, in the On-line configuration the drain is located at the bottom



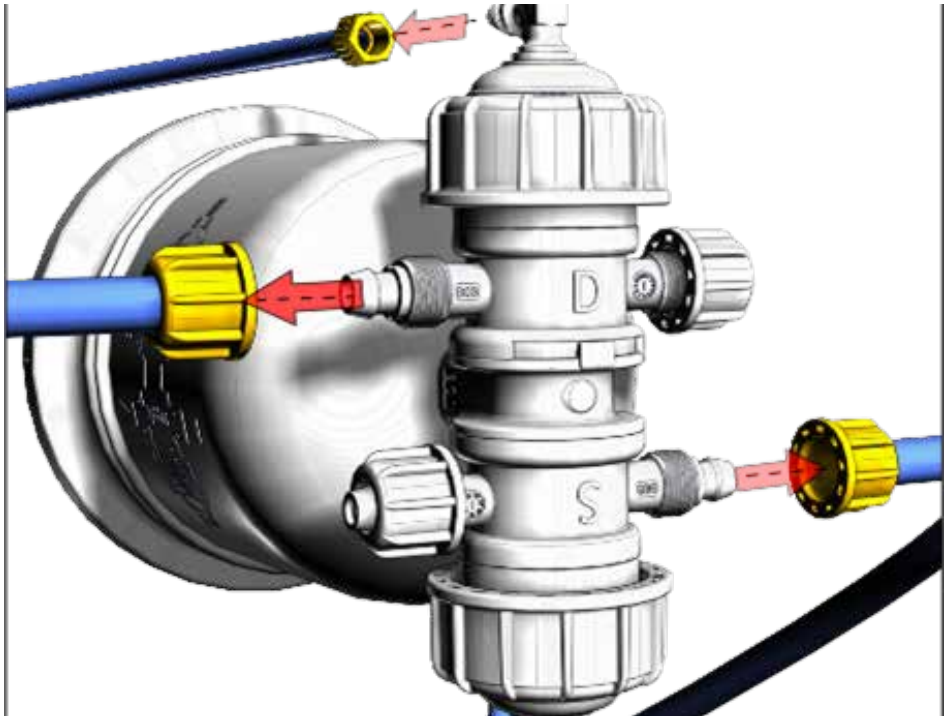
Note:

For an overview of the location of the Supply, Drain and Command tubes, please refer to the diagram located on top of the booster cylinder cover.

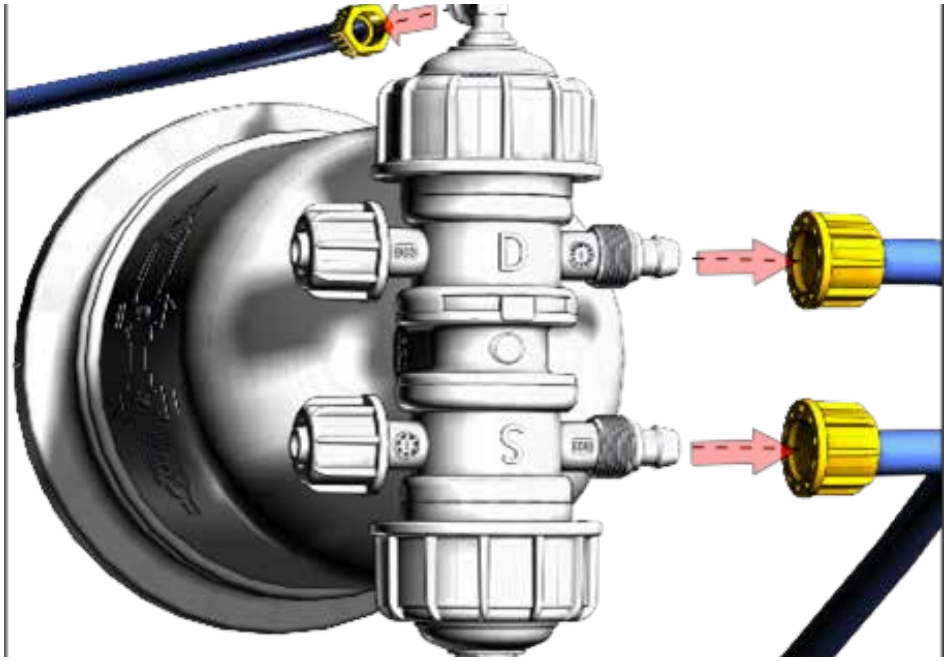


Disconnect the tubes of the water supply (S), water drainage (D) & command tube (C) from the booster cylinder (the location of the connection may be different in other configurations).

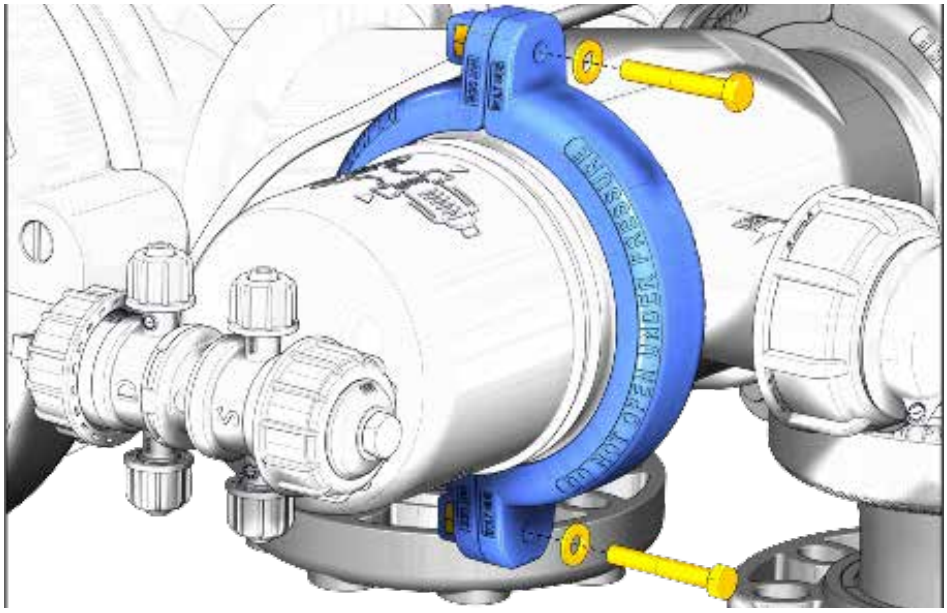
In-line



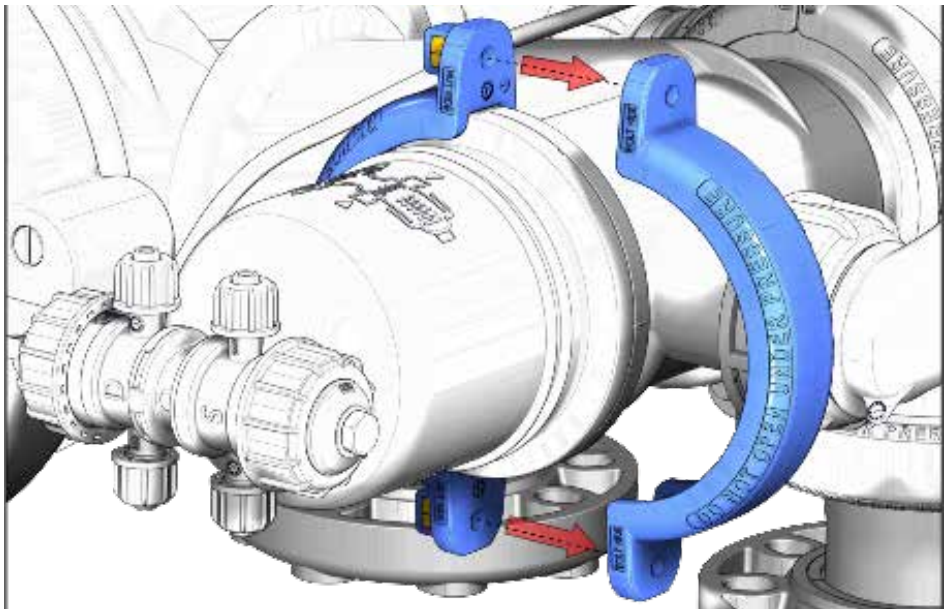
On-line



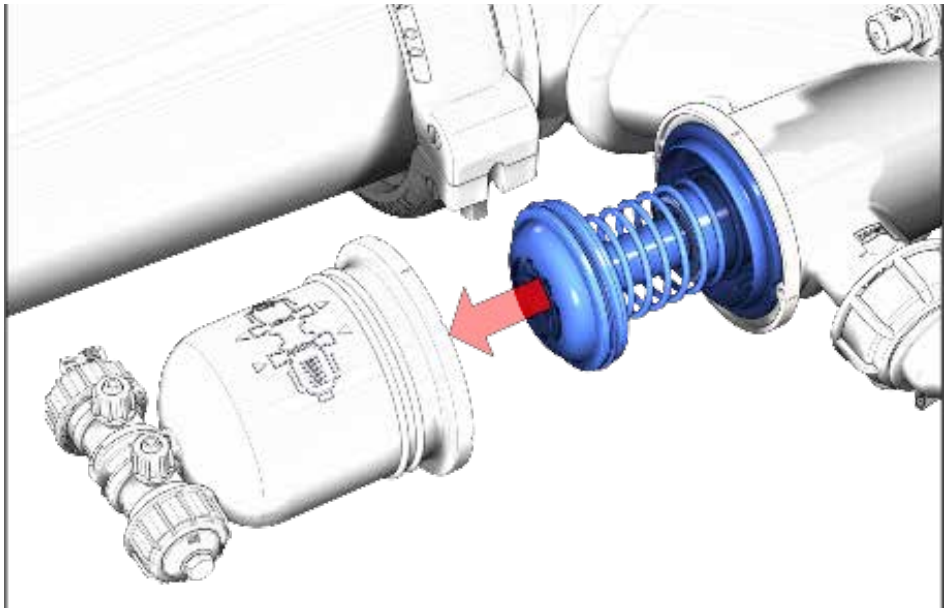
Unscrew the two bolts that join the system clamps using a 13mm (½") spanner and remove them.



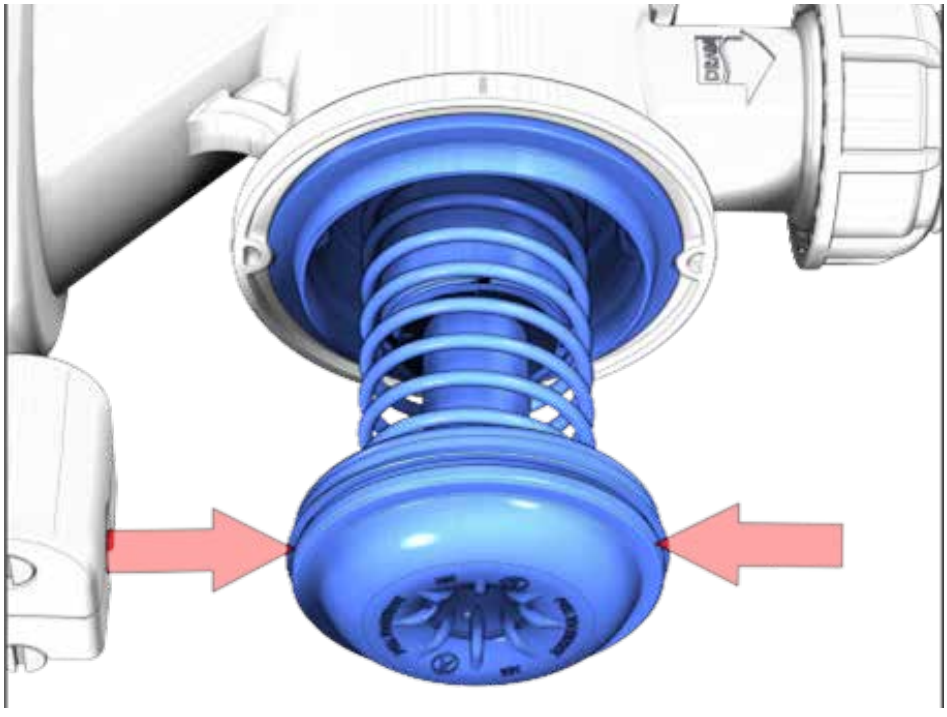
Remove the clamps (you may need to use a flat screwdriver to separate them).



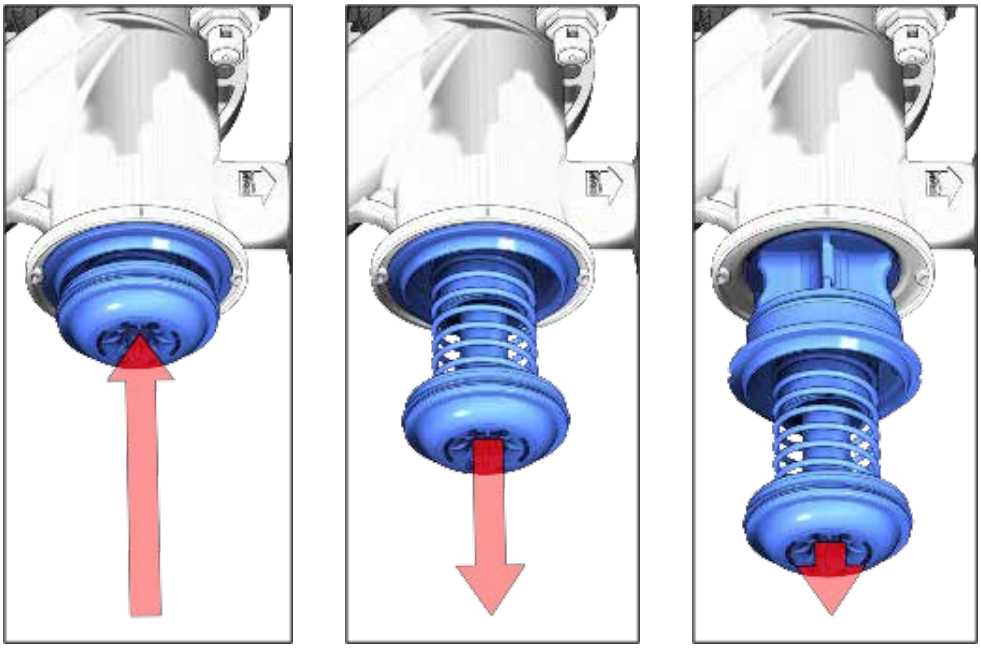
Remove the booster cylinder by pulling it backwards.



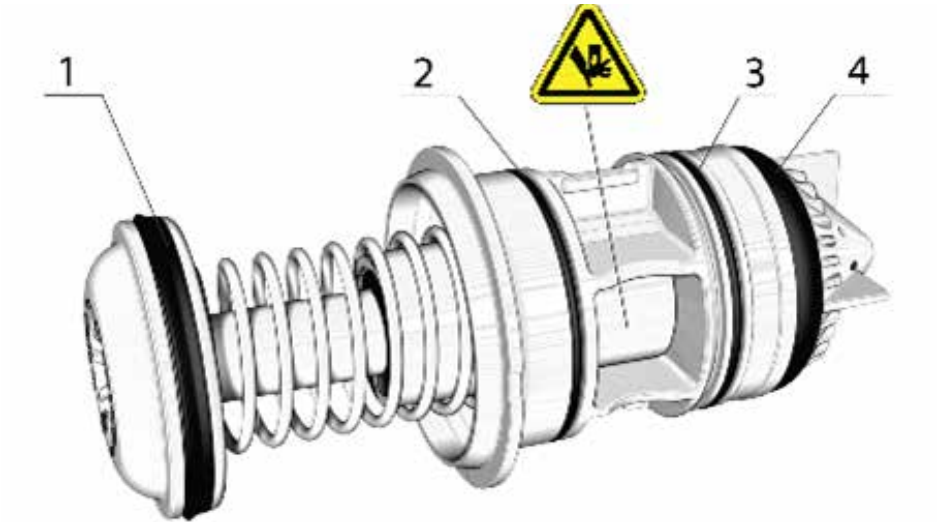
For removing the valve assembly, please use both hands on the valve piston.



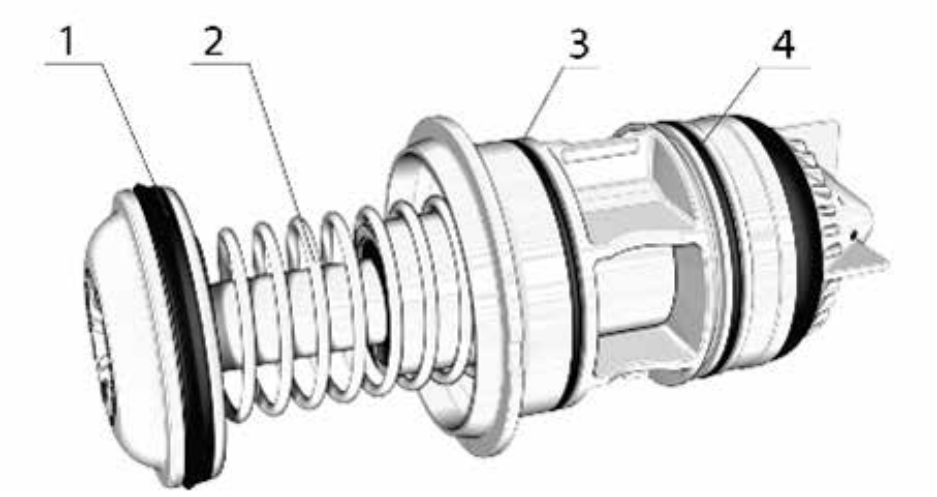
Push the piston valve forward and pull it back rapidly, until released.



Visually inspect the valve for damage, paying close attention to the seals.
Caution: *Do not insert your finger into the marked area. The valve is spring-loaded.*

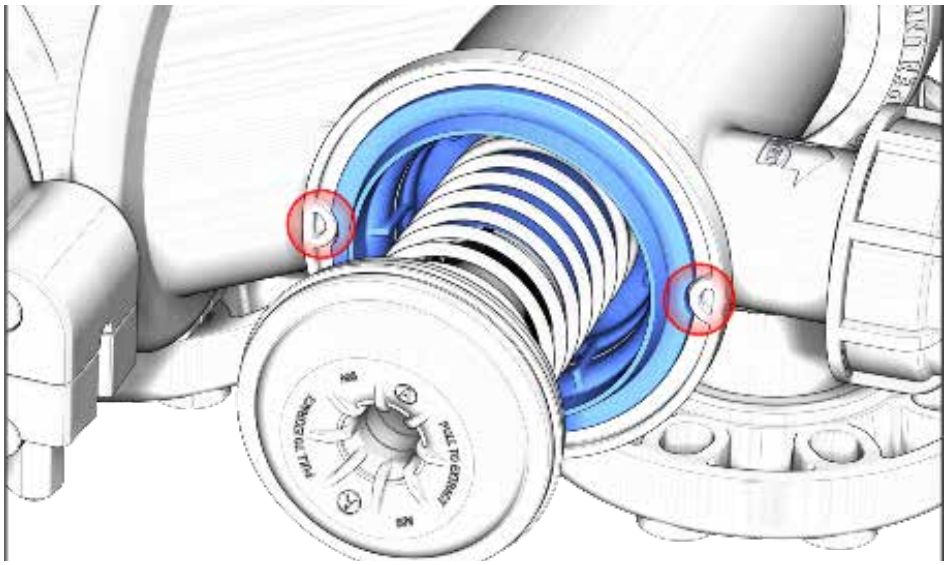


Apply silicon grease (catalog number: 760190-000127) at the specific locations as shown.

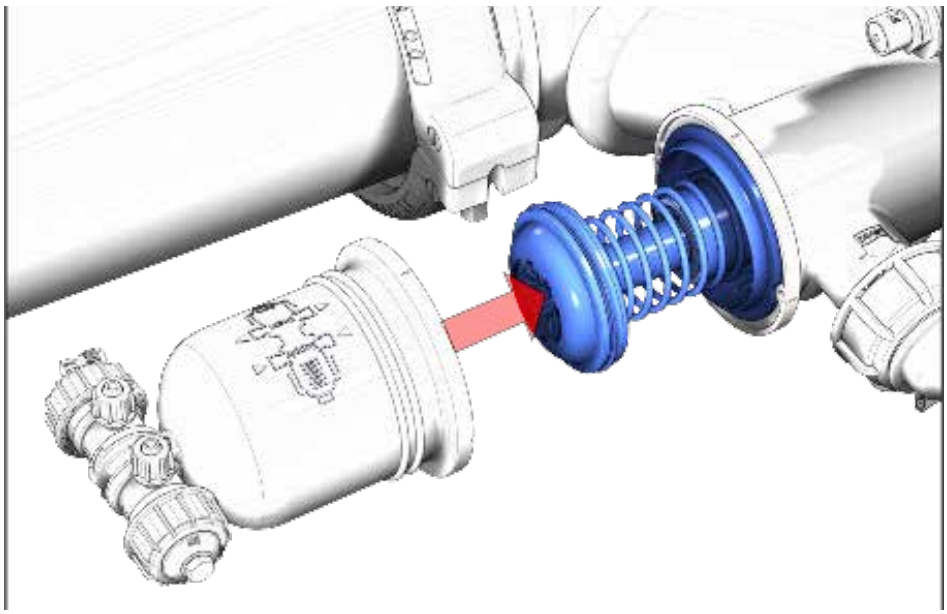


Flushing Valve Assembly

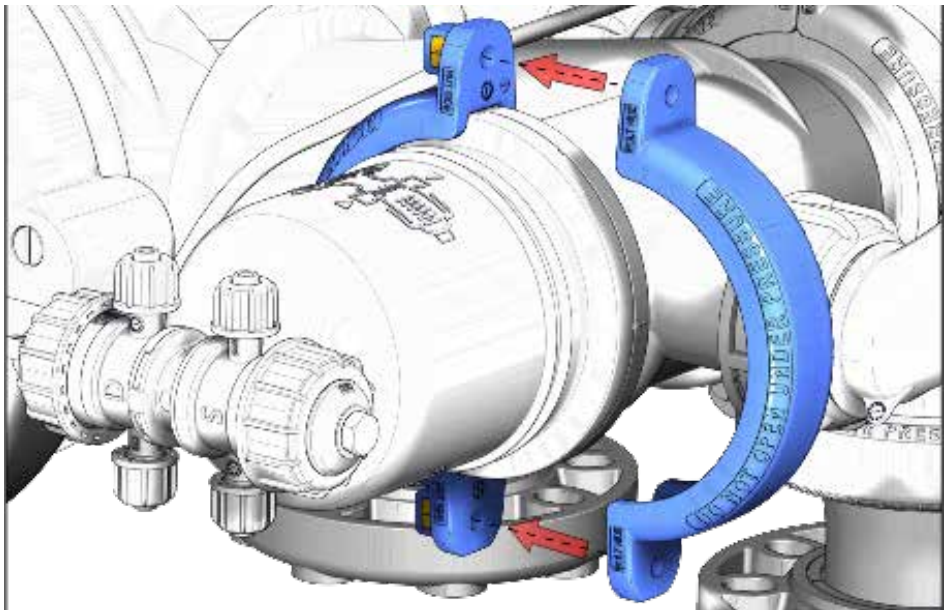
Insert the piston valve by pushing the marked area. Please make sure that the orientation grooves are aligned and the valve sits properly.



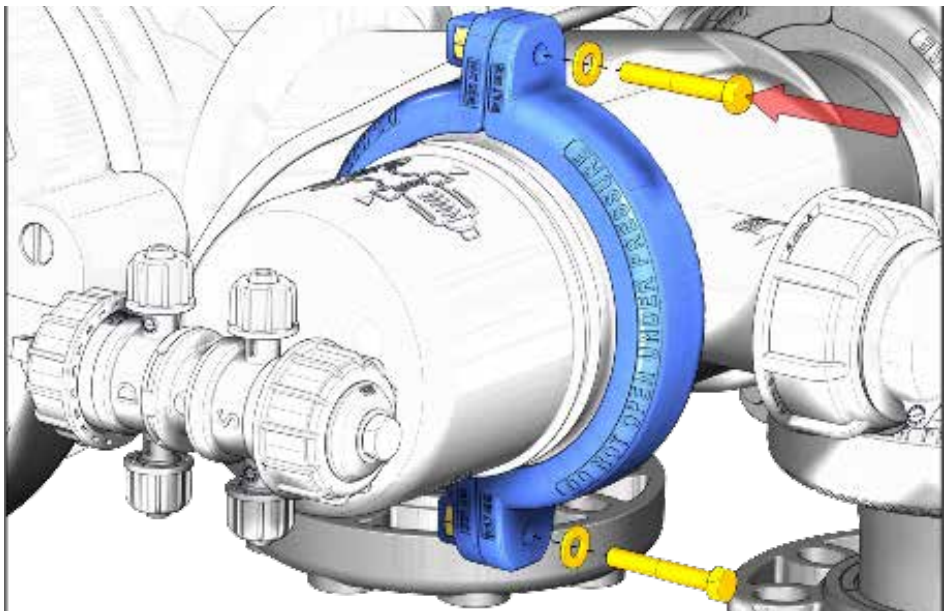
Place the booster cylinder on the flush valve.



Place the system clamps.

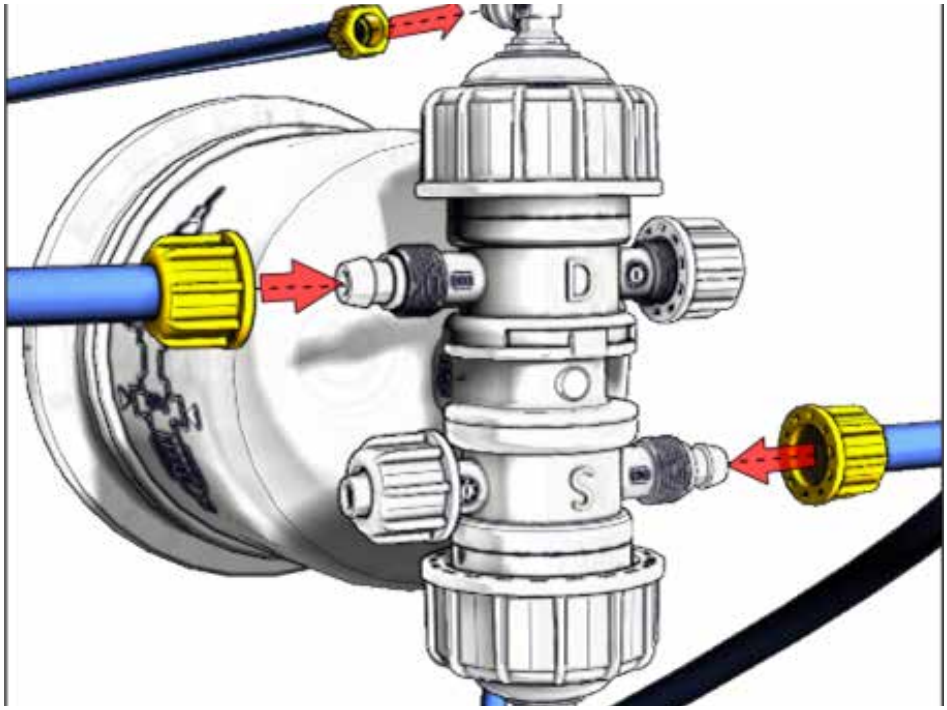


Tighten the system clamps by using the two bolts with a 13mm (½") spanner.

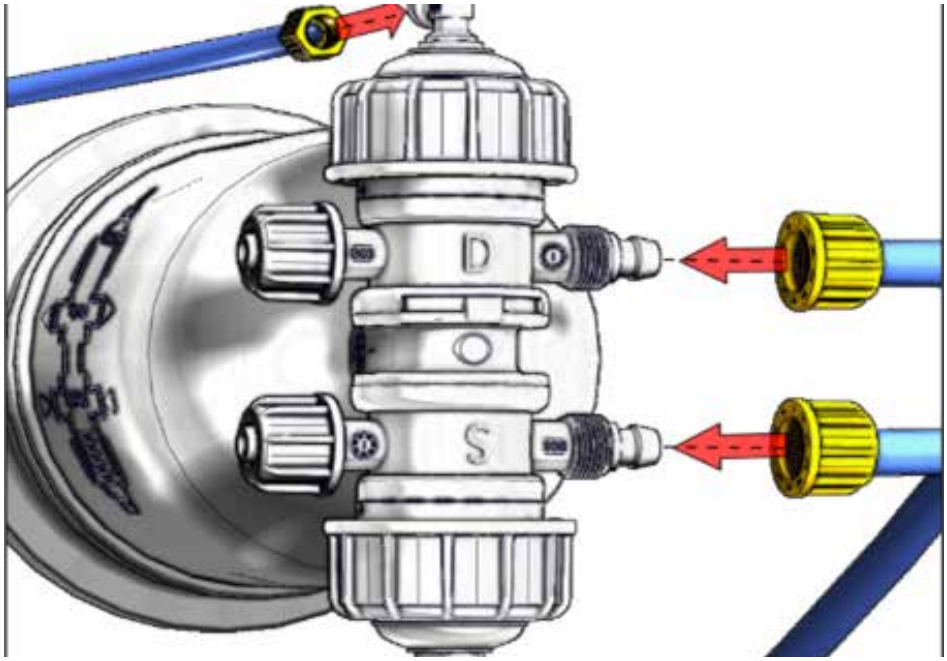


Connect the tubes of the water supply (S), water drainage (D) & command tube (C) to the booster cylinder.

In-line



On-line

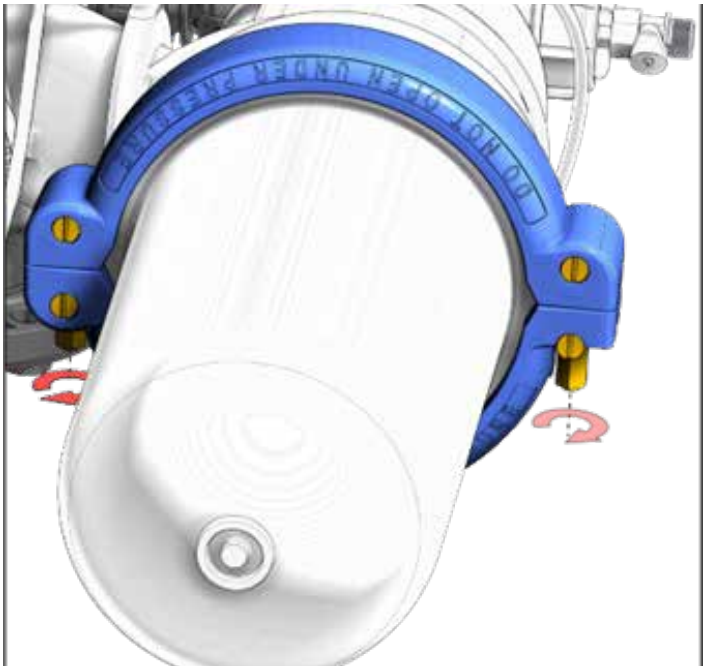


Close drain valve and command filter drain valve.
Initiate a **manual** flushing procedure in order to test the system.

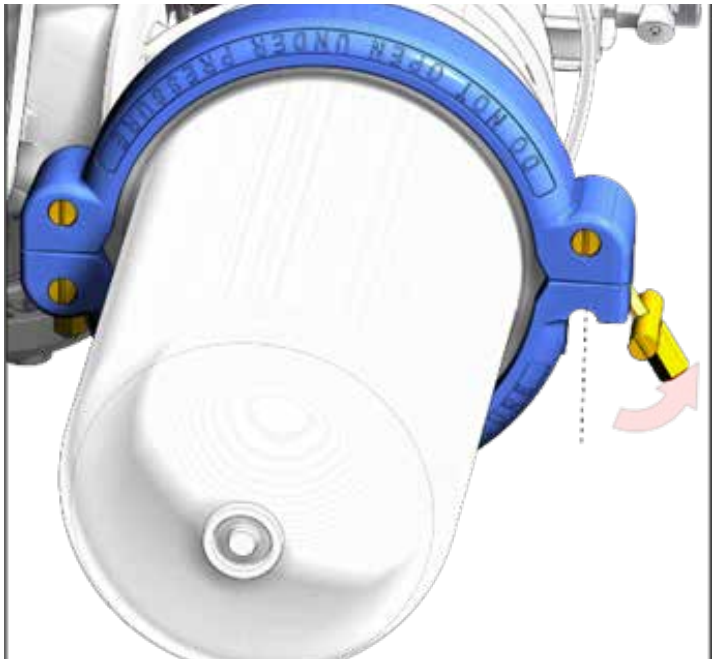
Main Cover and Filter Element Disassembly

Note: Before any maintenance procedure, please depressurize and empty the filter (see page 48).

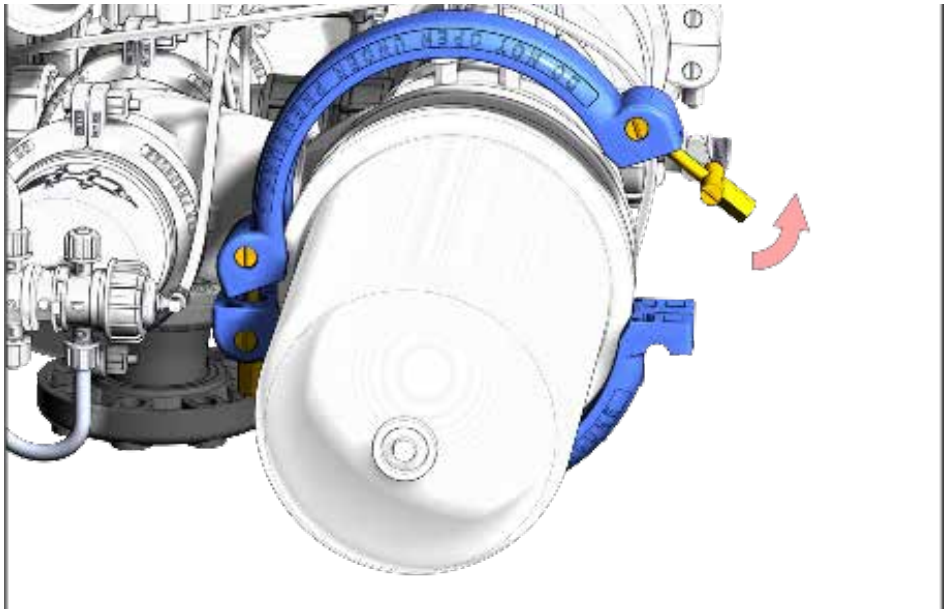
Release the two hex nuts (17mm (11/16") spanner) that join the main clamps. Do not release them all the way, one side is acting as a hinge as shown.



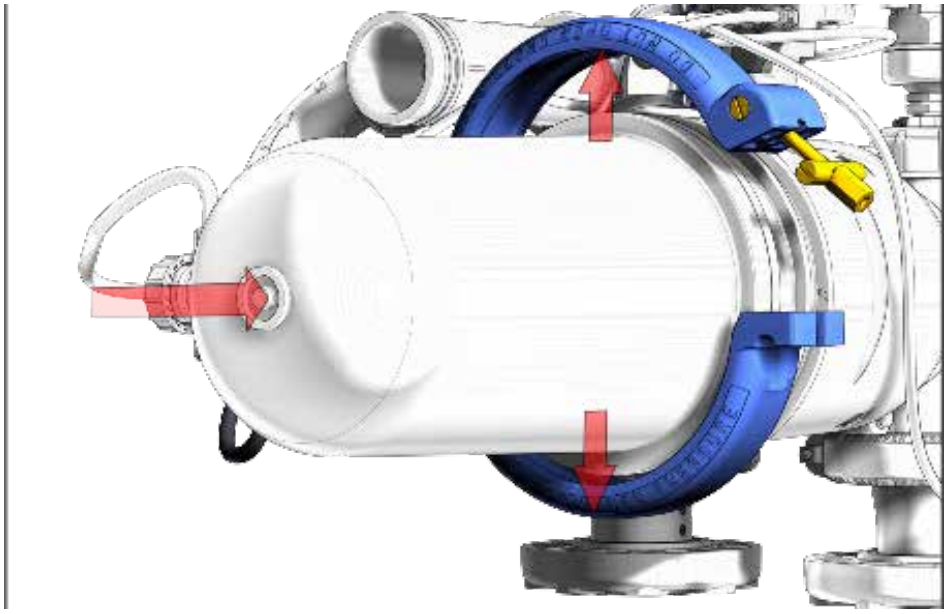
Remove the connection from the slot using the connection as a lever to release the clamps by pulling it upwards. One side is acting as a hinge as shown.



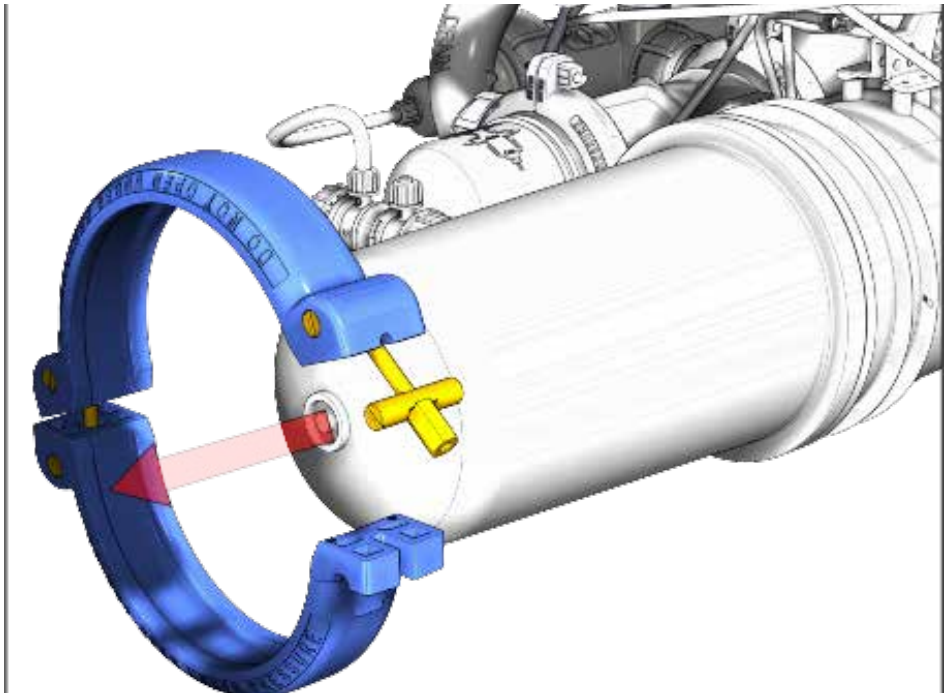
Push the bottom part of the main clamp downwards. Make sure to support the cover while doing this procedure.



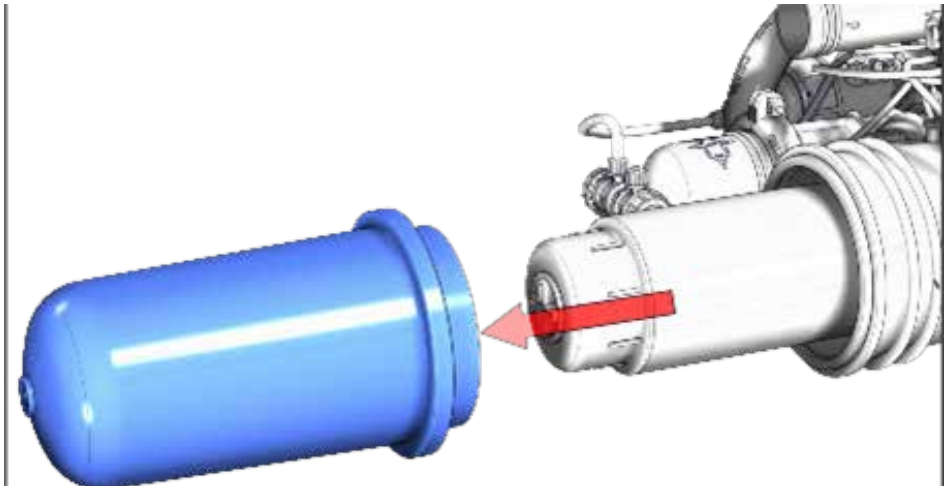
Keep pushing until the bottom clamp is fully released.



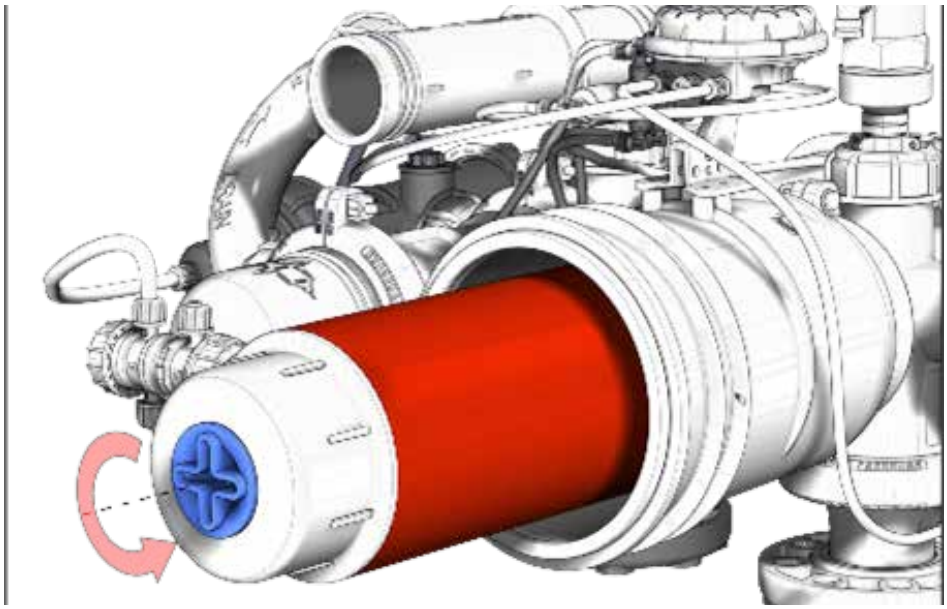
Remove the main clamps.



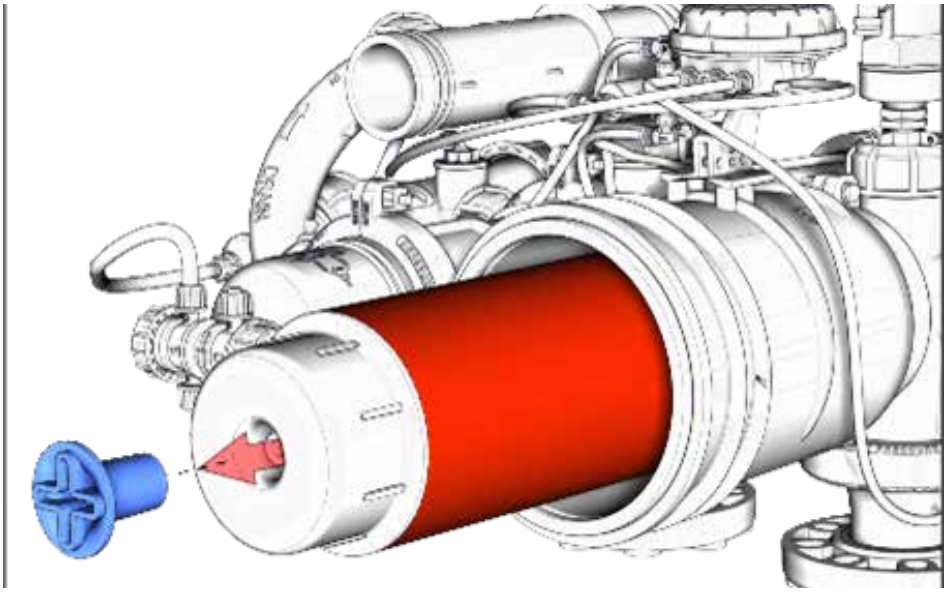
Remove the main cover.



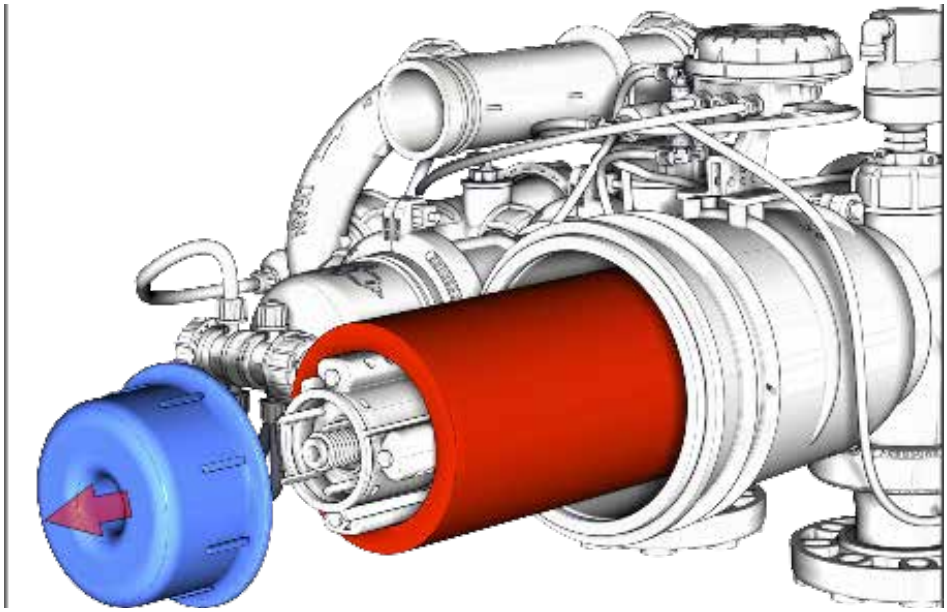
Perform the following steps to extract the discs for the cleaning procedure.
Open the butterfly nut by rotating it counterclockwise.



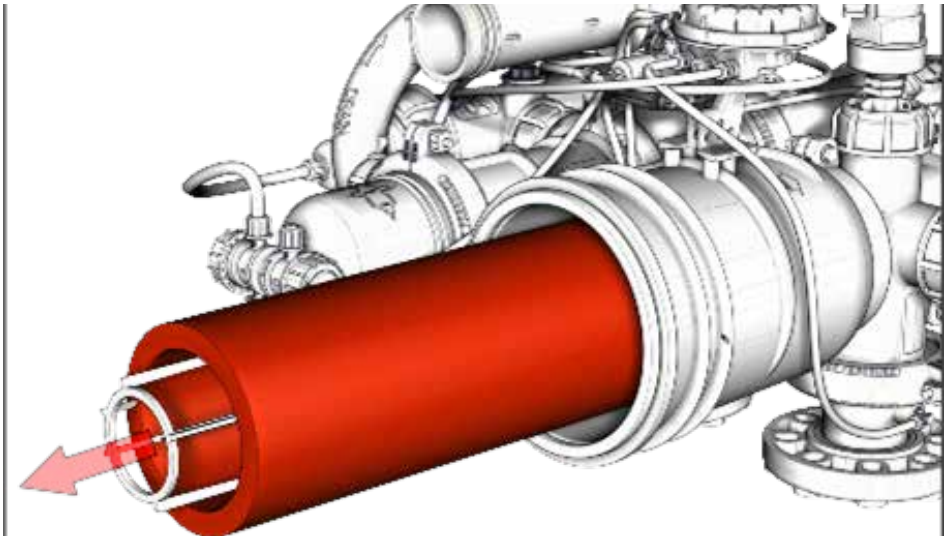
Remove the butterfly nut.



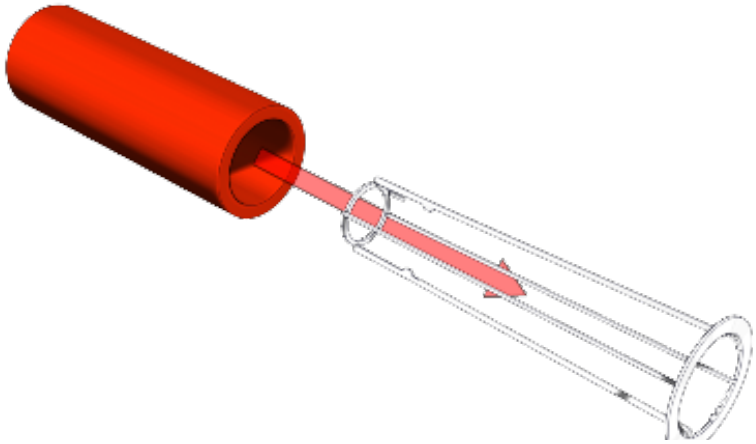
Remove the spine's cylinder on top of the spine.



Remove the discs.

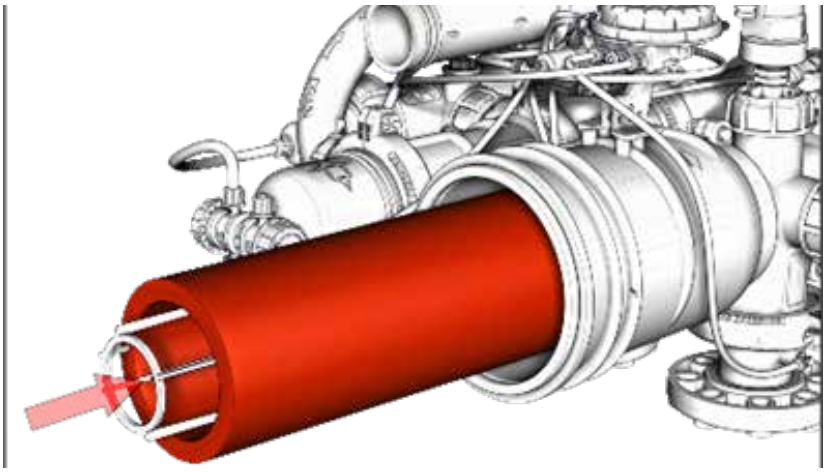


Pull out the disc holder (4" discs only)

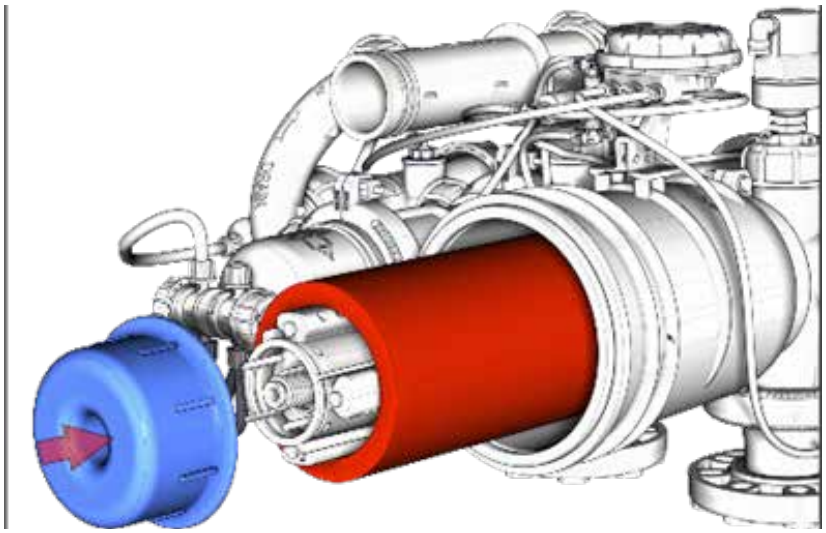


Assembly

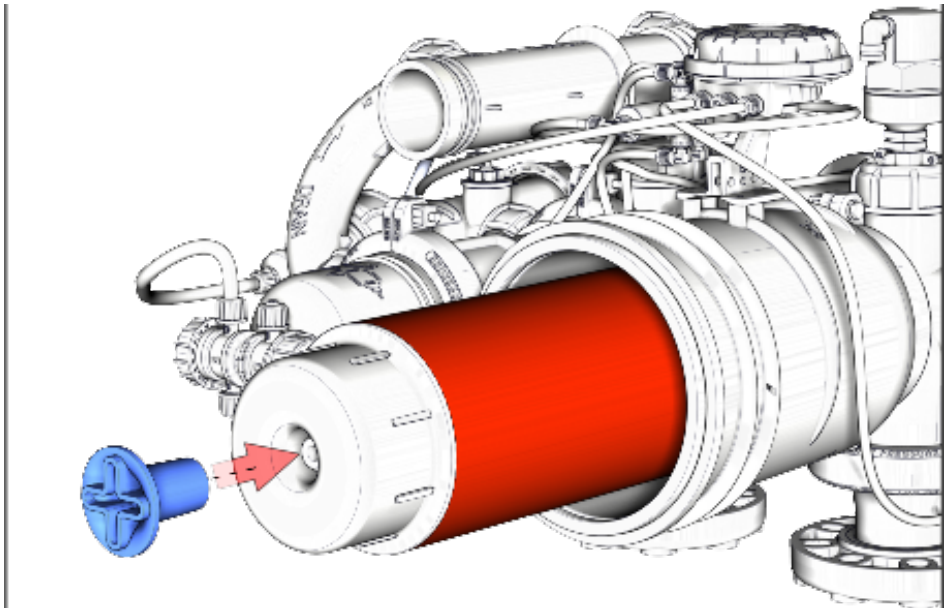
For disc reassembly, please follow these steps according to your designated system:
Insert the discs onto the spine.



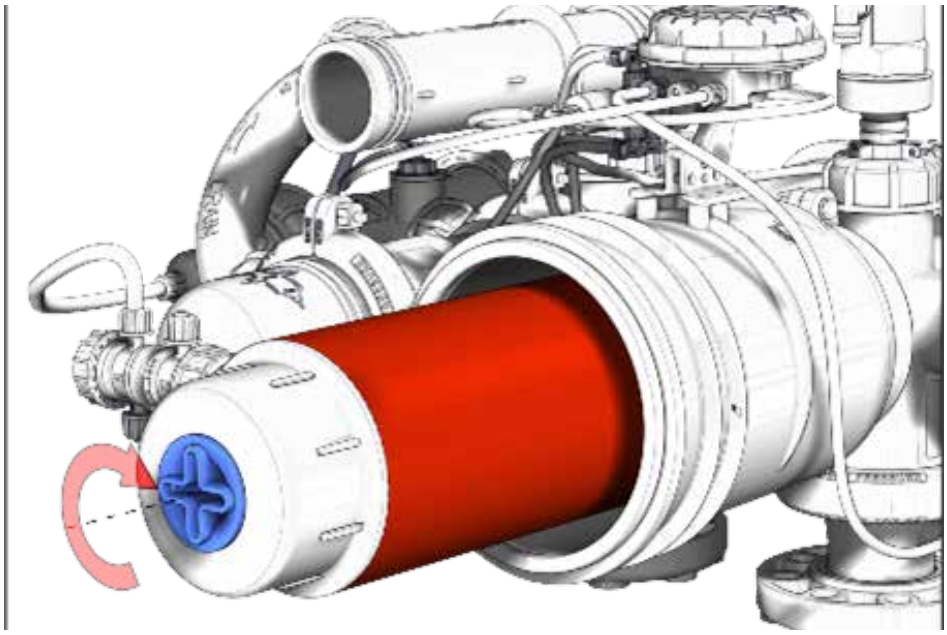
Place the spine cylinder on top of the spine.



Place the butterfly nut on top of the cylinder.

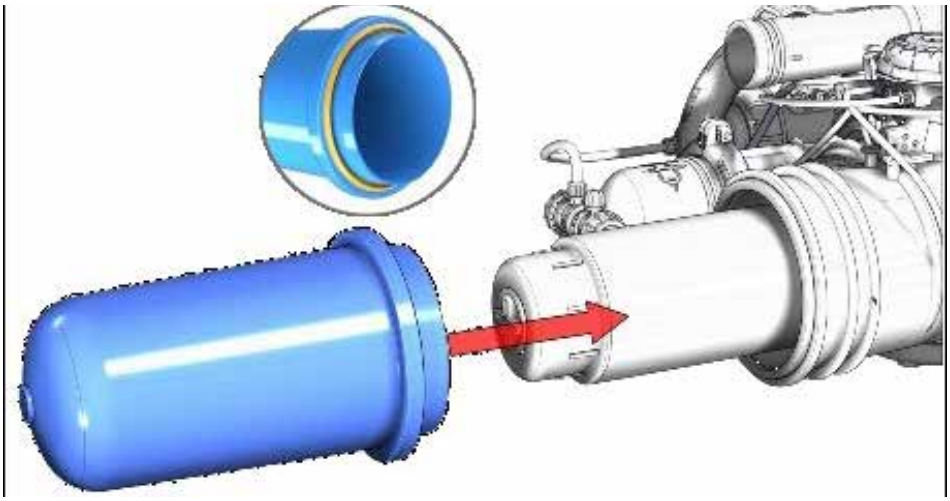


Tighten the butterfly nut clockwise, using the provided tool.

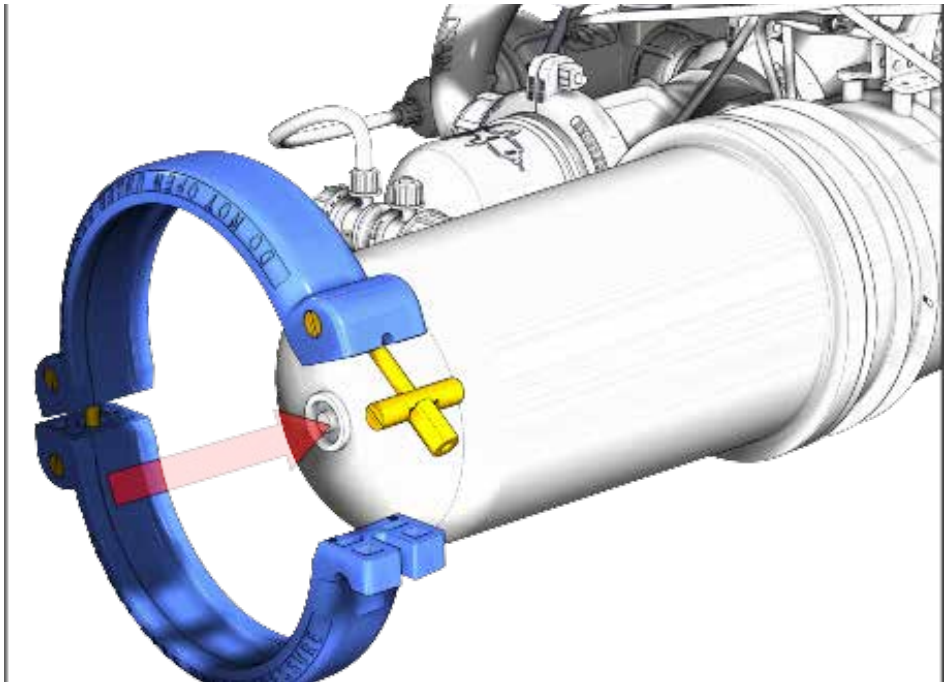


Reassemble the filter cover.

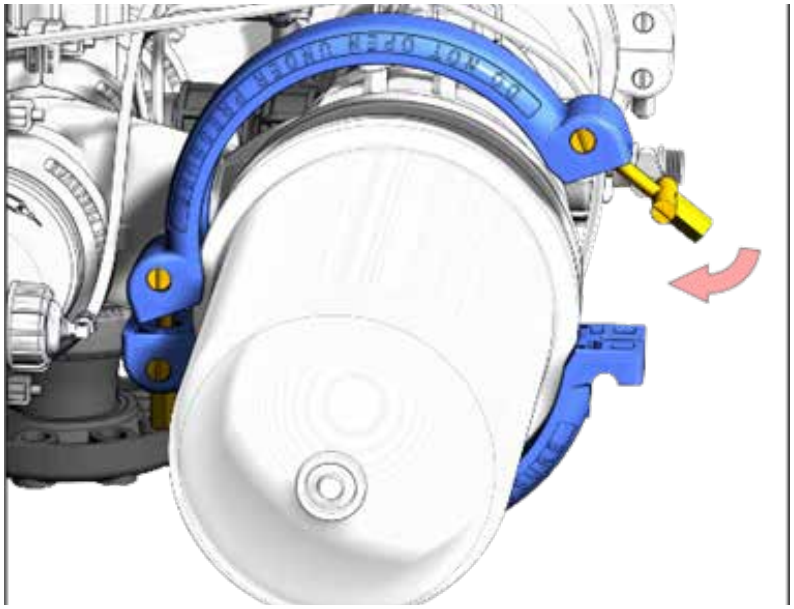
Note: make sure the cover hydraulic seal is in place



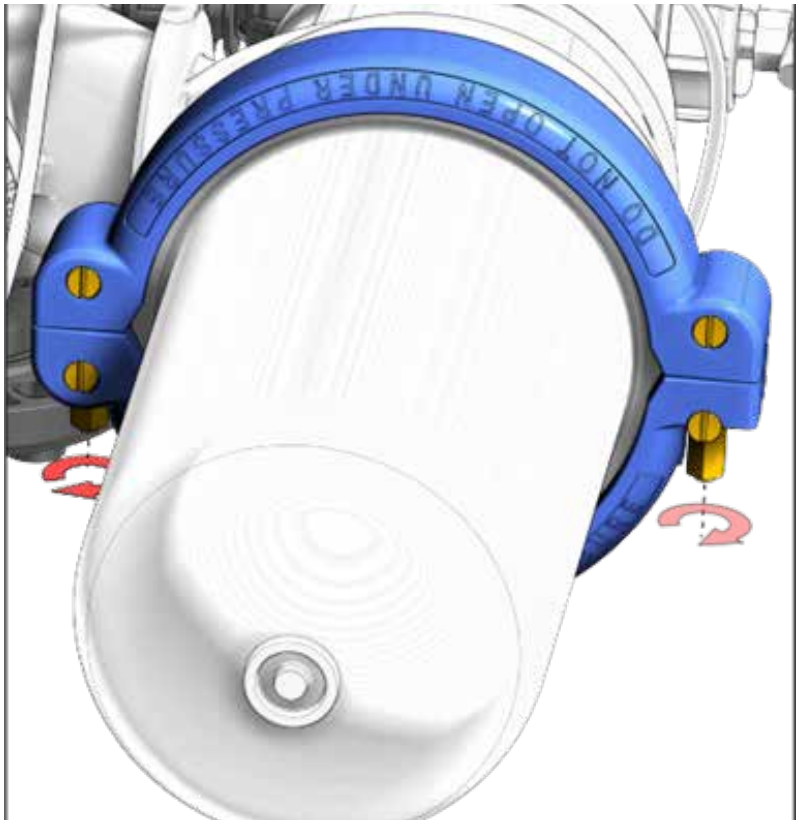
Reassemble the main clamps. Keep pushing the cover while placing the upper clamp and then place the bottom clamp.



Place the tightening screw back into slot.



Tighten the two hex nuts (17mm (11/16") spanner that join the **main** clamps.

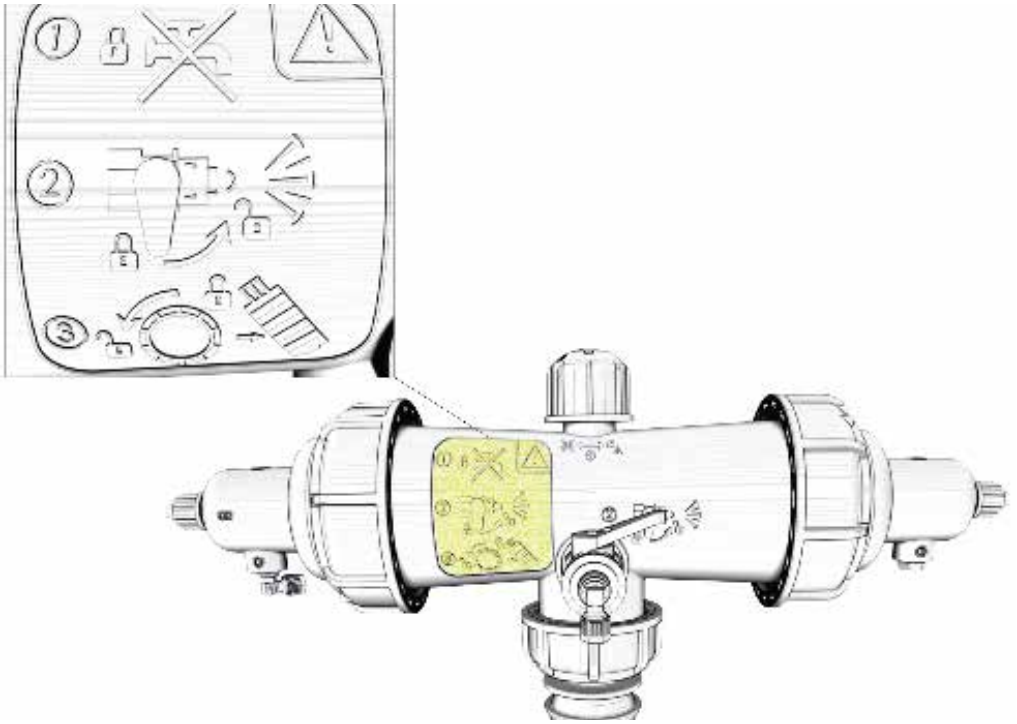


Command Filter

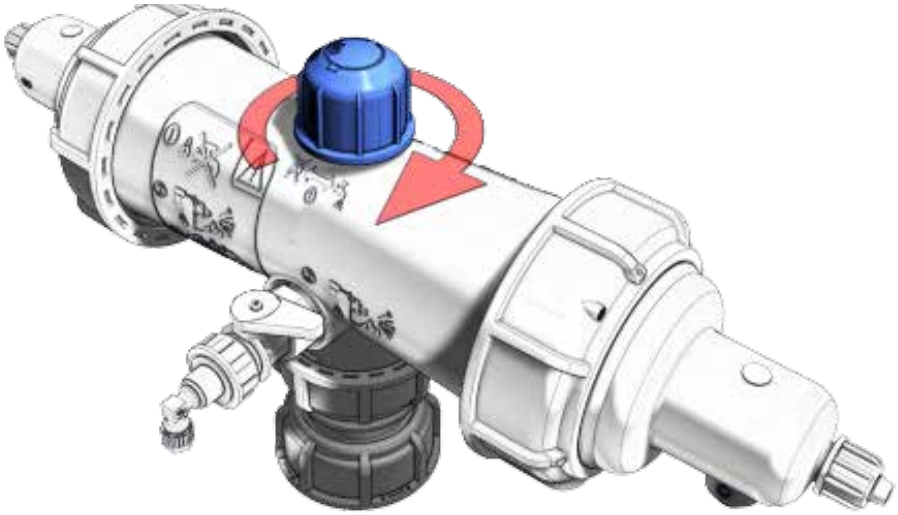
Disassembly (both sides)

Note:

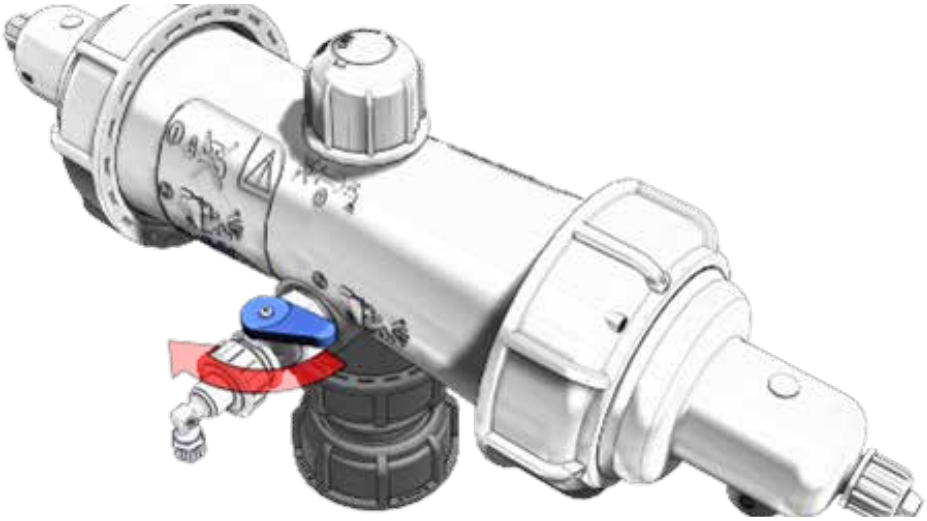
For an overview of the command filter cleaning procedure, please refer to the diagram located on the side of the command filter body. For each step you will find a designated number on the command filter body.



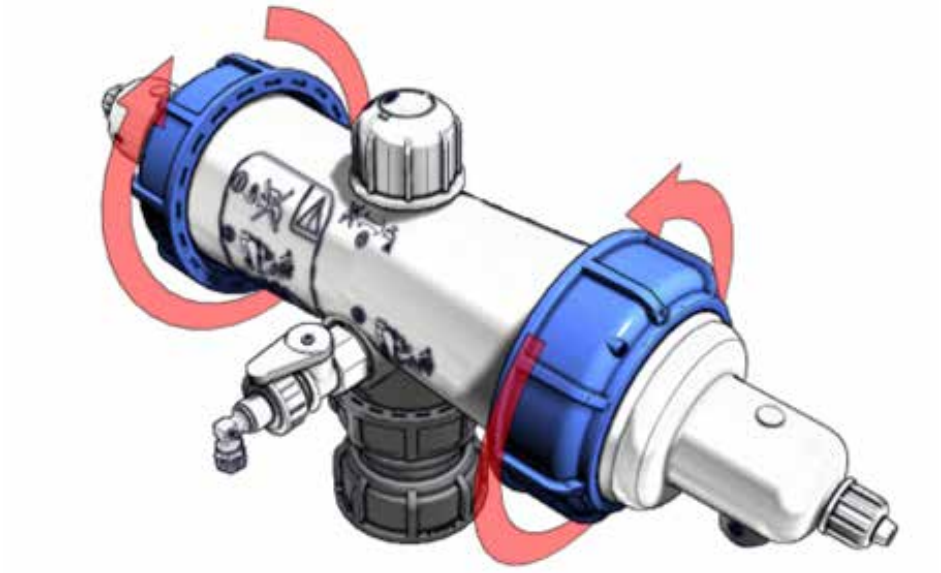
Close the supply valve.

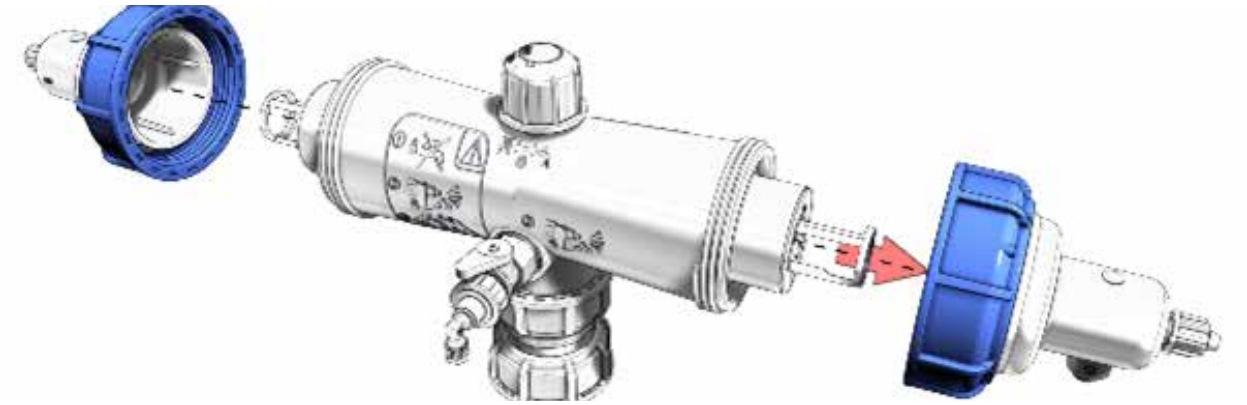


Open the drain valve.

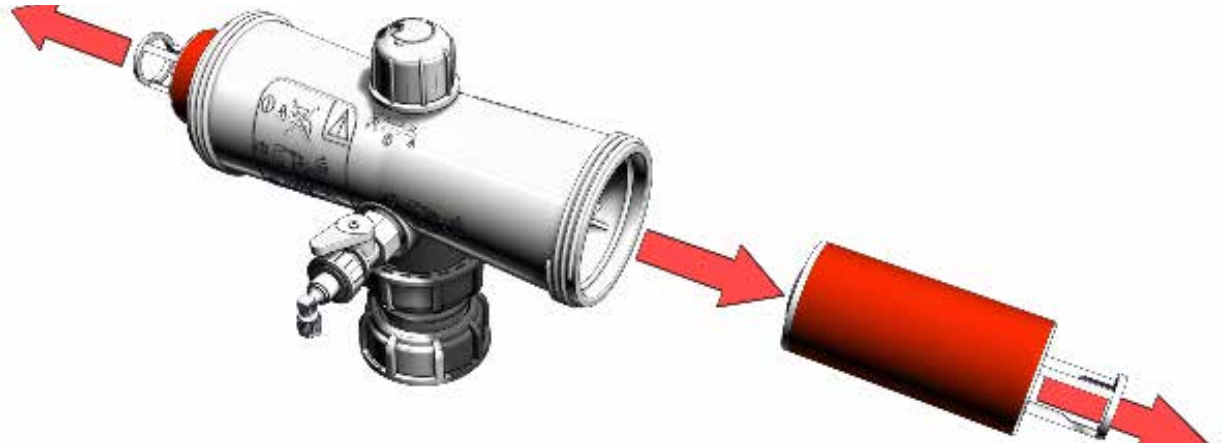


Release and open the cover nut (both sides).





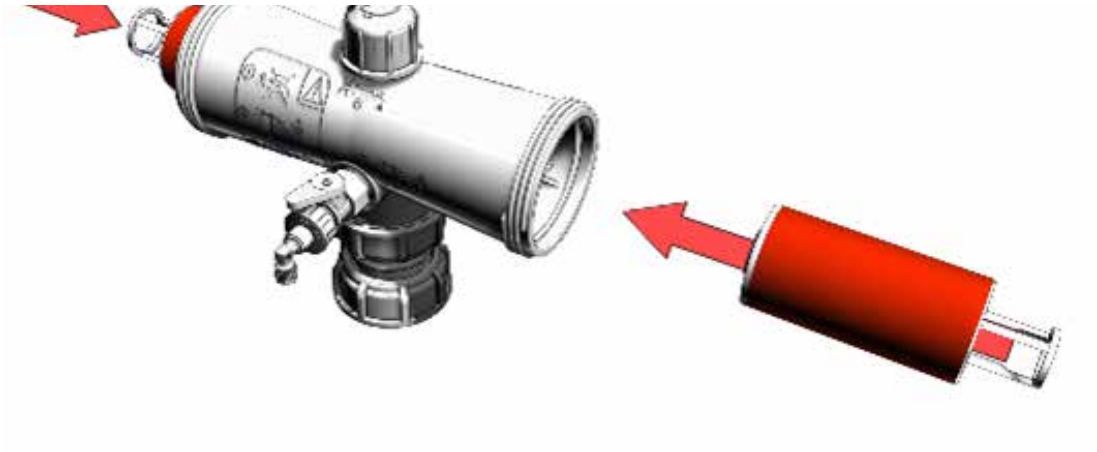
Extract the 1" spine.



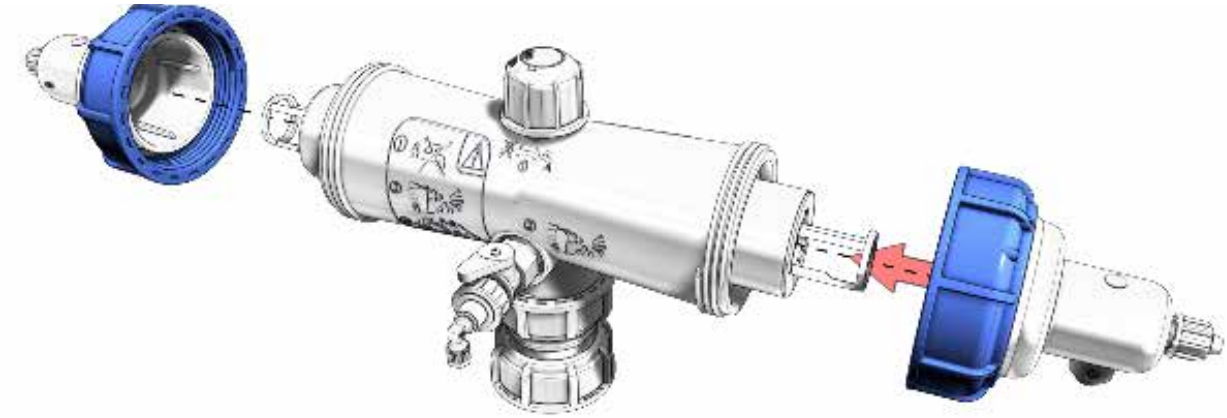
Wash the discs thoroughly under running water (make sure the discs are separated and spinning during the cleaning process).

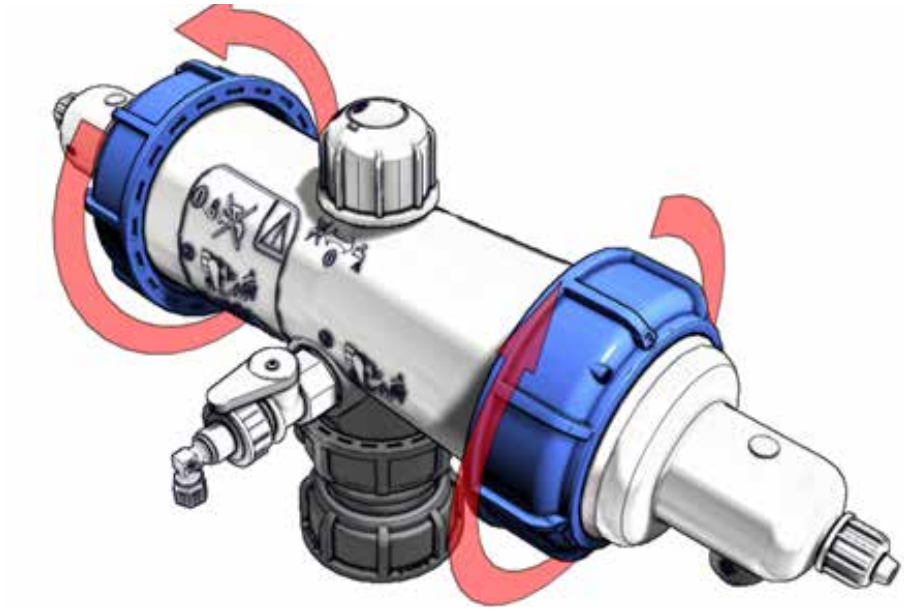
Assembly (both sides)

Insert the disc spine into the command filter body.

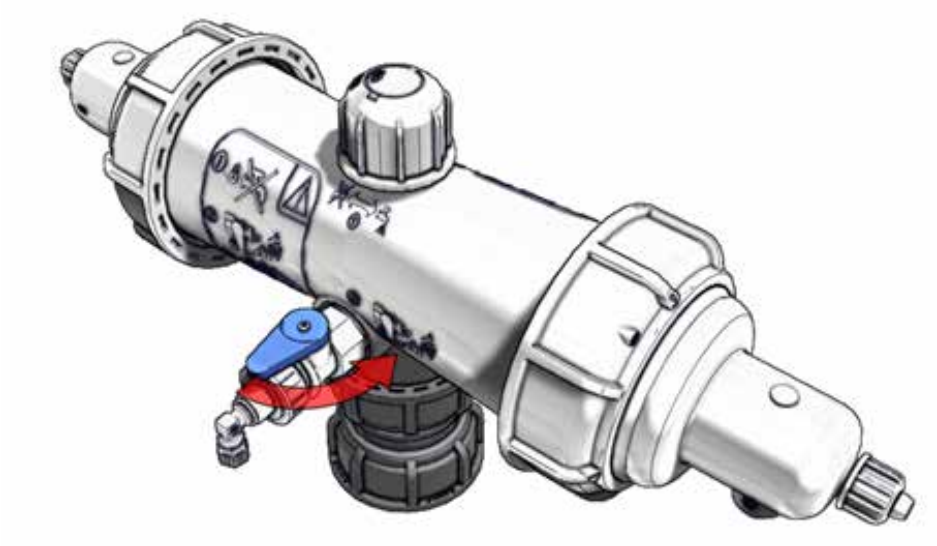


Close the command filter and tighten the cover nuts.

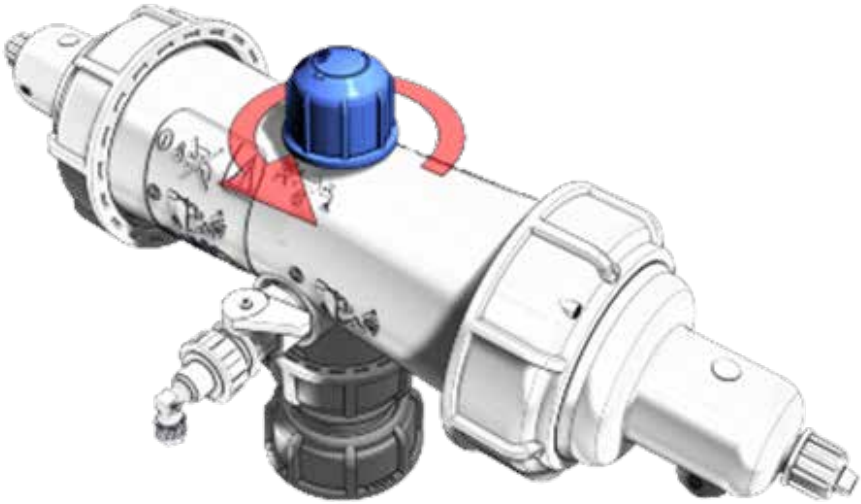




Open the supply valve.



Close the drain valve and initiate a manual flushing procedure in order to test the system.



Disc Cleaning Procedure

SEASONAL MAINTENANCE - DISCS

To guarantee thorough cleaning the following steps should be taken:

Attention:
When carrying out any of the following seasonal maintenance, service, or cleaning the discs – after backwashing the system and after closing the water inlet, ***make sure that there is no pressure in the system!***

CLEANING RECOMMENDATIONS FOR CLOGGED FILTRATION DISCS

Water-formed deposits may cause clogging of the filter discs. The formation of these deposits depends on the quality of the filtered water and environmental conditions like temperature, pH, light, duration of filtration and more.
Common water-formed deposits are:

- Biological or organic deposits (mostly mucous or oily to the touch, beige, brown or green in color)
- Iron oxide (rust) or other metal oxides (brown or orange deposits)
- Manganese oxides (black deposits)
- Carbonates (white or gray deposit)
- Combinations of the above

If these deposits cannot be eliminated by pretreatment of the water, we recommend the following cleaning procedure:

MATERIALS AND EQUIPMENT

A well-ventilated working places.
Small container (1 liter), 2 large containers (50 liter) and a stirring stick, all resistant to chemicals, preferably polypropylene. Plastic rope to tie up the disc.
Sodium Hypochlorite, NaOCl, CAS No. 7681-52-9
Strong oxidizing liquid, commercial concentration: 10%.
Oxidizes and removes organic and biological deposits.
Hydrogen Peroxide, H2O2, CAS No. 7722-84-1
Strong oxidizing liquid, commercial concentration: 16% (35%). Oxidizes and removes organic and biological deposits.
Hydrochloric Acid, HCl, – CAS No. 7647-01-0
Very corrosive liquid, commercial concentration: 30%.
Dissolves and removes carbonates, iron oxide, and other deposits.
Citric Acid, C6H8O7, CAS No. 77-92-9
Organic acid, commercially available as solid white crystal salt.
Dissolves and removes manganese compounds.

Attention!

While working with chemicals protect yourself with the necessary safety equipment:

- *Safety glasses, gloves, protective clothing*
- *Work in a well-ventilated area*
- *Follow the manufacturer's instructions.*
- *Store and dispose of chemicals according to local law.*

Cleaning organic and biological deposits – with sodium hypochlorite (NaClO)

1. Open the filter and remove dirty discs.

Attention:

Never open the filter before the pressure has been released.

Arrange the discs loosely on the plastic rope.
Prepare a 5% sodium hypochlorite solution (amount per disc set):
Pour 15 liters (4") or 5 liters (2") of water into one of the large containers.
Add 15 liters (4") or 5 liters (2") of sodium hypochlorite (10%) into the water.
Soak the discs in the solution so that both sides are covered. To achieve maximum cleaning, agitate the discs from time to time with a stirring stick.
Contact time with cleaning solution: up to 8 hours.
Remove the discs carefully from the solution, put them in the second large container and rinse them very well with clean water before placing them back in the filter.
We recommend flushing the cleaned discs again in the filter to ensure that all deposits and chemical residues are removed.

The cleaning solution can be used for several sets of discs. As the cleaning activity of the solution deteriorates, it may be necessary to soak the discs for a longer period of time.

Cleaning organic and biological deposits – with hydrogen peroxide (H2O2)

Open the filter and remove dirty discs.

Attention!

Never open the filter before the pressure has been released.

Arrange the discs loosely on the plastic rope
Prepare a 5% peroxide solution (amount per disc set):

- Pour 21 liters of water into one of the large containers.
- Add 10 liters of hydrogen peroxide (16%) into the water.
- Soak the discs in the solution so that both sides are covered. To achieve maximum cleaning, agitate the discs from time to time with a stirring stick.

Contact time with cleaning solution: up to 8 hours.
Remove the discs carefully from the solution, put them in the second large container and rinse them very well with clean water before placing them back in the filter.

We recommend flushing the cleaned discs again in the filter to ensure that all deposits and chemical residues are removed.

The cleaning solution can be used for several sets of discs. As the cleaning activity of the solution deteriorates, it may be necessary to soak the discs for a longer period.

Cleaning carbonates and iron deposits

Open the filter and remove the dirty discs.
Arrange the discs loosely on the plastic rope.
Prepare a 5% solution of hydrochloric acid (amount per disc set):
- Pour 25 liters (4") or 10 liters (2") of water into one of the large containers.
- Carefully add 5 (4") or 2 (2") liters of hydrochloric acid (30%) into the water.

Soak the discs in the solution so that both sides are covered.
PLEASE NOTE: Carbonates react violently with hydrochloric acid (foaming, gas emmittance). To achieve maximum cleaning, agitate the discs from time to time with a stirring stick.
Contact time with cleaning solution: 1 - 8 hours.
Remove the discs carefully from the solution, put them in the second large container and rinse them well with clean water before placing them back in the filter.
We recommend flushing the cleaned discs again in the filter to ensure that all deposits and chemical residues are removed.

The cleaning solution can be used for several sets of discs. It may be necessary to soak the discs for a longer period as the cleaning activity of the solution deteriorates.

Cleaning manganese deposits

Open the filter and remove the dirty discs.
Arrange the discs loosely on the plastic rope.
Prepare a 10% solution of citric acid:
- Pour 30 liters of water into one of the large containers.
- Carefully add 3 kg of solid citric acid into the water. Stir well until full dissolution of the acid.

Soak the discs in the solution so that both sides are covered.
To achieve maximum cleaning, agitate the discs from time to time with a stirring stick.
Contact time with cleaning solution: 2 - 8 hours.
Remove the discs carefully from the solution, put them in the second large container and rinse them well with clean water before placing them back in the filter.
We recommend flushing the cleaned discs again in the filter to ensure that all deposits and chemical residues are removed.

The cleaning solution can be used for several sets of discs. It may be necessary to soak the discs for a longer period as the cleaning activity of the solution deteriorates.

Cleaning complex deposits

If the composition of the deposit is not known, perform the following test:
Take 5 discs for the test.
Soak 2 discs in a 5% sodium hypochlorite solution.

Preparation of the solution:
- Pour 1 cup of water into a small container, then add 1 cup of sodium hypochlorite (10% NaOCl).

Soak 2 discs in a 5% hydrochloric acid solution.

Preparation of the solution:
- Pour 1 1/4 cups (= 250ml) of water into a small container, then carefully add
- 1/4 cup (= 50ml) of hydrochloric acid (30% HCl).

Keep one disc as a control.

Observe the cleaning process:
If one of the solutions removes all of the deposits, clean the discs in that solution according to the instructions above.
If neither solution removes the deposits completely, continue with the test procedure.

Remove the discs from both solutions, rinse them well with water and soak them in the second solution: put the two discs, which have been in the sodium hypochlorite solution, in the hydrochloric acid solution, and the other way around.

Check the cleaning process:
If one of the treatments removes all of the deposits, clean all of the discs following the same two-step procedure in the exact same order. Rinse the discs well between the two cleaning processes. If the deposits haven't been completely removed, send a set of untreated discs to the laboratory for further examination.

Winterization

To prevent the filter battery from becoming damaged during water freezing – drain all the water from the filter and the command filter and leave the drain valve open.

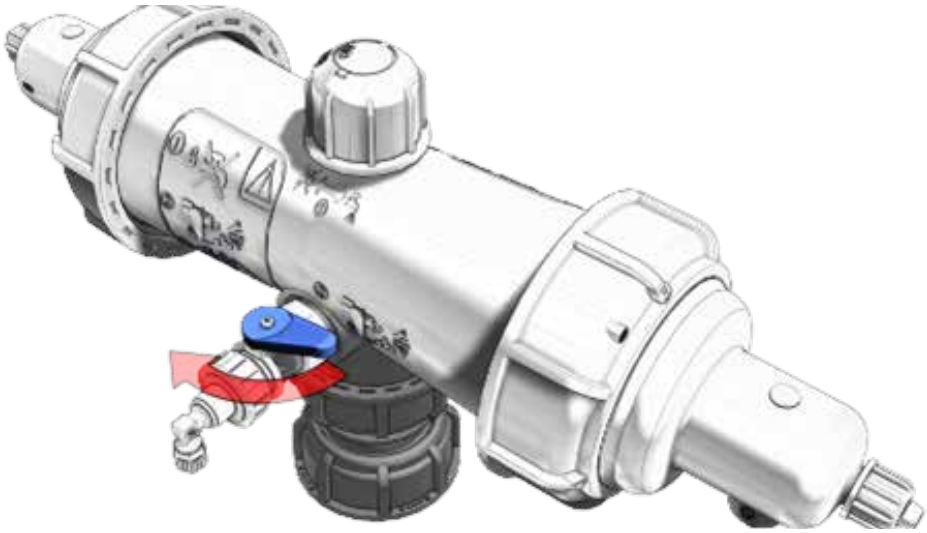
To avoid damage or breakage, the filter, solenoid, and command tubes must be drained prior to frost periods.
Initiate a manual flush to make sure that the disc element is clean for the shutoff period.
Close the isolation valves (inlet and outlet if exist).

Initiate an additional manual flush to release the pressure inside the filter.
Open the system lower drain valve located at the outlet manifold.

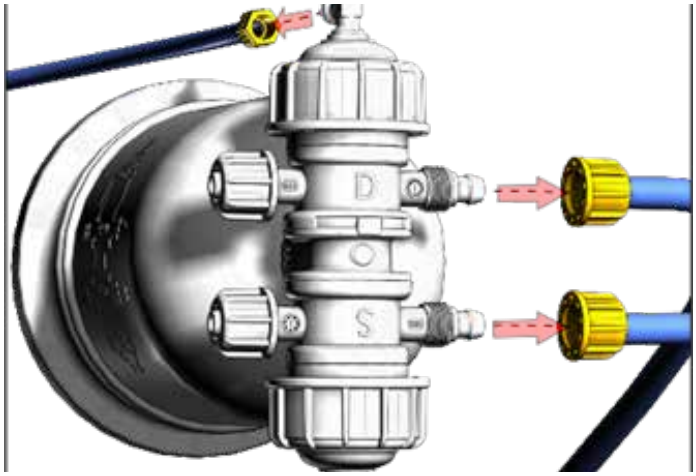
Drain Valve

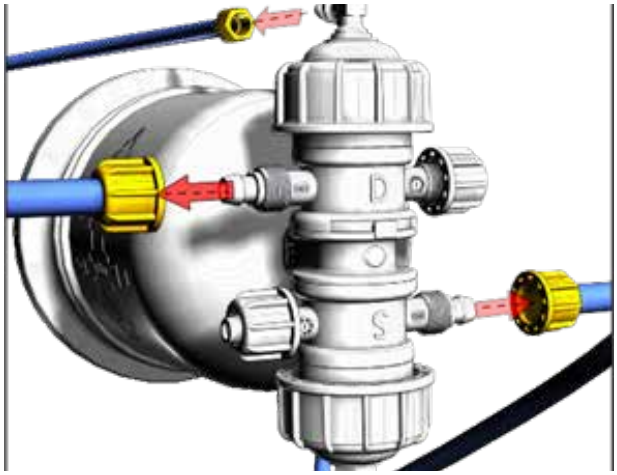
Filter Disassembly for Water Draining

Open the command filter drain valve.

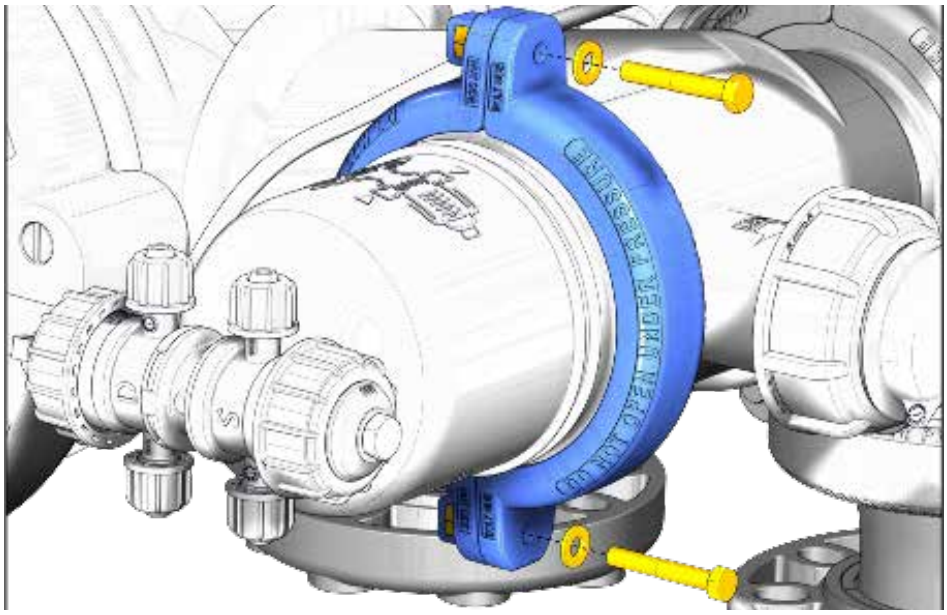


Disconnect the tubes of the water supply (S), water drainage (D) & command tube (C) from the booster cylinder.

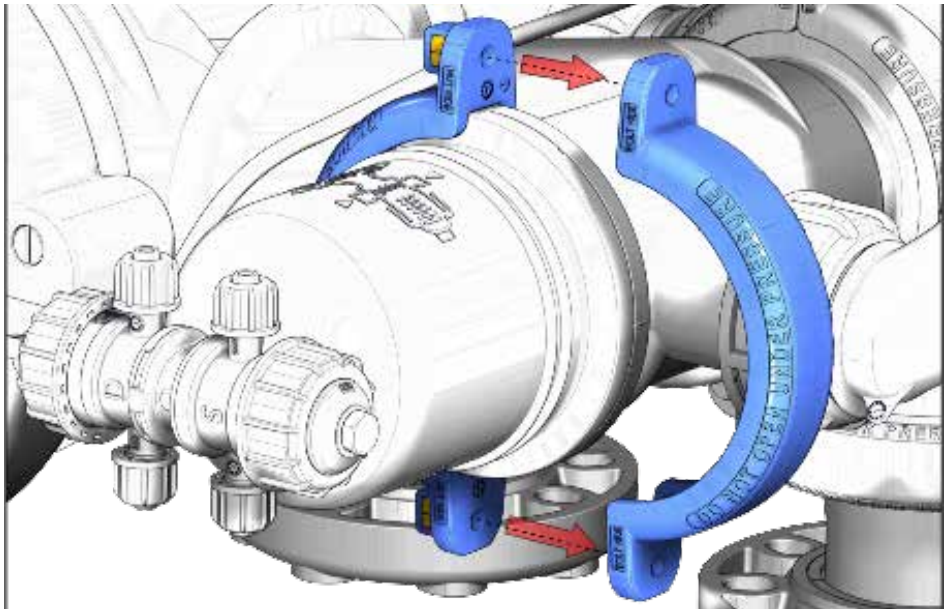




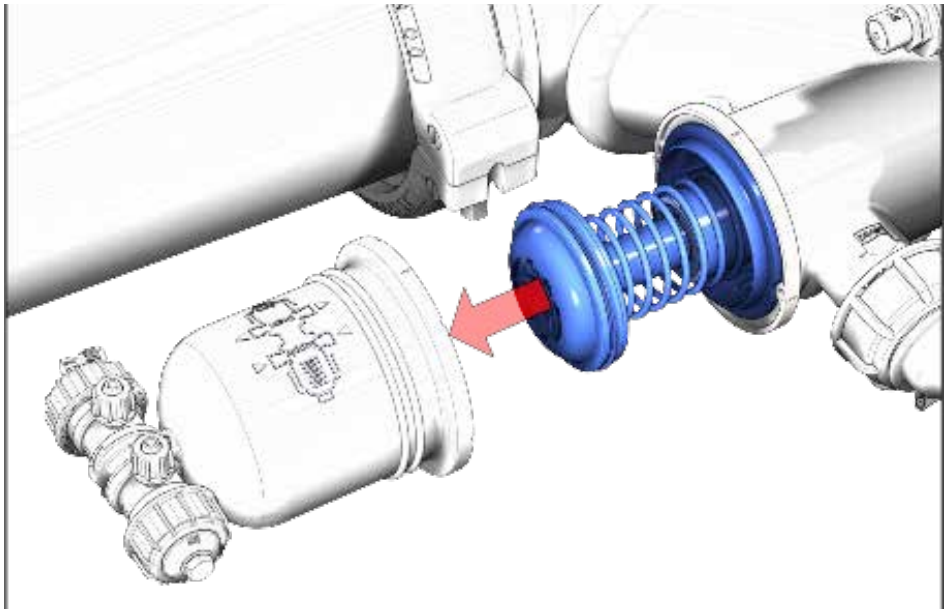
Unscrew the two bolts that join the system clamps and remove them.



Remove the clamps (you may need to use a flat screwdriver to separate them).

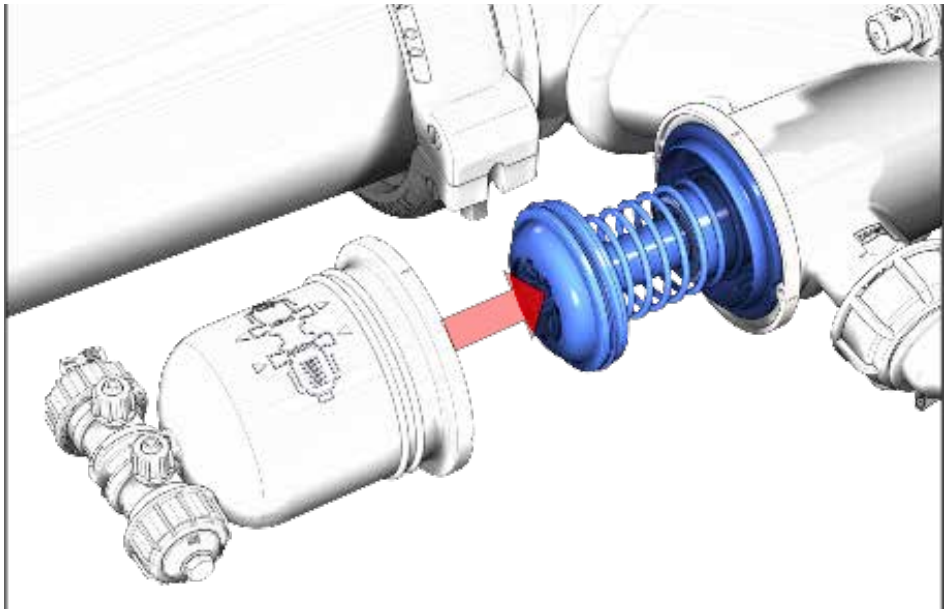


Remove the booster cylinder by pulling it backwards. Drain the booster cylinder from water residue. Ensure the filter is empty.

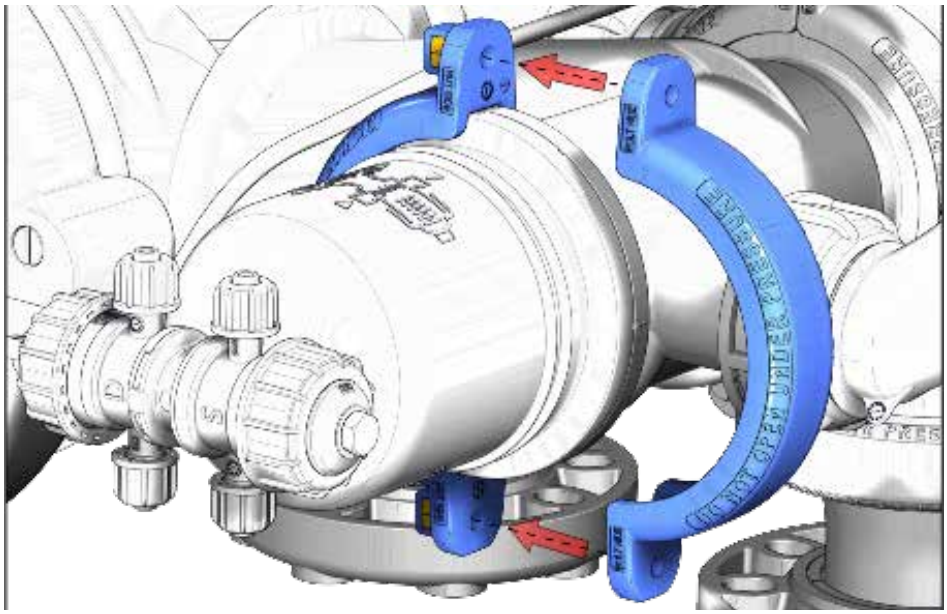


Assembly After Water Draining

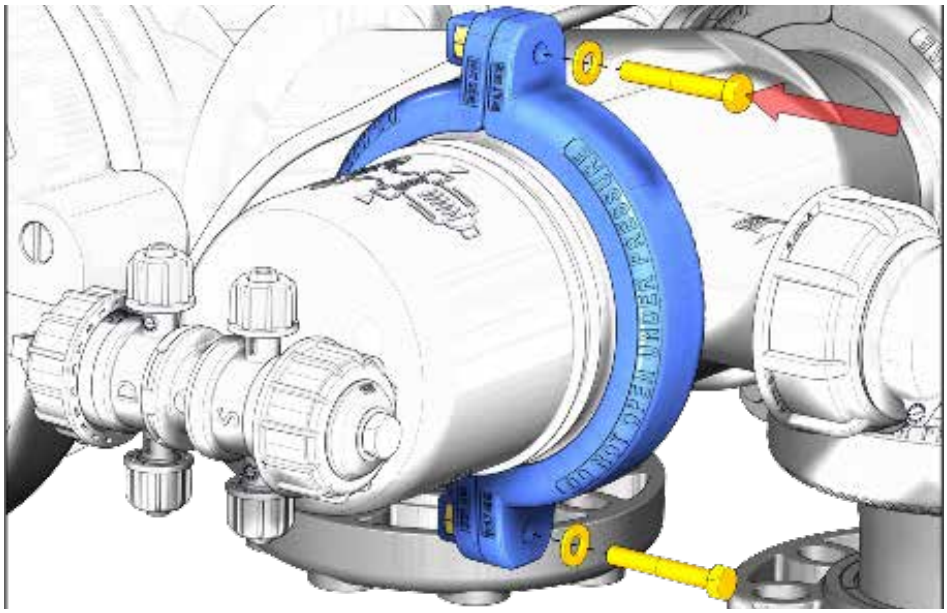
Reassemble the booster cylinder on the flush valve.



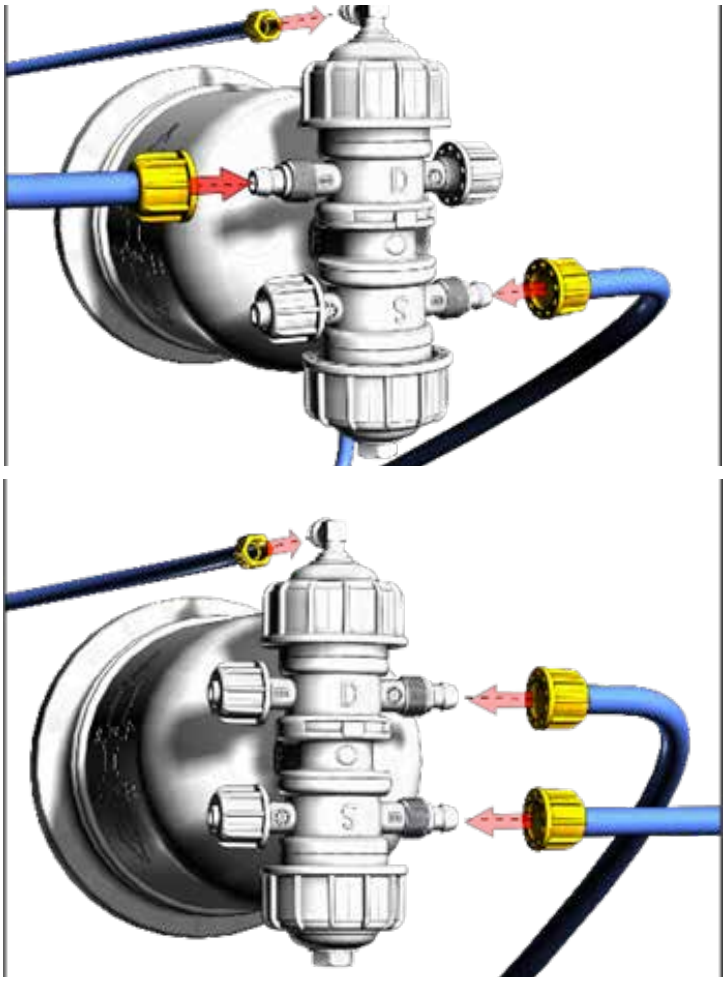
Reassemble the system clamps.



Tighten the system clamps by using the 2 bolts, with a 13mm (½") spanner.

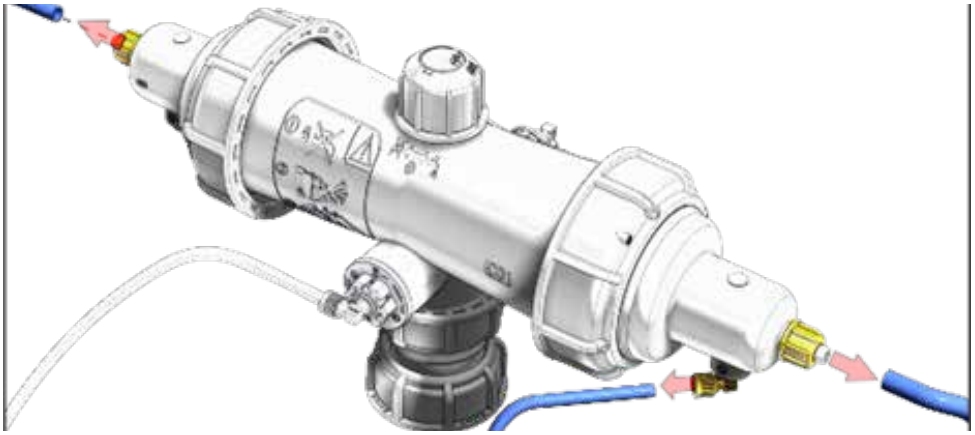


Connect the tubes of the water supply (S), water drainage (D) & command tube (C) to the booster cylinder.



Disconnect the Low & High sensor pressure 8mm tubes connection from the CLD controller sensors, and leave unassembled until next season.

Disconnect the tubes that supply water to the solenoid, and leave unassembled until next season.

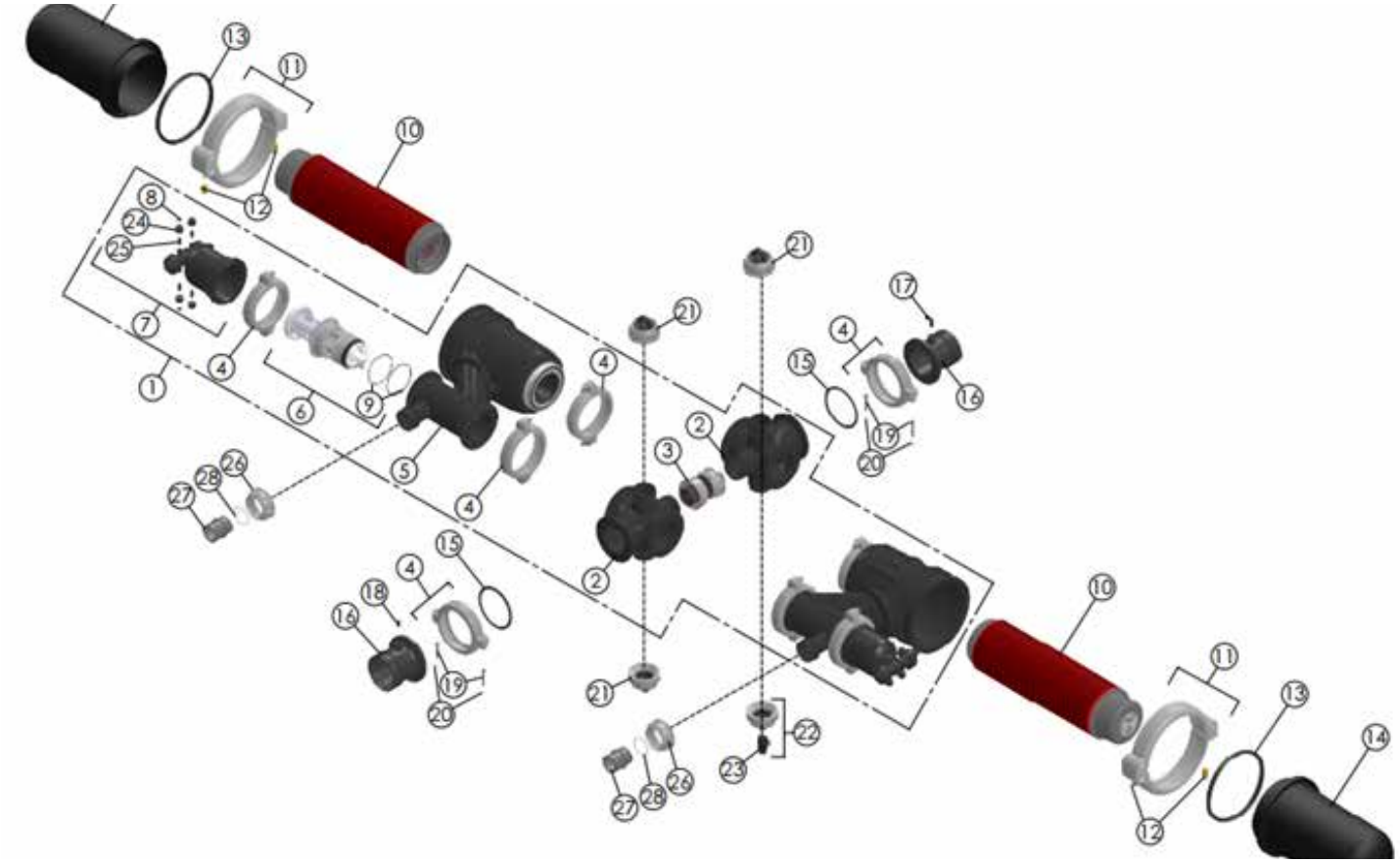


New Irrigation Season

Prior to a new irrigation season, perform the following steps:

- Connect the tubes that supply water to the solenoid and the booster.
- Connect the low & high 8mm control tubes to the CLD controller sensor ports.
- Close the command filter drain valve.
- Close the 3/4 drain valve located at the bottom of the filter.
- Open the isolation valves (inlet & outlet).
- Initiate 1 flushing cycle by manually operating the controller.

AlphaDisc™ Filter – Parts Schedule



AlphaDisc™ Filter – Parts List

NO.	SAP CODE	DESCRIPTION
1	NO SAP CODE	ALPHA SINGLE IN-LINE FILTER ASSEMBLY
2	70607-000144	ALPHA DIVERTER RPA BLACK
3	70607-000126	ALPHA DIVERTER CONNECTOR ASSEMBLY
4	70607-000131	ALPHA SYSTEM CLAMP ASSEMBLY
5	70607-000137	ALPHA SINGLE BODY
6	70607-000125	ALPHA BF VALVE PISTON KIT
7	70607-000124	ALPHA BF VALVE COVER ASSEMBLY
8	70607-000148	ALPHA PLUG 12MM PP BLACK
9	70607-000154	ALPHA O-RING FOR BF PISTON
10	70607-000159	DISC ELEMENT PP 130MIC SK APOLLO/ALPHA PLUS
11	70607-000135	ALPHA MAIN COVER CLAMP ASSEMBLY
12	70607-000152	ALPHA NUT F/ MAIN COVER CLAMP
13	70607-000155	ALPHA MAIN COVER HYD. SEAL EPDM
14	70607-000142	FILTER COVER BLACK F/ALPHA XL
15	70607-000156	ALPHA HYDRAULIC SEAL+O-RING ASSY
16	70607-000145	GROOVED ADAPTOR 4" RPA BLACK F/ALPHA XL
17	70665-000129	L-CONNECTOR ¼"M X 8MM BSPT ACETAL BLACK
18	76400-005405	TEFEN HEX PIPE PLUG - 1/4" M. BLACK
19	70607-000151	ALPHA BOLT F/SYSTEM CLAMP
20	70607-000153	ALPHA WASHER F/ SYSTEM CLAMP
21	70607-000133	ALPHA PLUG ASSEMBLY
22	70607-000132	ALPHA PLUG AND 3/4" BALL VALVE ASSEMBLY
23	70607-000121	ALPHA BALL VALVE AC 3/4" 10 BAR F/2"T
24	70607-000147	ALPHA TUBE NUT 12MM RPA BLACK
25	70607-000149	ALPHA NIPPLE 3/8"X12MM PBT BLACK
26	70607-000186	ALPHA UNIVERSAL NUT F/2" RPA GREY
27	70607-000008	DRAIN CONNECTOR 2" F/ALPHA GRV/THR
28	70607-000009	O-RING SEAL ID52/TH4MM EPDM 70 SHORE

AlphaDisc™ Filter – Spare Parts

Manifolds

DESCRIPTION	CODE			
	ASA	ISO	BSTD	VIC
AD DRAIN MANIFOLD F/ 4 UNITS SYSTEM	70607-000017	70607-000017	70607-000017	70607-000017
AD DRAIN MANIFOLD F/ 3 UNITS SYSTEM	70607-000021	70607-000021	70607-000021	70607-000021
IN/OUT MAN 10"X3 ALFA PLUS ASA W/BUSH	70607-000029	-	-	-
IN/OUT MAN 10"X4 ALFA PLUS ASA W/BUSH	70607-000030	-	-	-
IN/OUT MAN 12"X3 ALFA PLUS ASA W/BUSH	70607-000034	-	-	-
IN/OUT MAN 12"X4 ALFA PLUS ASA W/BUSH	70607-000031	-	-	-

Control filter

DESCRIPTION	CODE
ALPHA COMMAND FILTER LONG ASSEMBLY	70607-000038

Controller

DESCRIPTION	CODE
ALPHADISC CLD CONTROLLER (W/O SOLENOIDS)	70607-000092
CLD W/ 3 SOLENOIDS W/ROD F/ AD	70607-000023
CLD W/ 4 SOLENOIDS W/ROD F/ AD	70607-000024
CLD W/ 6 SOLENOIDS W/ROD F/ AD	70607-000018
CLD W/ 8 SOLENOIDS W/ROD F/ AD	70607-000013
CLD W/ 9 SOLENOIDS W/ROD F/ AD	70607-000019
CLD W/10 SOLENOIDS W/ROD F/ AD	70607-000025
CLD W/12 SOLENOIDS W/ROD F/ AD	70607-000027

Troubleshooting

No Backwash

SYMPTOM	POSSIBLE CAUSES	REQUIRED ACTIONS
No hydraulic command transfer	Exceeded high flow rate drop down the inlet pressure.	Check the irrigation system flow rate. Check the irrigation controller.
	Command filter is blocked.	Manually clean the command filter.
No commands transfer	No electricity. Batteries voltage is low, or batteries are empty.	Check the electrical source and connections. Replace batteries if needed.
Some commands do not activate	One or more of the solenoids do not function.	Check solenoids' connections. Repair or replace solenoids.
	One or more controller outputs do not respond.	Check the controller. Replace if needed.
The backwash valves fail to reverse flow	Hydraulic resistance in the drainpipe.	Disconnect the drainpipe. Check the length, diameter, and the pipe incline.
	Mechanical restriction of the internal valve's actuator.	Remove the booster cylinder cover. Pull out the internal actuator. Repair or replace.
In case all the above do not apply, consult your local distributor.		

Continuous Flow to Drain

SYMPTOM	POSSIBLE CAUSES	REQUIRED ACTIONS
Strong leakage through the drainpipe	One or more of the solenoids do not release the command.	Disconnect the 8mm command tubes from the booster cylinder. Identify the failure solenoid. Repair or replace as needed
	The backwash valves fail to return from flushing to filtration mode	Disconnect the 12mm drain tubes of the booster cylinder, check for hydraulic backpressure from the drain manifold.
		Check backwash valves performances, look and remove any obstacles, repair, or replace valve's actuator
In case all the above do not apply, consult your local distributor.		

Non-Stop Backwash

SYMPTOM	POSSIBLE CAUSES	REQUIRED ACTIONS
High DP remains after a backwash cycle.	High flow rate exceeds planned irrigation.	Check the irrigation flow rate.
	The flushing pressure is below the required minimum.	Check the inlet / outlet and DP pressure during filtration mode.
		Check the downstream pressure during backwash mode. Install P.S.V. if needed.
	Insufficient cleaning of the discs.	Close the inlet valve. Remove the discs element, and manually clean the discs by using pressurized water jets.
	Incorrect flushing program.	Check and set the recommended flushing program.
DP is normal but the filter is still backwashing nonstop	The high / low pressure sensor failed to read the actual pressure.	Check the pressure sensors and the controller. Replace if needed.
In case all the above do not apply, consult your local distributor.		

Netafim Limited Warranty

This certificate applies to Netafim Ltd. ("Netafim") products purchased by you (the "Buyer") from Netafim unless specifically agreed otherwise in writing by Netafim. This Warranty extends only to the original purchaser, and is not transferable to anyone who subsequently purchases, leases, or otherwise obtains the product from the original purchaser.
Netafim hereby warrants that the products are and will be free from defects in material and workmanship under normal use and service. Netafim warrants that it will correct manufacturing defects in the products, in accordance with the conditions set out in this Warranty.
This Warranty is enforceable for a period of 24 months after the date upon which the products were delivered (the "Warranty Period").
In the event that during the Warranty Period the Buyer discovers a defect in material and/or workmanship in any product or part (the "Defective Product"), it shall submit a written complaint to Netafim using Netafim's standard Buyer Complaint Form. For the receipt of the Buyer Complaint Form, the submission of the complaint or any questions please contact your service representative.
Upon written demand by Netafim the Buyer shall return the Defective Product - or a sample thereof - to Netafim, at Netafim's cost. If the Buyer ships any such Defective Product, Netafim suggests the Buyer package it securely and insure it for value, as Netafim assumes no liability for any loss or damage occurring during shipment. Provided however that in the event Netafim determines that this Warranty does not apply to such product, Buyer shall promptly reimburse Netafim for such cost (including freight and customs). Any returned product or part must be accompanied by the Warranty certificate and the purchase invoice. It is clarified that the Buyer may not return the Defective Product unless such return was coordinated and approved by Netafim in advance.
Netafim's obligation under this Warranty shall be limited to, at Netafim's option, the repair or exchange, free of charge, of the product or any part which may prove defective under normal use and service during the Warranty Period. The provision of a repair or replacement of a product during the Warranty Period will result in an extension of the Warranty Period by an additional period of 12 months, provided that the total accumulated Warranty Period shall in any event be no more than 18 months from the date upon which the products were delivered.
This Warranty is valid on the condition that the products are installed according to Netafim's instructions as expressed in Netafim's instruction manuals and according to the technical limitations as stipulated in Netafim's literature or as stated by a representative of Netafim.
This Warranty will not apply to damaged or defective products resulting from or related to:
Fire, flood, power surges or failures or any other catastrophe and/or unforeseen occurrence, such as but not limited to those for which the Buyer is customarily insured for, or any force majeure events;
Fault, abuse or negligence of the Buyer;
Intake water not meeting the agreed standards, as set forth in a written document, approved by Netafim, or improper storage;
Improper or unauthorized use of the product or related parts by the Buyer, including Buyer's failure to operate the product in conformity with the recommendations and instructions of Netafim, as set forth in Netafim's manuals and other written materials, the operation of the product other than by a trained and qualified operator, or improper installation of the product by a third party not authorized by Netafim;
Performance by the Buyer of maintenance or operation other than in conformity with the recommendations and instructions of Netafim, or other than in accordance with procedures defined in the literature supplied for products (including the timely replacement of requisite parts), and for services provided other than by a trained and qualified advanced operator; or
Any alteration, modification, foreign attachment to or repair of the products, other than by Netafim or its authorized technical representatives.
In no event shall Netafim be liable to the Buyer or any third party for any damages to property, or for any intangible or economic loss, including loss of profits, loss of customers or damage to reputation, for any damages, including indirect, special, consequential damages, or punitive damage arising out of or in connection with this Warranty, or arising out of or in connection with the product's performance or failure to perform, even if it has been advised of the possibility of such damages.
Netafim will be excused for failure to perform or for delay in performance hereunder if such failure or delay is due to causes beyond its reasonable control or force majeure preventing or hindering performance.
This Warranty set forth herein is the only contractual warranty given by Netafim and is provided in lieu of any other warranties created by any documentation, packaging or otherwise.
Netafim makes no warranty whatsoever in respect to accessories or parts not supplied by Netafim. In the event that Netafim is required to correct a Defective Product or product not covered by this Warranty, it will do so solely in consideration for additional fees.
The parties will actively endeavor to amicably settle any dispute arising between them. In the event that the parties are unable to reach an equitable settlement of such dispute, any claim or lawsuit related to the Warranty, its validity execution, its performance be brought before only the courts of Tel-Aviv, Israel. Israeli law will govern the Warranty, to the exclusion of any conflict of law rules.

CE

Manufacturer
Amiad Water Systems Ltd.
D.N. Galil Elyon 1, 1233500, Israel.
Tel: +972 4690 9500 | Fax: +972 48141159 | Email: info@Netafim.com

EC REP

European Authorised Representative for CE
Obelis s.a. Bd Général Wahis 53, 1030 Brussels, Belgium.
Tel: +(32) 2732 5954 | Fax: +(32) 27326003 | Email: mail@obelis.net

EU Declaration of Conformity https://www.amiad.com/certificatesDownload.asp

netafimusa.com

APLLO 11/24