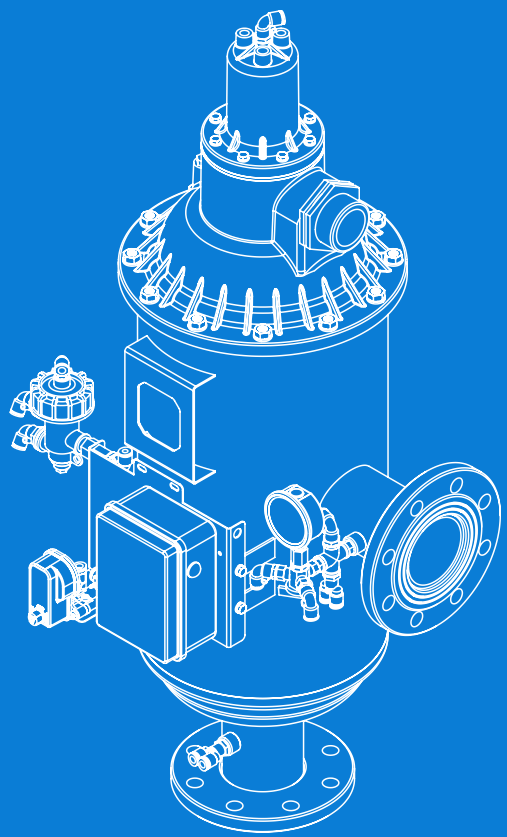
SCREENGUARD™ Automatic Vertical Screen Filter

2025 v006

/ Installation and User Manual



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NETAFIM™

FOREIGN LANGUAGES

In the event that you are reading this manual in a language other than the English language, you acknowledge and agree that the English language version shall prevail in case of inconsistency or contradiction in interpretation or translation.

Contents

Introduction

→ Aim of this manual

This document is the user-manual of the Netafim™ ScreenGuard™ vertical hydraulically controlled automatic screen filter series. It describes the installation, operation, maintenance and troubleshooting procedures of the filters.

→ General

Netafim™ congratulates you on purchasing the ScreenGuard™ self-cleaning filter. This filter is part of the wide family of filters produced and supplied by Netafim™ for agriculture, municipal water and sewage systems, and all types of industrial applications. All products manufactured by Netafim™ are easy to install, use and service and don't require special skills to operate them.

The ScreenGuard™ self-cleaning filter enables high quality filtration from various types of fluid sources such as sewage, reservoirs, rivers, lakes, and wells.

→ Contact for support

This manual offers a full explanation of the the installation, operation, maintenance and troubleshooting procedures of the ScreenGuard™ vertical filter. However, in any case you need additional support, contact your Netafim™ local representative.

Safety Instructions

→ General

- Carefully read the installation and operation instructions prior to installation or handling of the filter.
- While working with 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.

⚠ WARNING

Fully release the pressure in the filter before performing installation or maintenance operations involving opening the filter. Check the pressure gauge to be sure it is at 0 before proceeding.

⚠ WARNING

The filter may start a flushing cycle automatically at any time, without any prior indication.

- No changes or modifications to the equipment are permitted without written consent provided by the manufacturer or by its representative, on the manufacturer's behalf.
- Work only with proper and standard tools. (see Tools required for installation, page 13; and Tools required for maintenance, page 25).
- Use only original parts supplied/approved by Netafim™.

→ Operation, Control and Maintenance

- Loosening or unscrewing bolts should be done only after the pressure in the filter has been released.
- Avoid splashing and water leakage in order to reduce danger of slipping, electrical danger or damage to the equipment caused by moisture.
- Always open and close valves gradually to prevent water-hammer.
- Remove grease and fat material residues to avoid slipping.
- Manual cleaning of filter assembly using high water pressure should be performed in accordance with the cleaning system instructions and without endangering the operator or his working area.
- When using acid or other chemical agents for the maintenance of the irrigation system or for the cleaning of filter assembly, it should be performed in accordance with the relevant material safety instructions and without endangering the operator or his working area.

Filter Selection

→ Automatic vertical screen filter selection

Netafim™ offers a selection of ScreenGuard™ automatic, vertical screen filters to fit any filtration requirement:

Model	Description	Filtration area (cm2)	Max. Operating pressure (bar/PSI)	Max. recommended flow rate (m3/h)	Min. backflush pressure (bar/PSI)	Backflush flow rate (m3/h)
SG V 2"	2"	*1,350*	*10/150*	*25*	*2/30*	*12*
SG V 3"	3"	*1,350*	*10/150*	*35*	*2/30*	*12*
SG V 3" S	3" Super	*2,000*	*10/150*	*50*	*2/30*	*18*
SG V 4"	4"	*2,000*	*10/150*	*75*	*2/30*	*18*
SG V 4" S	4" Super	*2,700*	*10/150*	*85*	*2/30*	*12*
SG V 6"	6"	*2,700*	*10/150*	*150*	*2/30*	*12*

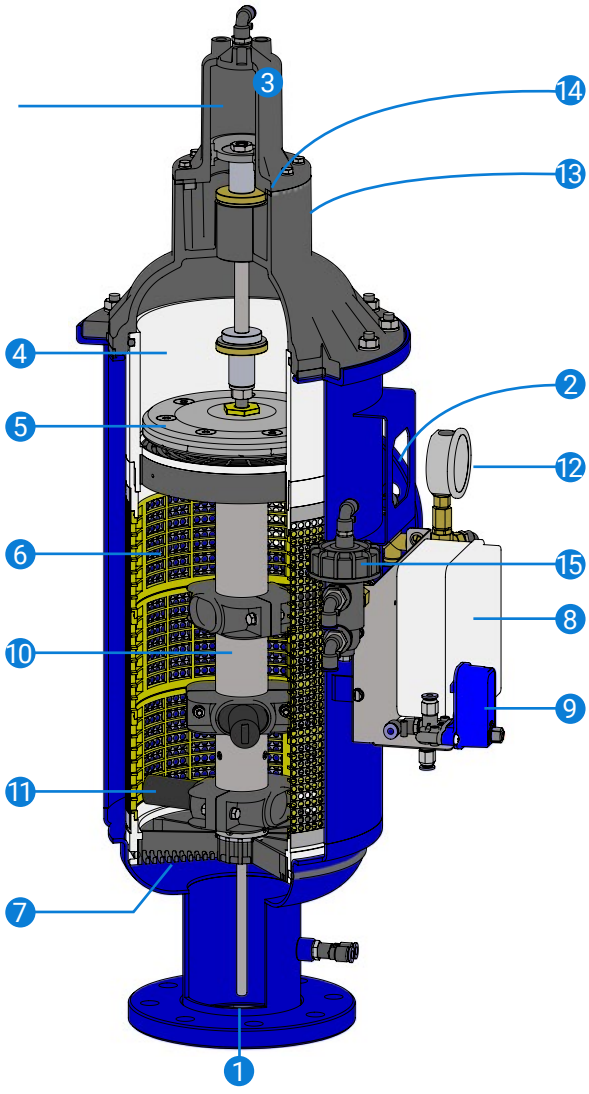
NOTE

- 2" and 3" vertical filter models are available with NPT or BSP threads.
- 3", 4" and 6" vertical filter models are available with BSTD, ANSI, ISO10 or ISO16 flanges.
- All filter models are available with 100, 130, 200, 300 or 500 micron (150, 115, 80, 50 or 35 mesh filtration grade) (Other filtration grades are available upon request).

Components and Structure

A ScreenGuard™ automatic vertical screen filter is comprised of the following components:

1. Inlet
2. Outlet
3. Hydraulic piston
4. Hydraulic flushing turbine chamber
5. Hydraulic flushing turbine
6. Fine screen assembly
7. Flat strainer
8. Flush controller
9. Aquative operator (solenoid)
10. Suction assembly
11. Suction nozzle
12. Pressure gauge
13. Drain port
14. Flushing valve
15. Hydraulic relay



Filter Operation - General Description

→ The Filtration Process

Water enters the filter through the inlet [1] and passes through the flat strainer [7]. The flat strainer is designed to protect the cleaning mechanism from large dirt particles (The flat strainer is not cleaned automatically).

The water then flows through the screen filter [6] from the inside out to the outlet [2]. The entrapped particles form a "filtration cake" which accumulates on the screen inner surface. Over time the "cake" build-up increases the pressure differential across the screen, and at a pre-set value (0.5 bar; 7 PSI) the automatic self-cleaning cycle begins.

→ The Self-Cleaning Process

The self-cleaning process utilizes the backflush technique to effectively remove the dirt particles from the screen. The automatic flushing cycle takes 10-30 seconds and does not interrupt the supply of process water.

As water flows from the inlet through the flat strainer and screen to the outlet, at a pre-set pressure differential (0.5 bar; 7 PSI) the flush controller [8] activates the hydraulic piston [3] and opens the flushing valve [14].

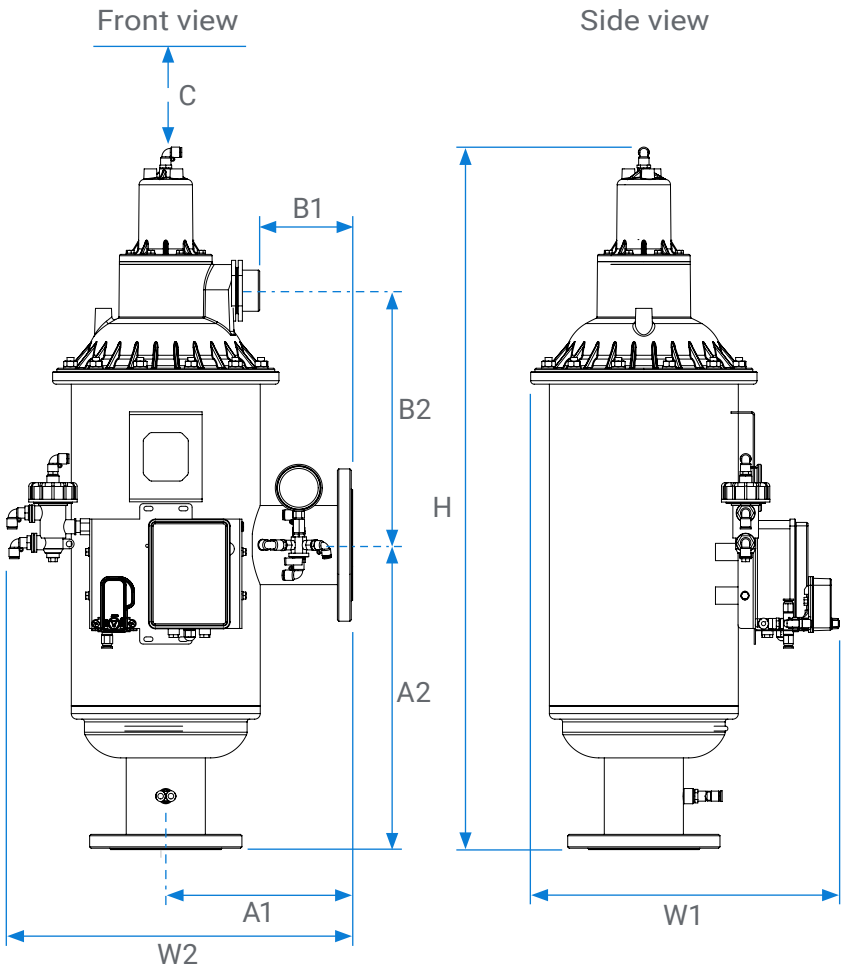
The pressure in the hydraulic flushing turbine [5] chamber drops, creating suction at the flushing nozzle [11] tips. The water and particles passing through the hydraulic flushing turbine cause the suction assembly [10] to rotate, while the hydraulic piston [3] moves the suction assembly in an axial motion to the opposite end of the filter. The combination of rotational and axial motion of the suction assembly ensures that the suction nozzles sweep the entire inner surface of the screen.

When the first backflush stroke is completed, the flushing valve [14] closes and after a very short interval the second backflush stroke is hydraulically triggered and the flushing valve reopens. The suction assembly [10] rotates, moving with the piston in the opposite direction and returning to its original position.

The ScreenGuard™ screen filter series are hydraulically operated units. No external power source is required. This type of control enables operation at remote installation sites.

Dimensions

→ External dimensions and inlet and outlet locations [mm]:



Model	External dimensions			Inlet and outlet location		Clearance for maintenance [C]
	Height [H]	Width 1 [W1]	Width 2 [W2]	Inlet to outlet	Outlet to drain	
SG V 2"	925	455	500	H [A1] 270, V [A2] 390	H [B1] 130, V [B2] 318	600
SG V 3"	925	455	500	H [A1] 270, V [A2] 390	H [B1] 130, V [B2] 318	600
SG V 3" S	1025	455	500	H [A1] 270, V [A2] 440	H [B1] 130, V [B2] 368	700
SG V 4"	1025	455	500	H [A1] 270, V [A2] 440	H [B1] 130, V [B2] 368	700
SG V 4" S	1430	455	500	H [A1] 270, V [A2] 620	H [B1] 135, V [B2] 475	1000
SG V 6"	1430	455	500	H [A1] 270, V [A2] 620	H [B1] 135, V [B2] 475	1000

→ Box dimensions

Model	Height [H]	Width 1 [W1]	Width 2 [W2]
SG V 2"	1,070	660	520
SG V 3"	1,070	660	520
SG V 3" S	1,070	660	520

Model	Height [H]	Width 1 [W1]	Width 2 [W2]
SG V 4"	1,070	660	520
SG V 4" S	1,430	550	550
SG V 6"	1,430	550	550

Connection Diameter

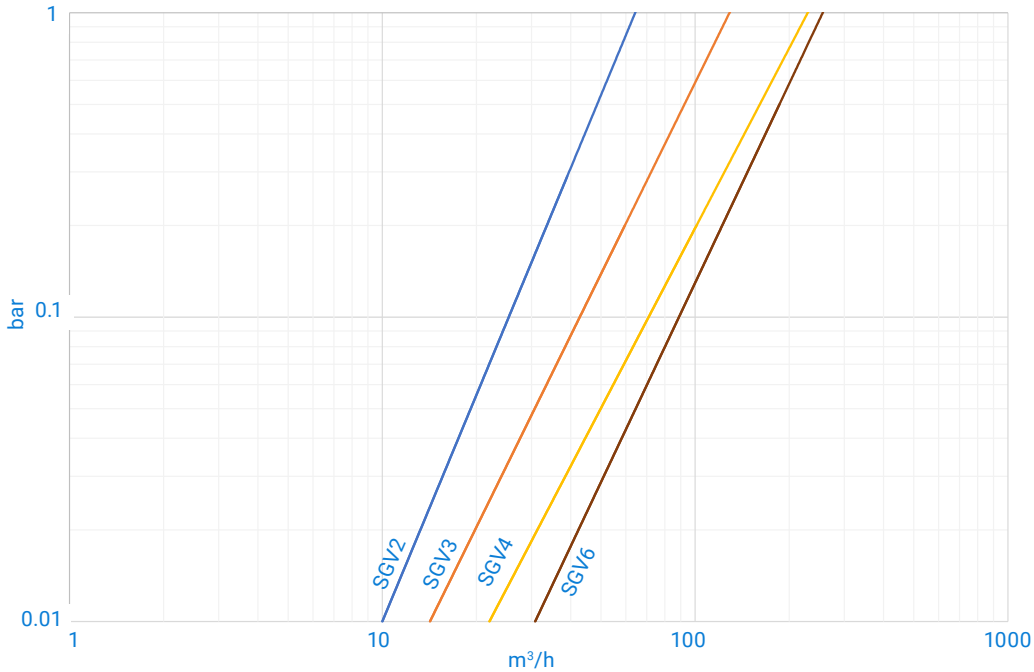
Model	Inlet/outlet connection diameter	Backflush connection diameter
SG V 2" T	2"	50mm
SG V 3" T	3"	
SG V 3" F	3"	
SG V 3" ST	3"	
SG V 3" SF	3"	
SG V 4" F	4"	
SG V 4" SF	4"	
SG V 6"	6"	

Weights

Model	Gross weight (Kg)	Box Weight (with filter) (Kg)
SG V 2" T	30	44
SG V 3" T	30	42
SG V 3" F	36	50
SG V 3" ST	34	48
SG V 3" SF	40	54
SG V 4" F	42	56
SG V 4" SF	62	76
SG V 6"	66	81

The weights in the tables above are order of magnitude only - final data are issued with the product order.

Head Loss (Clean Filter)



SG Plus Smart Bluetooth Flush Controller

New hardware and UI design, professional properties, and high reliability make the SG Plus the most efficient solution for the management of the SG filter.

The SG Plus features 3 outputs enabling various operations:

- Controlling 3 different filters.
- Controlling the main valve:
  - In case that during flushing the system pressure decreases below the minimum allowed pressure (2 Bar), a downstream valve may be required.
  - The downstream valve shuts down before the filter flushes, diverting the full pump pressure to flushing during the flush action.
  - Once the flushing operation has ended – the valve re-opens and the irrigation proceeds.
  - Setting an external device (signal, SMS, Alarm, etc.) during the flushing operation.

→ Main features

PD based flushing cycle activation
The controller monitors the pressure differential between the inlet and outlet by means of a PD sensor and triggers flushing cycles accordingly.

Manual flushing cycle activation
An external START button enables manual activation of a flushing cycle.

Endless looping detection
The SG controller monitors the number of consecutive flushing cycles triggered by the PD sensor before deciding that there is an endless looping problem. The options are: 1-10 or "no," ignore the looping problem.

Smartphone application
Feature a user-friendly Smartphone application that communicates with the controller via Bluetooth (10 meter range of the controller!)

→ The application allows:

- Monitoring all the parameters of the filter's activity
- Reviewing the filter activity history
- Setting operational parameters: PD (pressure differential), PD delay, Flushing interval and operation mode
- Starting a flushing cycle
- Monitoring battery state

The application interfaces with multiple SG Plus controllers, allowing monitor and control of many filters.

The flush controller does not require any adjustment, it is entirely factory adjusted for best operation.

- PD (pressure-differential) is set to 5 meters (0.5 bar)
- PD delay is set to 5 seconds
- Flushing interval is set to 4 hours
- The operation mode is set to Time & PD

→ Batteries

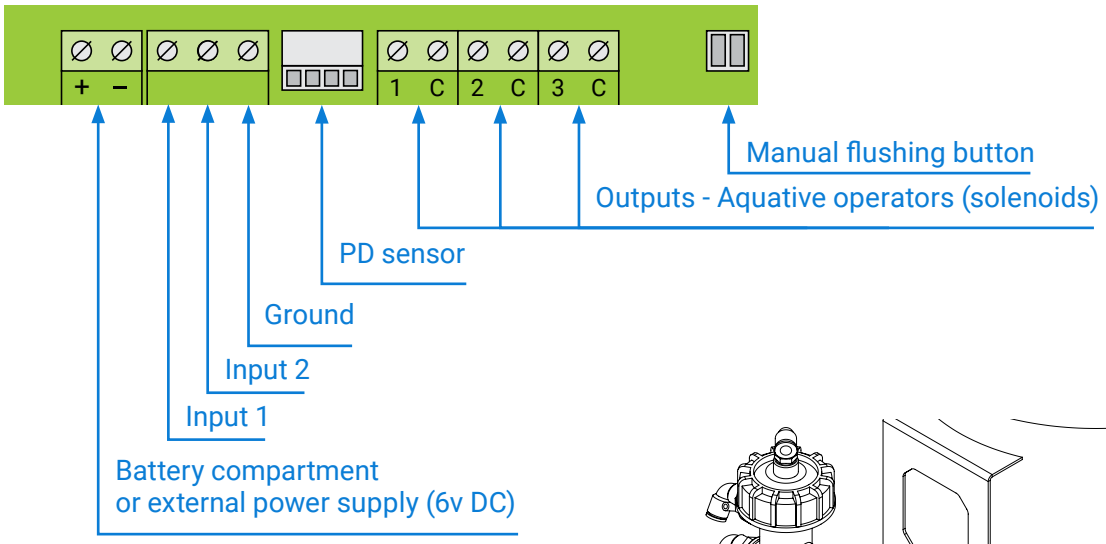
The controller is powered by 4 x 1.5v C-size alkaline batteries (not supplied).

NOTE
If electricity is available at the filter location, the flush controller can be powered by an external 100-240v AC to 5v DC power supply (not supplied).
(see page 17)

WARNING
When operating the controller with the external power supply, make sure that the battery compartment is not inside the flush controller (its loose wire ends could cause short-circuit).

→ Main parts

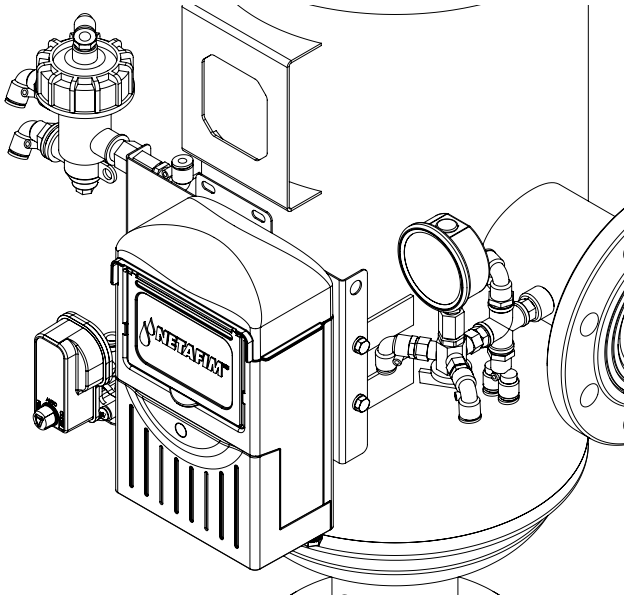
→ Wiring



→ Option: Filtro 1-10 flush controller

Optionally, SG filters can be supplied equipped with the Filtron 1-10 flush controller for additional control features.

For operation of the Filtron 1-10 flush controller see its User Manual enclosed with it.

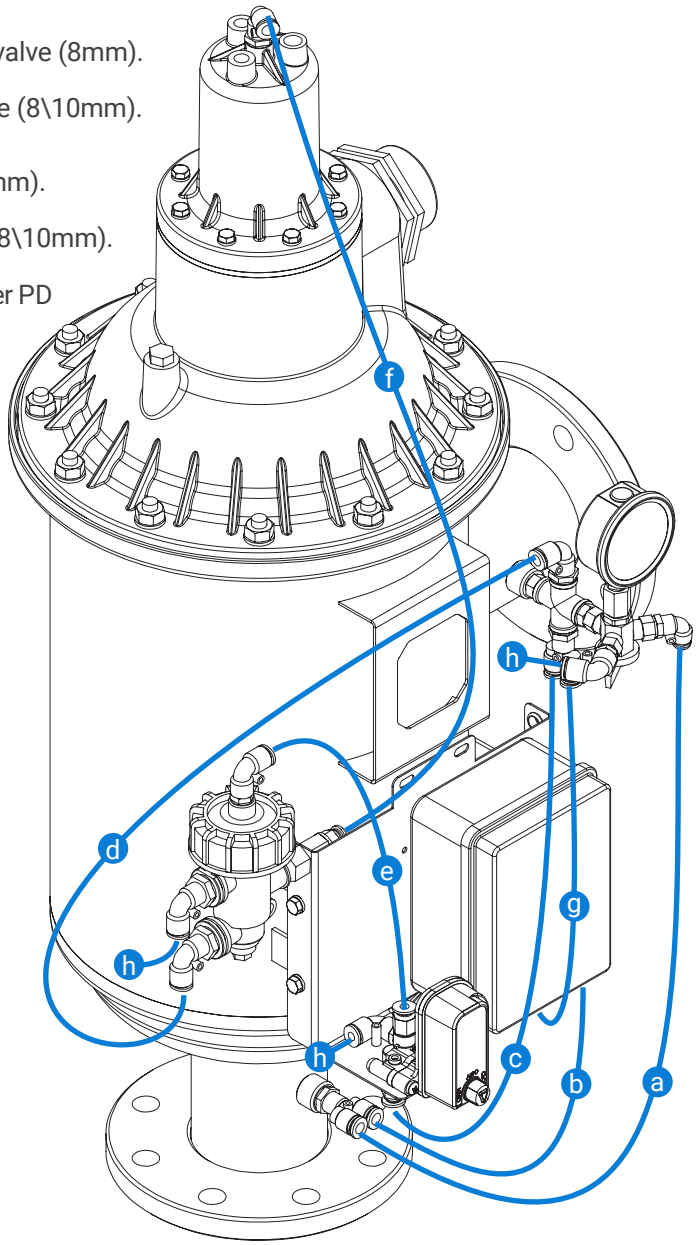


Control Tubes

The PE 8 mm command tubes are factory-installed and do not require any intervention during installation of the filter. The control-tube connection scheme below is to be used as reference while troubleshooting the filter.

→ Legend

- a From the filter inlet pressure point to the pressure gauge 3-way valve (8mm).
- b From the filter inlet pressure point to the flush controller PD sensor highpressure connection port (right) (8mm).
- c From the Aquative solenoid to the pressure gauge 3-way valve (8mm).
- d From the hydraulic relay to the pressure gauge 3-way valve (8\10mm).
- e From the hydraulic relay to the Aquative solenoid inlet (8mm).
- f From the hydraulic relay to the filter hydraulic piston cap (8\10mm).
- g From the pressure gauge 3-way valve to the flush wcontroller PD sensor low-pressure connection port (left) (8mm).
- h Drain tube (no more than 2 meter long each) (6\8mm).



Pre-installation Preparations

→ Design recommendations

- If a long pipeline fill time causes a temporary high flow and low pressure situation, it is recommended to install a pressure-sustaining valve (PSV) downstream from the filter. The PSV will ensure a controlled fill-up of the line.
- It is highly recommended to install isolation valves upstream and downstream from the filter for maintenance and troubleshooting purposes.
- It is highly recommended to install a pressure reducing valve (PRV) downstream from the filter.
- It is highly recommended to install a mechanical non-return valve downstream of the filter to prevent backflow damage to the screen.
- Make sure that the filter location offers sufficient clearance to remove the cover assembly and the screen assembly from the filter for troubleshooting (see page 8).
- Avoid placing the flush pipe on a rising slope to prevent backpressure.
- Minimum flush pipe diameter: 2".

→ Preparations for installation

- Prepare the inlet and outlet pipes according to the dimensions and type of connection (thread/flange) of your filter (see page 9).
- Ensure suitable lighting at the area of the filter to enable good visibility and safe maintenance.
- Arrange suitable platforms and safety barriers to enable easy, safe access to the filter.
- Allow a convenient access and adequate space around the filter for dismantling and maintenance.

Tools Required for Installation

- Crosshead screwdriver
- Spanners

Flange size	Bolt and nut size	Wrench size
up to 8"	5/8" (17mm)	15/16"

Unpacking and Placement

- Open the cardboard package and remove it from the wooden pallet.
- Support the filter manually.

ATTENTION
Note the filter weight before operation and follow the safety instructions.

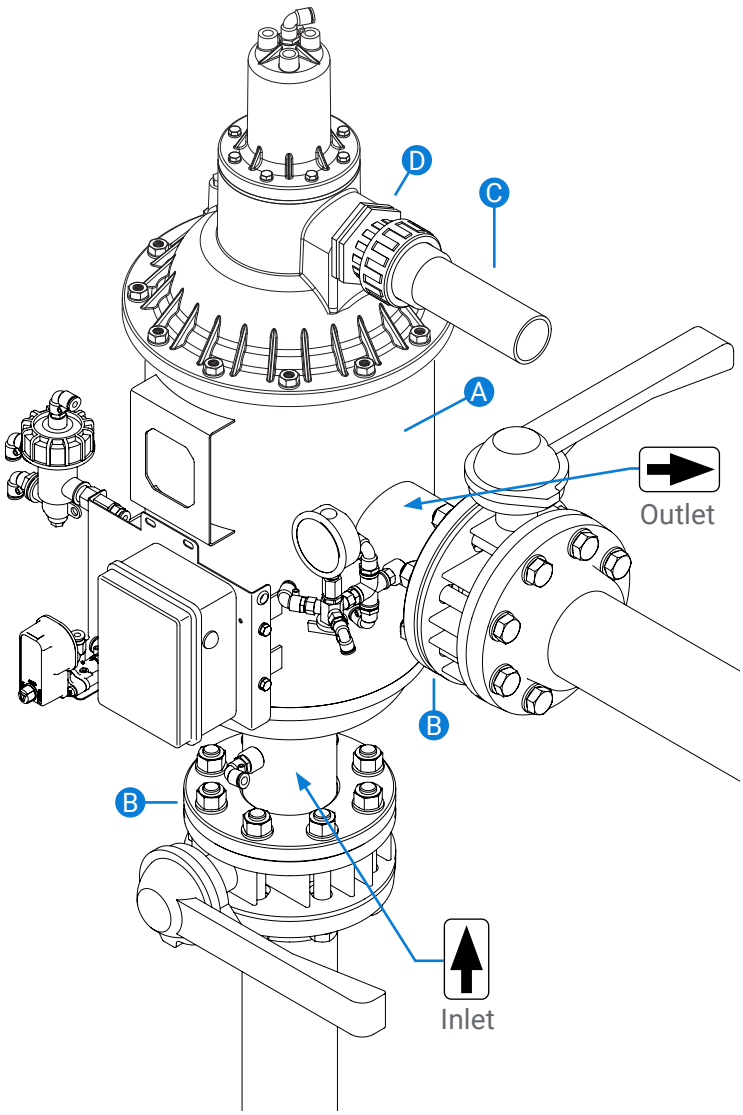
- Detach the filter from the wooden pallet.

Hydraulic Installation

ATTENTION

The inlet pipe should be of a diameter equal to or larger than the filter inlet diameter.
Never connect a the SG filter to an inlet pipe of a diameter smaller than the filter inlet diameter.

- Ensure the direction of flow is according to the arrows marked on the filter inlet and outlet.
- Threaded models: Apply Teflon tape to the threads.
- Flanged models: Place gaskets on the inlet and outlet flanges (B).
- Position the filter in place.
- Threaded models: Tighten the inlet and outlet connectors.
- Flanged models: Fasten the inlet and outlet flanges bolts.
- Connect a pipe (C) to the flush port (D)
  Minimum flush pipe diameter: 2".
  Maximum flush pipe length: 10 m. Water should be allowed to flow to the atmosphere freely from the flush pipe.
- Secure the open end of the flush pipe to prevent movement during the flushing cycle.
- Avoid placing the flush pipe on a rising slope to prevent backpressure.



ATTENTION

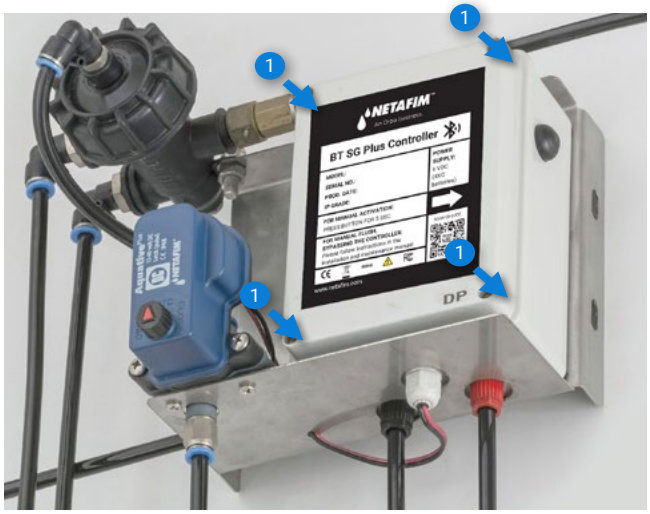
If a PRV is required in order to protect the irrigation system, it is highly recommended to install it downstream of the filter.

Bluetooth Flush Controller Activation

→ Insert batteries into the Bluetooth flush controller

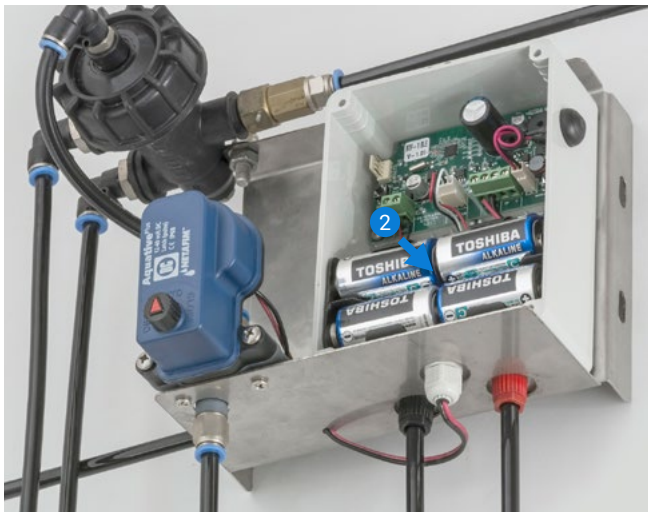
> NOTE
> Always use a whole set of 4 new batteries. Never use new and old batteries together.

1. Open the flush controller box using a cross-head screwdriver.



2. Insert a set of 4 new batteries (Match the poles to the markings inside the battery housing).

The controller should turn on automatically.
3 short beeps followed by a long one should be heard.



3. Close the flush controller box (mind the alignment of the cover gasket to ensure sealing).

If your SG filter is equipped with the Filtron 1-10 flush controller, see its User Manual enclosed with it.

→ Download the SG filter application to your Smartphone

1. Scan the QR code (also on the flush controller) or download it from the appropriate app store and install it.
   Notice that there are two application versions.
   - For Android - On Google play
   - For iOS - On Apple store

2. Follow the on-screen instructions.

TIP
After the installation, it is recommended to create a shortcut on your Home screen.

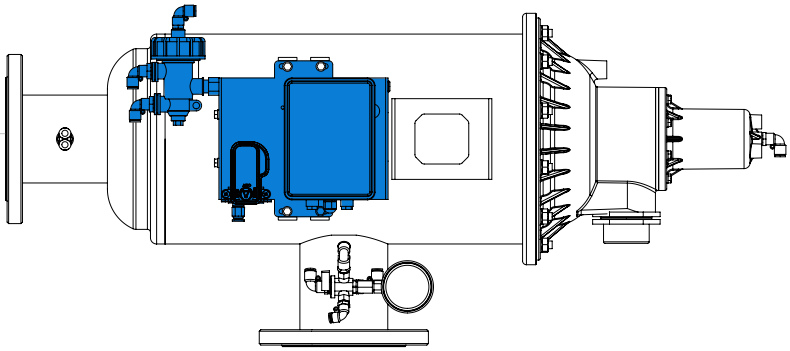
→ Link the SG filter application to the filter flush controller

1. Enter the SG Plus Smartphone application and select your filter (BT pairing is automatic).
2. Scan the QR code on the flush controller to enter the user manual.

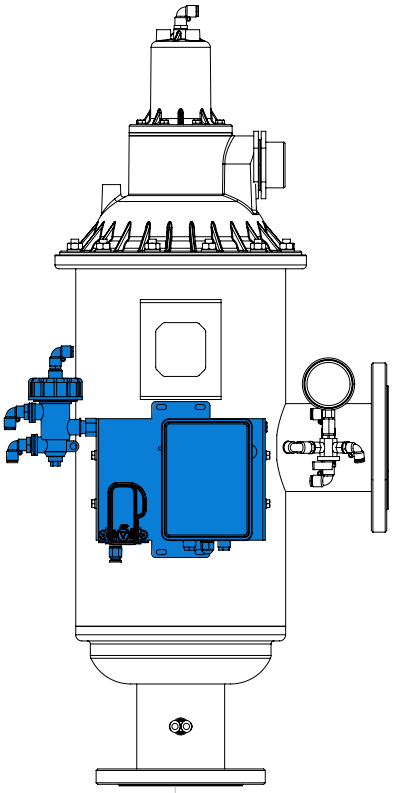
Orientation of the Controller Assembly

The SGV filter is typically designed for vertical installation. However, in case it is required it can be installed horizontally. In such case the controller assembly can be rotated 90° as to remain vertical for practicality and comfort of use.

Horizontal installation



Vertical installation



Required action to perform the controller rotation:

1. Mark each 8mm control tube source (High pressure, Low pressure, Piston).
2. Disconnect the 8mm control tubes the link the controller to the filter (High pressure, Low pressure, Piston).
3. Unscrew the 4 X 10mm screws that connect the controller support bracket to its supports.
4. Rotate the bracket 90° (with all the components assembled to it).
5. Connect the 4 X 10mm screws to the support.
6. Reconnect the 8 mm control tubes to the correct locations–mind the identity
7. of the connections!

External Power Supply

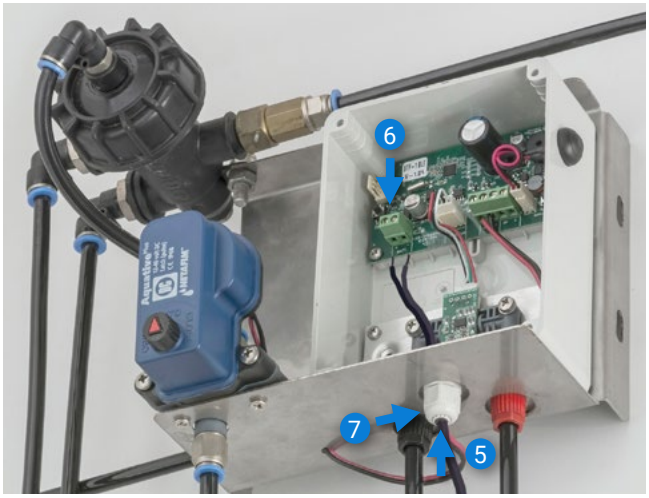
→ Power the flush controller by an external power supply

If electricity is available at the filter location, the flush controller can be powered by an external 100-240v AC to 5v DC power supply (not supplied).

1. Open the flush controller box using a cross-head screwdriver.

2. Disconnect the battery compartment wires from the terminal block using a flat-head screwdriver.
3. Remove the battery compartment and keep it separately for possible future use.
4. Loosen the cable gland nut by hand.

5. Gently thread the power supply wires through the cable gland.
6. Connect the power supply wires to the terminal block (mind polarity).
7. Refasten the cable gland nut by hand.
8. Plug the power supply to the mains and make sure the flush controller turns on.



9. Close the flush controller box (mind the alignment of the cover gasket to ensure sealing).

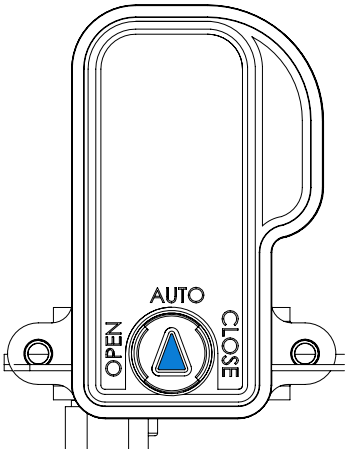
WARNING

When operating the controller with the external power supply, make sure that the battery compartment is not inside the flush controller (its exposed wire ends could cause short-circuit).

If your SG filter is equipped with the Filtron 1-10 flush controller, see its User Manual enclosed with it.

Preparations

Before activating the filter for the first time, go through the following check-list carefully (No special training is required to carry out these activities).

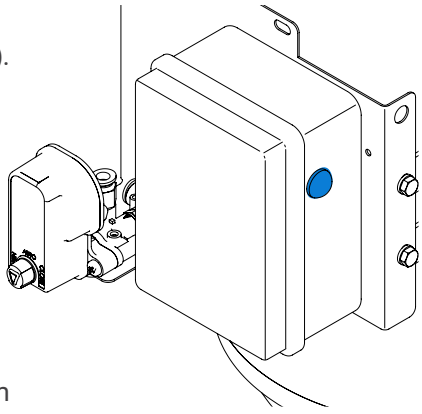


- Check that the filter is mounted in the correct flow direction.
- Check that all nuts and bolts are firmly tighten.
- Check that all the command tubes are connected properly and that all connections are tight (see page 12).
- Ensure the filter is well supported an stable.
- Check that the Aquative operator (solenoid) selector is turned to the AUTO position.
- Make sure that the flush pipe is installed in conformity with the specifications (see Hydraulic installation, page 14).
- Make sure the controller is active by initiating a manual flush (The solenoid should click). (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application.)

First Operation

After completing the preparation check-list above, perform the following steps:

1. Slowly open the isolation valve at the filter inlet. Water will flow into the filter.
2. Check for leaks and repair if necessary.
3. Slowly open the isolation valve at the outlet of the filter.Ensure the flow through the filter does not exceed the filter's maximum flow rate (see page 6).
4. Start a manual flushing cycle. (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application.)
5. Check the upstream pressure during the flushing cycle, it should not drop below 2.0 bar (30 PSI).
6. Perform 2 additional consecutive manual flushing cycles to evacuate air from the system.
7. Monitor the upstream pressure during the flushing cycles,it should not drop below 2.0 bar (30 PSI). If this cannot be ensured, consult Netafim™.



NOTE

The filter flushes in two, separate consecutive flushing cycles with a few seconds pause between them (During the pause the filter does not flush).

Application Operation

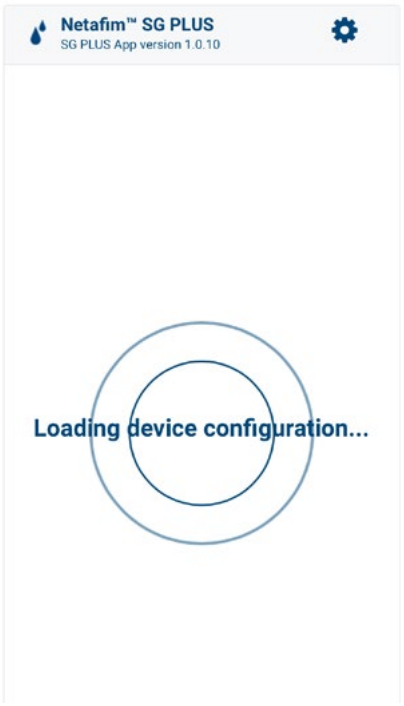
The SG Plus Smartphone application is easy-to-use and intuitive. The following is a quick guide to the SG Plus app. (If your SG filter is equipped with the Filtron 1-10 flush controller, see its User Manual enclosed with it).

Welcome screen

When the user taps on the app shortcut, a welcome screen appears...

Scanning result screen

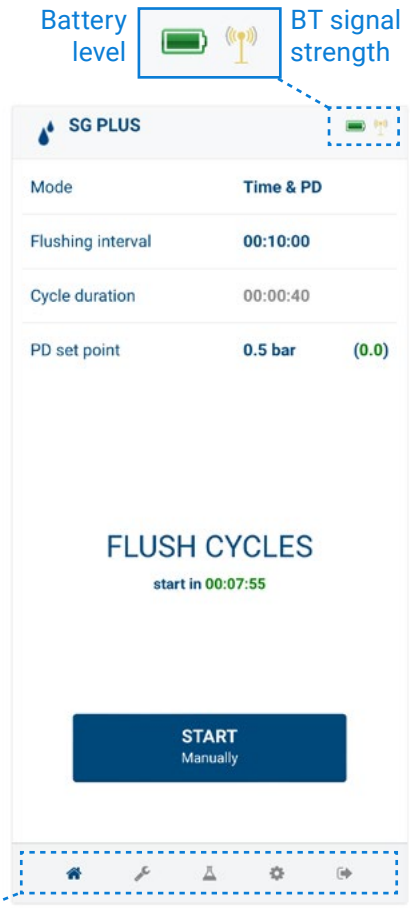
The results of the controllers in the vicinity will appear on the Scanning result screen.
Select your controller.



Scanning process screen

Then, a Scanning process of the controllers in the vicinity will start.

Your controller home screen



This screen displays the main parameters of the filter operation:

- Operation mode
- Flushing interval
- Cycle duration
- PD set point
- Time to next flush cycle

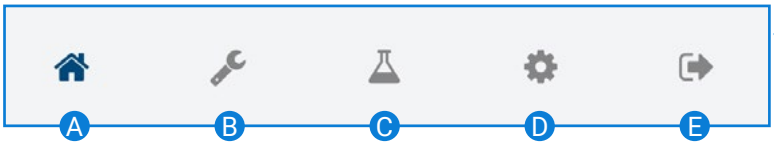
NOTE

The SG Plus controller does not require any adjustment, it is entirely factory adjusted for best operation.

However, you can edit a parameter by pressing it.

WAIT PD - the application is acquiring PD data from the controller (wait before proceeding).

START - Press to start or stop a flushing cycle.



A. Home

1. Mode
2. Flushing interval
3. Cycle duration
4. PD set point
5. Manual operation

B. Settings

1. Output mapping
2. Main valve ON/OFF
3. Alarm output ON/OFF
4. Pre dwell time screen
5. Number of filters
6. Dwell time
7. PD delay
8. Looping limit
9. Pressur units bar/PSI
10. PD calibration
11. Device name
12. Sound
13. Factory reset

C. Flushing log

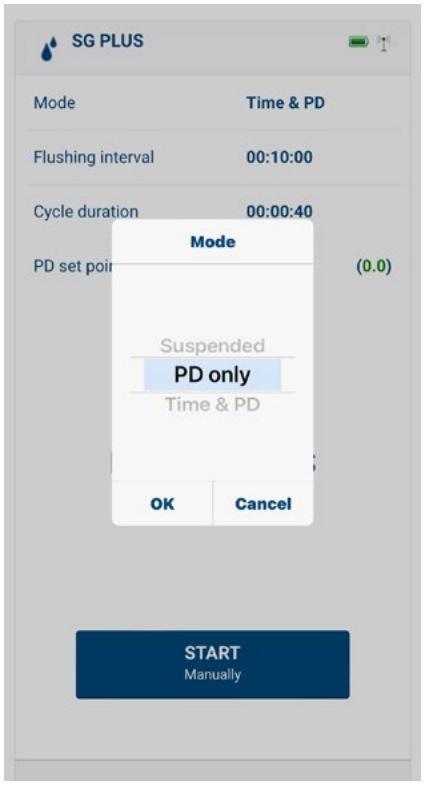
1. Based on time
2. Based on pressure differential
3. Manual flushings
4. Clear counters

D. Preferences

1. Select language
2. Select font size
3. Technician mode (Only Netafim qualified technicians are authorized to this section by personal password).

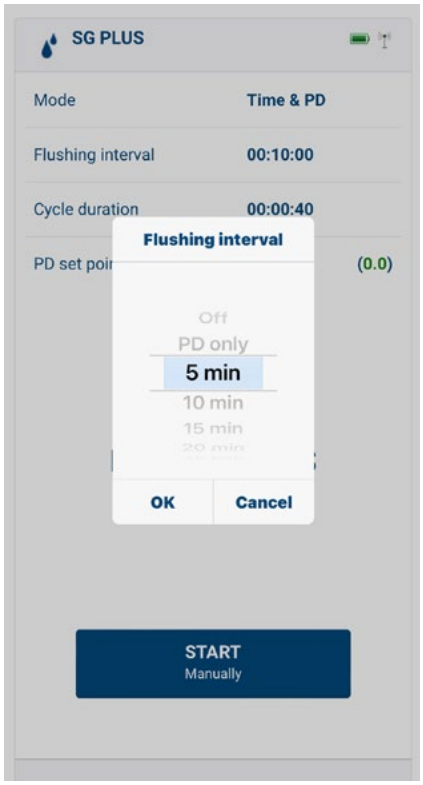
E. Exit the SG Plus app.

A. Home



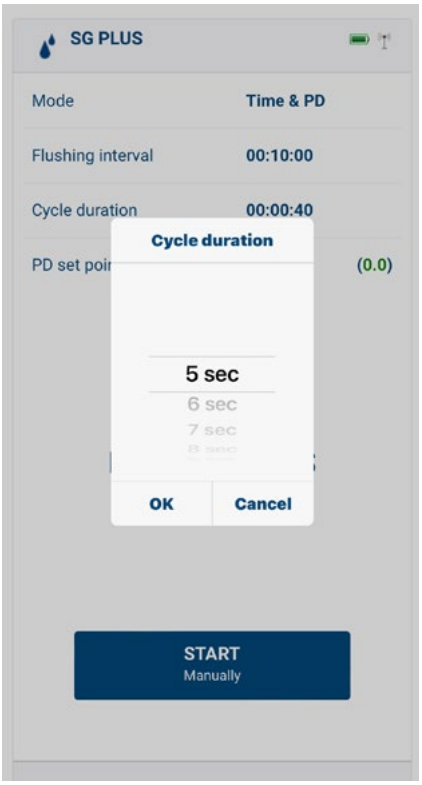
A1. Operation mode selection screen

- Select
  - Suspended
  - PD only
  - Time and PD



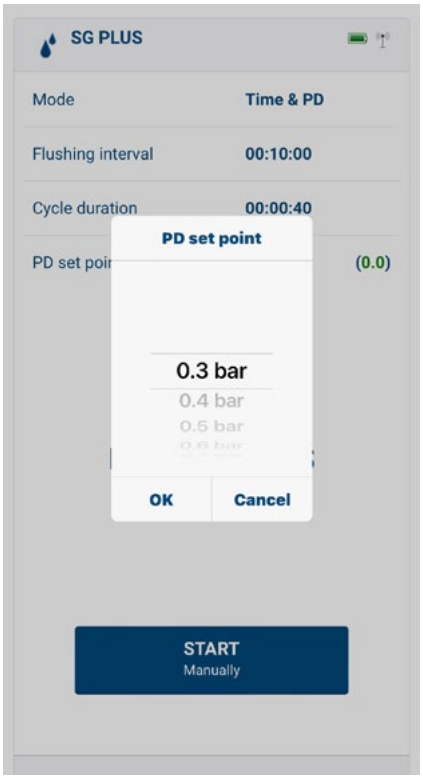
A2. Flushing interval adjustment

Set flushing interval time



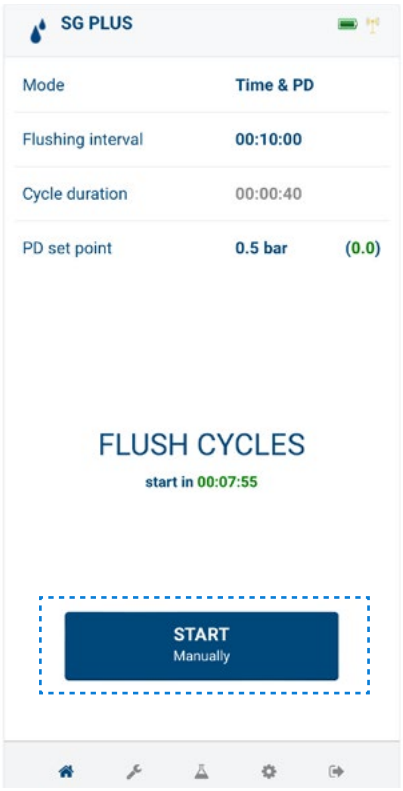
A3. Cycle duration adjustment screen

Set filter flush duration



A4. PD setpoint adjustment screen

Set PD setpoint



A5. Manual operation

B. Settings

B. Settings screen

This screen displays additional parameters of the filter operation:

- PD delay (not editable)
- Looping limit
- Controller's name
- Pressure unit - bar/PSI
- Sound - ON/OFF
- PD calibration activation
- Factory reset

Press a parameter to edit it.

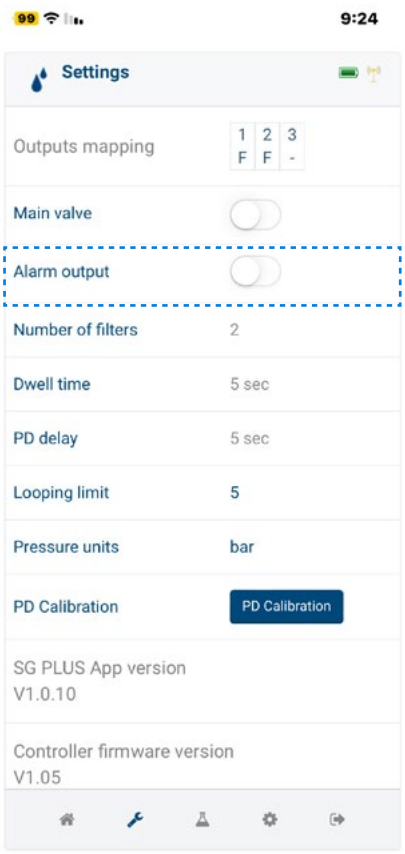
B1. Output mapping

Displays the active outputs and their type. Values will be added based on the modification in setting B2, B3 and B5.

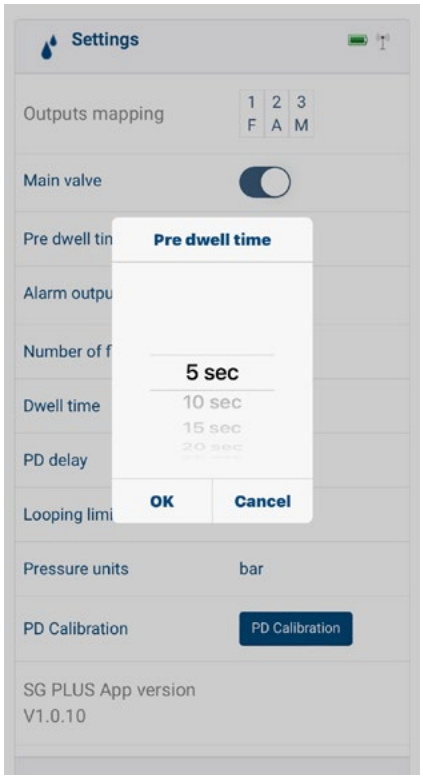
Possible outputs combinations will be as follow:

Output No'	1	2	3
Option A	Filter #1	Filter #2	Filter #3
Option B	Filter #1	Filter #2	Main valve
Option C	Filter #1	Filter #2	Alarm
Option D	Filter #1	Alarm	Main valve
Option E	Filter #1	Filter #2	---

B2. Main valve ON/OFF

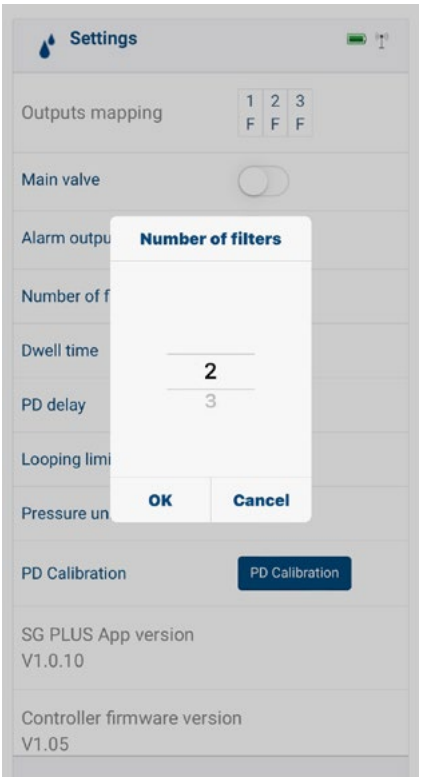


B3. Alarm output ON/OFF



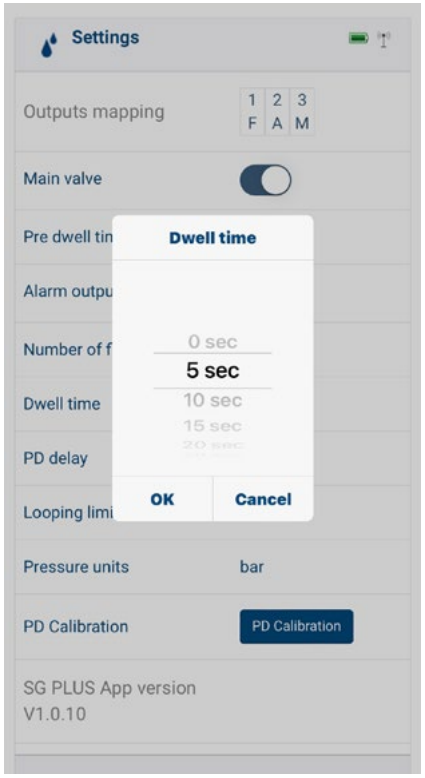
B4. Pre dwell time screen

Only when main valve is active
Set dwell time between main valve and filter flush



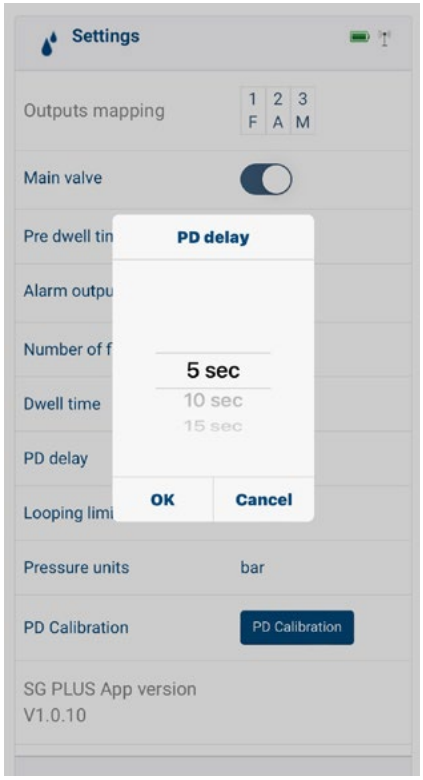
B5. Number of filters screen

Set number of filters (1, 2 or 3)



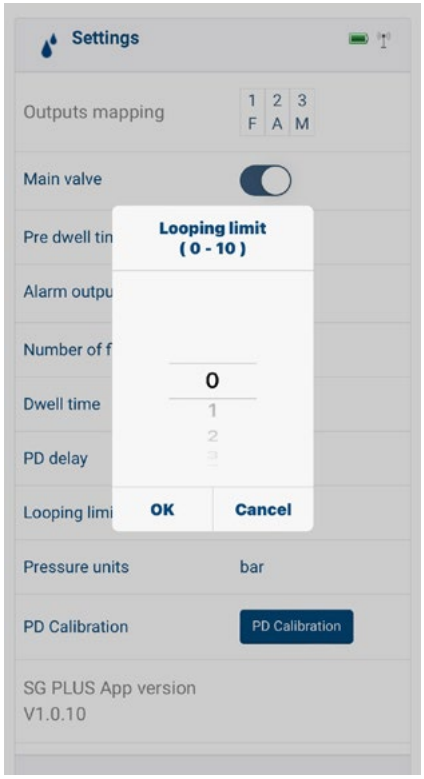
B6. Dwell time screen

Set dwell time between filter flush operations



B7. PD delay screen

Set PD delay time

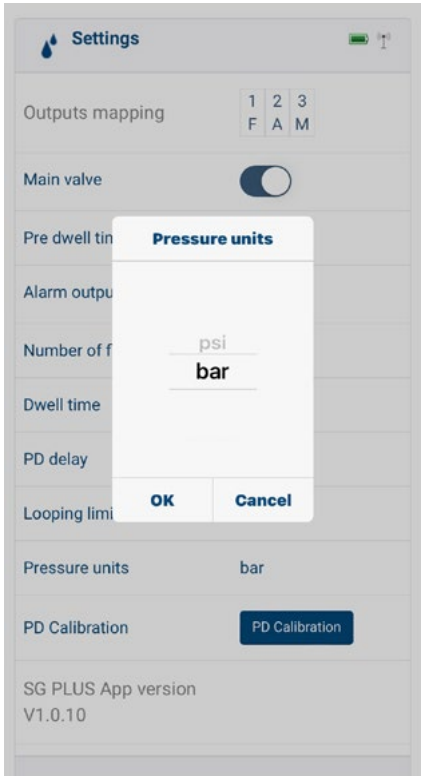


B8. Looping limit screen

Set the number of consecutive flushing cycles triggered by the PD sensor before deciding that there is an endless looping problem.*

Enter a number - 1-10, or 0 - to ignore the looping problem.

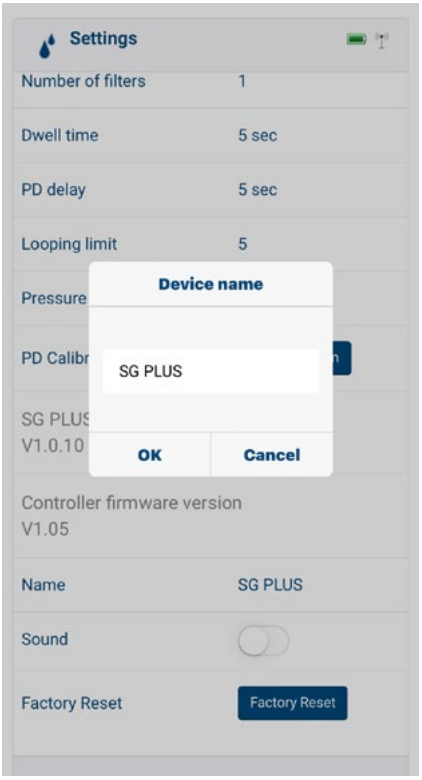
*If the looping limit is attained, the controller will cease flushing and display a looping error warning on the top right corner of the screen.



B9. Pressure units screen

Select the pressure unit - bar/PSI

B10. PD calibration



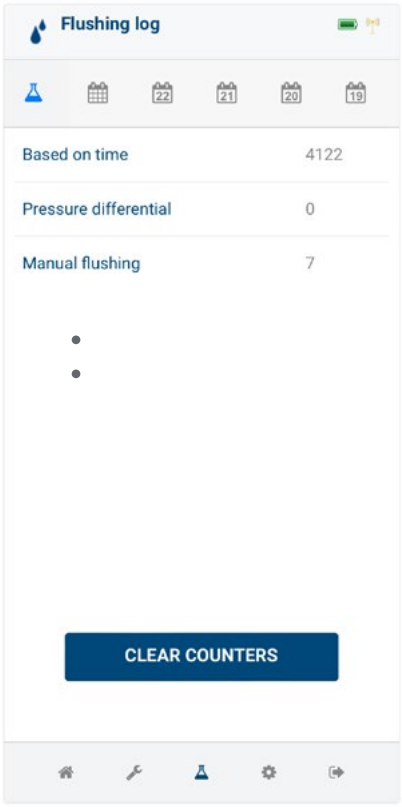
B11. Device name screen

Name your device for future identification.

B12. Sound

B13. Factory reset

C. Flushing log



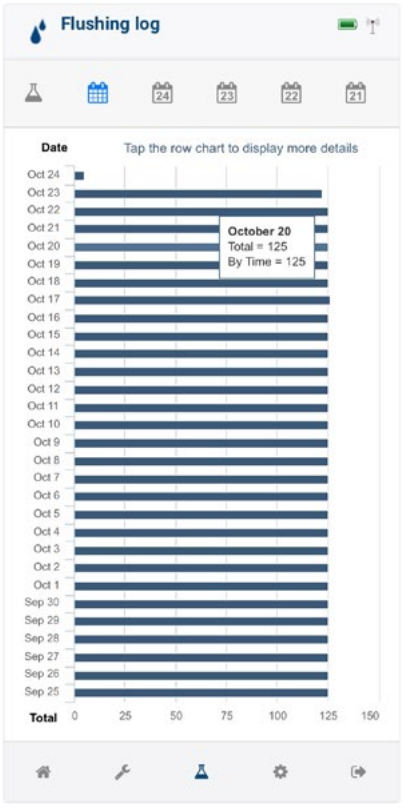
C1. Your filter's Flushing log screen

This screen displays the accumulated number of flushings performed:

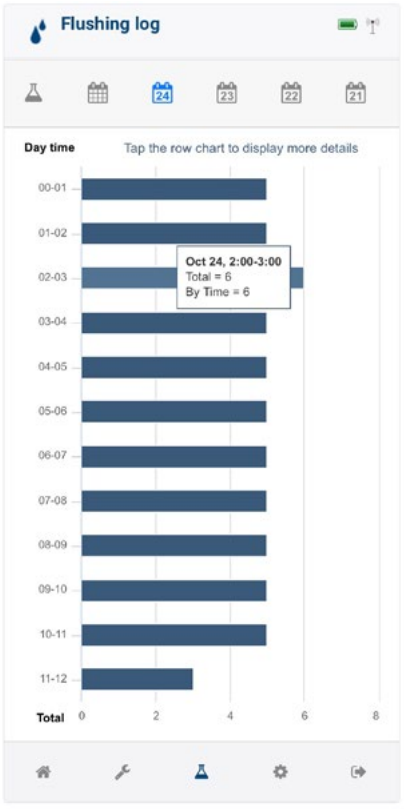
- Based on time
- Based on PD
- Manually triggered
- Detailed log
  - Monthly
  - Daily

This screen is not editable.

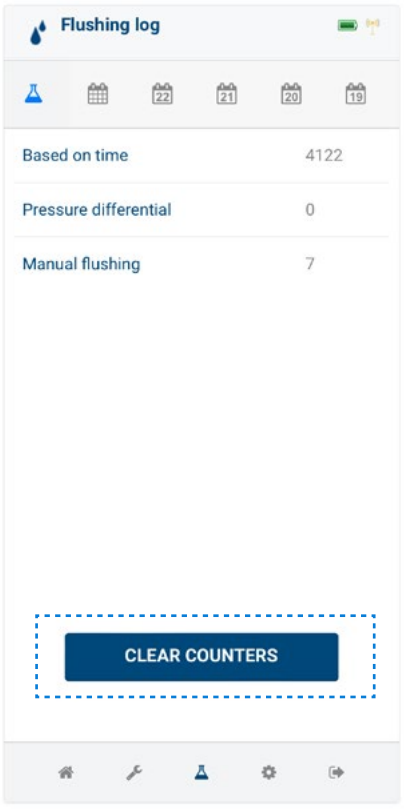
CLEAR COUNTERS - press to reset all the counters.



C2. Monthly flushing log screen

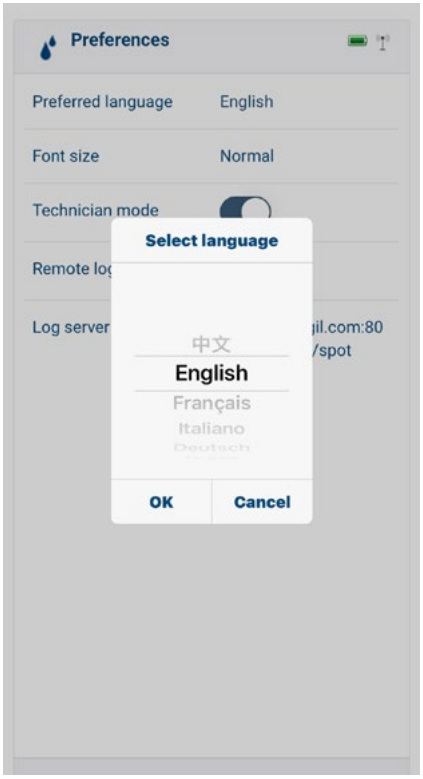


C3. Daily flushing log screen



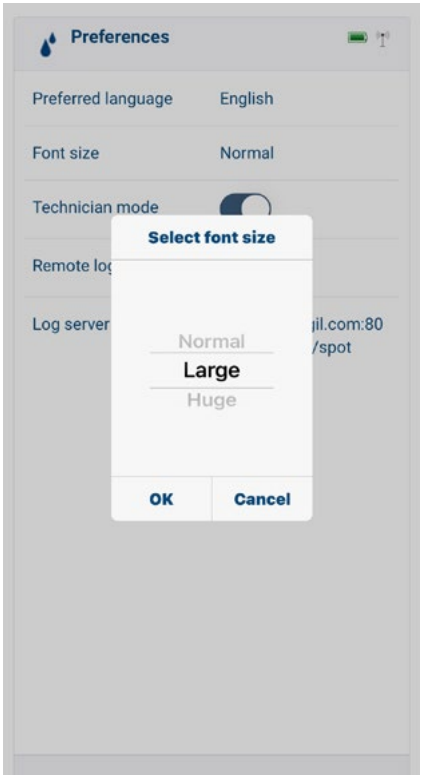
C4. Clear counters

D. Preferences



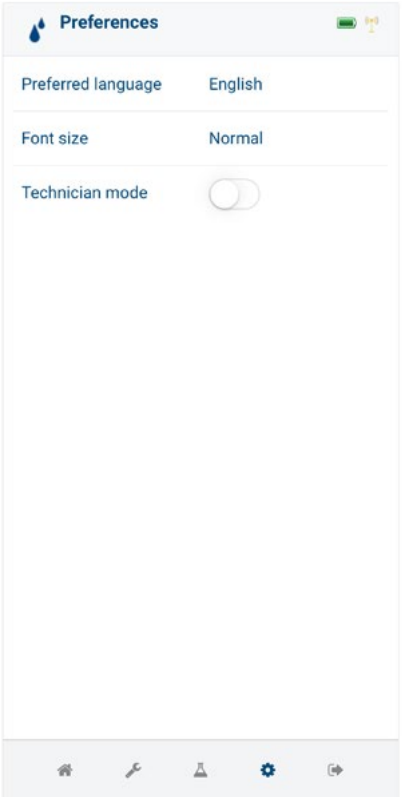
D1. Select language screen

Select the app's UI language



D2. Select font size screen

Select the app's UI font size



D3. Preferences screen

This screen allows to select the app's UI language and font size.

Press a parameter to edit it (see the 2 next pages).

Technician mode - ON/OFF

ATTENTION

Technician mode allows modification of additional parameters.

This section is accessible only with a Netafim™ qualified technician personal password.

For assistance contact your Netafim™ local representative.

→ Safety instructions

> ⚠ WARNING
> When under pressure, the filter may start a flushing cycle automatically at any time, without prior indication. Fully release the pressure in the filter before performing installation or maintenance operations involving opening the filter. Check the pressure gauge to be sure it is at 0 before proceeding.

→ Tools required for maintenance

- Spanners - 17mm for the filter body, and 10mm for the piston
- Crosshead screwdriver
- Lubrication Grease - water resistant graphite/silicone grease

Maintenance Schedule

→ Once a week

1. Visually inspect the filter and its control apparatus for leaks. Repair if necessary.
2. Perform a manual flushing cycle. (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application).
3. Make sure that during the flushing cycle the inlet pressure does not drop below 2.0 bar (30 PSI).
4. Make sure the filter flushes in two, separate consecutive flushing cycles with a few seconds pause between them. In case a clear pause between the two flushing cycles is not noticeable, consult Netafim.

→ At the end of the irrigation season

1. Close the filter's downstream (outlet) valve.
2. Immediately perform 3 consecutive manual flushing cycles. (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application.)
3. Turn the pump off.
4. Close the filter's upstream (inlet) valve.
5. Remove the batteries from the controller (see page 27).
6. Drain the filter.
7. Visually inspect the filter's body coating for damage. Repair if necessary (see Paint retouching on the filter body, page 28).

→ At the beginning of the irrigation season

1. Extract the fine screen assembly and clean it with pressurized fresh water (see page 26). if the screen is dirty with hard to remove organic dirt: Perform chemical cleaning of the filter screen assembly (see Algae growth control, page 28).
2. Visually inspect the gaskets. Replace if necessary.
3. Visually inspect the upper bearing. Replace if necessary.
4. Visually inspect the lower bearing. Replace if necessary.
5. Visually inspect the suction nozzles for cracks and/or other mechanical damage.
6. Apply grease to the O-rings.
7. Install new batteries in the controller (see page 27).
8. Activate the filter (see First operation, page 18).
9. Perform 3 consecutive manual flushing cycles (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application.)
10. Make sure that during the flushing cycles the inlet pressure does not drop below 2.0 bar (30 PSI).

Screen Assembly Cleaning

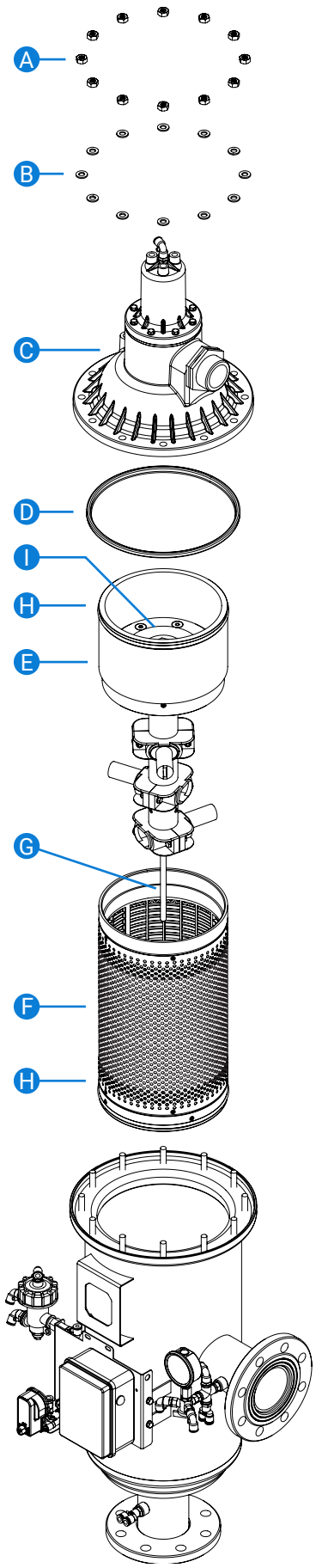
→ Disassembly

1. Unscrew nuts A with a 17mm wrench
2. Remove washers B
3. Remove Piston Cover Assembly C and gasket D
4. Pull out suction assembly E
5. Pull out screen assembly F
6. Flush screen assembly F with pressurized fresh water and remove dirt.

If the screen is still dirty, separate the flushing assembly from the screen assembly and flush screen assembly F from the inside out with pressurized water and remove remaining dirt.

→ Assembly

1. Lubricate screen assembly O-rings H
2. Insert screen assembly F and push all the way.
3. Insert suction assembly E and push all the way.
   Make sure suction assembly E is aligned and positioned inside the socket of the screen assembly F, and that the main shaft G is lodged inside the bottom bearing.
4. Manually rotate the turbine I. It should rotate freely.
5. Make sure gasket D is in place.
6. Put Piston Cover Assembly C in place.
7. Place washers B and nuts A and tighten the nuts.



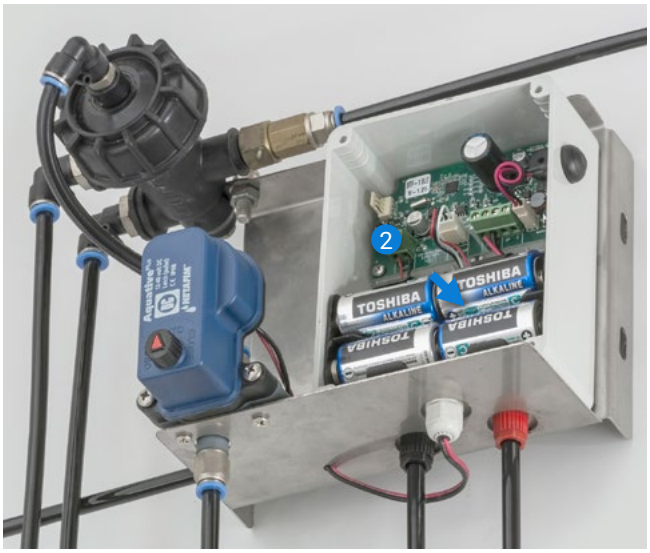
Replacing the Batteries

→ The controller is powered by 4 x 1.5v C-size batteries (6v DC):

> NOTE
> Always replace the whole set of 4 batteries. Never use new and old batteries together.

1. Open the flush controller box using a cross-head screwdriver.

2. Extract the batteries.



3. Insert a set of 4 new batteries (Match the poles to the markings inside the battery housing).

The controller should turn on automatically.
3 short beeps followed by a long one should be heard.

4. Close the flush controller box (mind the alignment of the cover gasket to ensure sealing).

If your SG filter is equipped with the Filtron 1-10 flush controller, see its User Manual enclosed with it.

Paint Retouching on the Filter Body

> ⚠ WARNING
> If the protective coating (inside and outside) of the filter body is damaged and the bare metal is exposed, it will rust in contact with irrigation water and chemicals. If neglected, this will lead to a leak.

Any damage to the protective coating of the filter body must be repaired as soon as possible.

Use Interseal® 670HS Surface Tolerant Epoxy protective paint, color: RAL 5010.

1. Sand the damaged area or spot with sandpaper and clean it with a wire brush.
2. Apply the protective paint.
3. Let the paint completely dry for at least 24 hours before exposing the mended spot to water.

For further assistance, contact your local Netafim™ representative.

→ Algae growth control

> ⚠ WARNING
> Sodium hypochlorite (NaClO) is dangerous toxic and corrosive chemicals. All application regulations and safety rules must be observed. Store and handle according to safety regulations.
>
> Before handling sodium hypochlorite (NaClO), carefully read all the specific safety, health protection and first aid information and instructions. Be sure you have all required first aid at the site, as instructed.
>
> Concentrated liquid sodium hypochlorite (NaClO) can damage exposed metal (especially threads that are exposed to water). Be careful when applying them and avoid the spillage of any of the liquid onto exposed metal parts. Should any of the liquid come into contact with metal parts, immediately wash thoroughly with fresh water.

1. Prepare a 15% sodium hypochlorite solution in an acid resistant container able to contain the filter screen assembly.
2. Remove the gaskets from the screen assembly.
3. Dip the filter screen assembly in the solution for 30 minutes (it should be completely submerged in the solution).
4. Rinse the filter screen assembly with fresh water.

For further assistance, contact your Netafim™ local representative.

Winterization

Filter operation should be suspended in climates where the filter is exposed to freezing temperatures.

→ At the end of the irrigation season

- Close the downstream isolation valve and perform 3 manual flushes. (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application.)
- Turn the pump off.
- Close the inlet valve to the filter and release the pressure.
- Drain the filter.
- Disconnect all command tubes from the valves, relay and flush controller. Drain them of water and re-connect (Mind the command tube connection scheme, page 12).
- Open the relay to make sure that there are no water inside, and if any remain it should be cleared.
- Visually inspect the filter's body coating for damage. Repair if necessary (see Paint retouching on the filter body, page 28).

→ At the beginning of the next irrigation season

See First Operation, page 18.

General Malfunctions

Problem	Possible causes	Solution
No water pressure or too low water pressure at the field valve/s.	• Pump malfunction. • PSV/PRV malfunction. • Pipe breach. • The filter is heavily clogged.	Check the pump, the PSV/PRV and the mainline pipe upstream from the filter. If found in working order: check the filter outlet and inlet pressures. If the pressure differential is higher than 0.5 bar (7 PSI): 1. Close the filter's downstream (outlet) valve. 2. Immediately perform 3 consecutive manual flushing cycle (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application.) Make sure that during the flushing cycle the pressure does not drop below 2.0 bar (30 PSI). 3. Open the downstream valve. If normal functioning is not restored, perform Screen assembly cleaning (see page 26).
Filter flushing occurs at a much higher frequency than usual.	• Degraded water quality • Seasonal algae growth. • Too low inlet pressure. • The filter is heavily clogged. • Restriction on the flush line.	If water quality problems and algae presence have been dismissed, check the filter inlet pressure. If it is in range: 1. Close the filter's downstream (outlet) valve. 2. Immediately perform 3 consecutive manual flushing cycle (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application). If normal functioning is not restored, perform Screen assembly cleaning (see page 26).
Filter PD > 0.5bar	• Controller is not working. • Control valve is not working. • PD sensor is not working.	1. Make sure the controller is in working order by initiating a manual flushing cycle (To initiate a manual flush hold the MANUAL button on the flush controller pressed for 5 seconds or use the START command in the application). If it does not work, replace the batteries (see page 27). If it still does not work, consult your Netafim™ local representative. 2. Operate the Aquative manually (see page 18). If not working, perform Screen assembly cleaning (see page 26). If working, replace the Aquative (see page 34). 3. Compare PD in the application to actual PD. If inconsistent, perform callibration (see page 22). If the problem persists, replace the PD sensor (see page 35).

Operation

The following pages present all the technical processes needed to address any of the above malfunctions.

WARNING

Do not attempt any dismantling of the filter beyond the processes described in this chapter.
For further assistance contact your Netafim™ local representative.

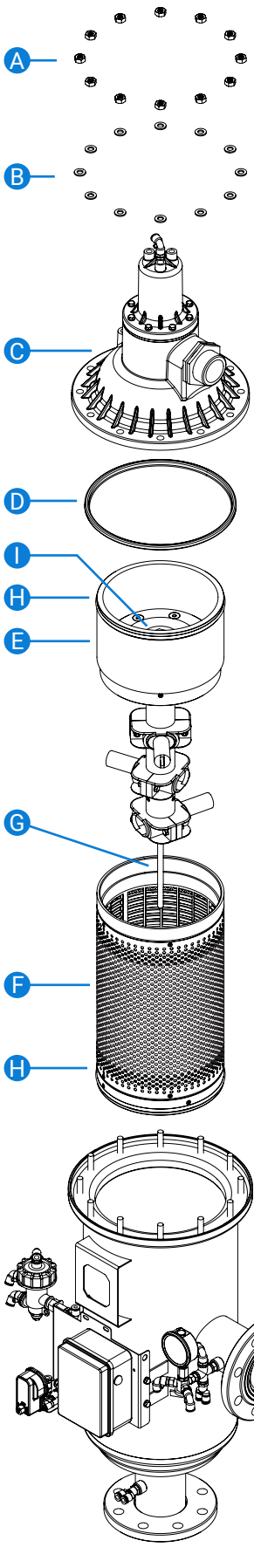
Filter Body Opening and Screen Assembly Extraction

→ Disassembly:

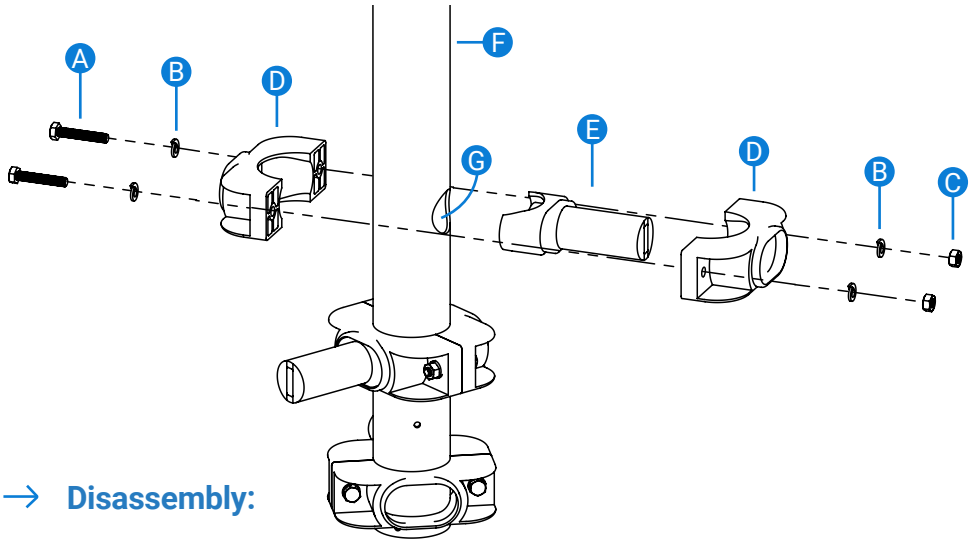
1. Unscrew nuts (A) with a 17mm wrench.
2. Remove washers (B).
3. Remove Piston Cover Assembly (C) and gasket (D).
4. Pull out suction assembly (E).
5. Pull out screen assembly (F).

→ Assembly:

1. Lubricate screen assembly O-rings (H).
2. Insert screen assembly (F) and push all the way.
3. Insert suction assembly (E) and push all the way. Make sure suction assembly (E) is aligned and positioned inside the socket of the screen assembly (F), and that the main shaft (G) is lodged inside the bottom bearing.
4. Manually rotate the turbine (I). It should rotate freely.
5. Make sure gasket (D) is in place.
6. Put Piston Cover Assembly (C) in place.
7. Place washers (B) and nuts (A) and tighten the nuts.



Flushing-nozzle Replacement



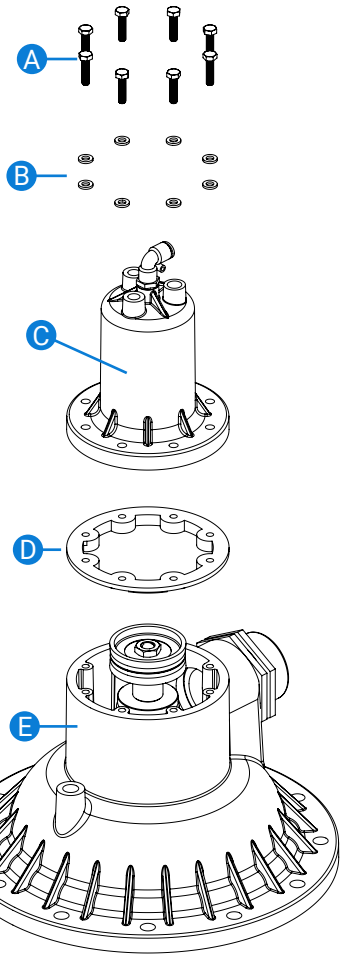
→ Disassembly:

1. Unscrew 2 screws (A) with a 10mm wrench.
2. Disconnect the nozzle clamp set from the collector pipe (F).

→ Assembly:

1. Insert the flushing nozzle (E) into one of the clamps (D).
2. Place the two joined parts (D) and (E) against the hole (G).
3. Place the second clamp (D) opposite the first one, clutching the collector pipe (F).
4. Place a spring washer (B) on each screw (A) and insert through the 2 clamps (D).
5. Place a spring washer (B) and a nut (C) on the other end of each screw (A).
6. Hand-tighten the 2 nuts (C) with a 10mm wrench - do not use electric or impact tools.

Piston-gasket Replacement



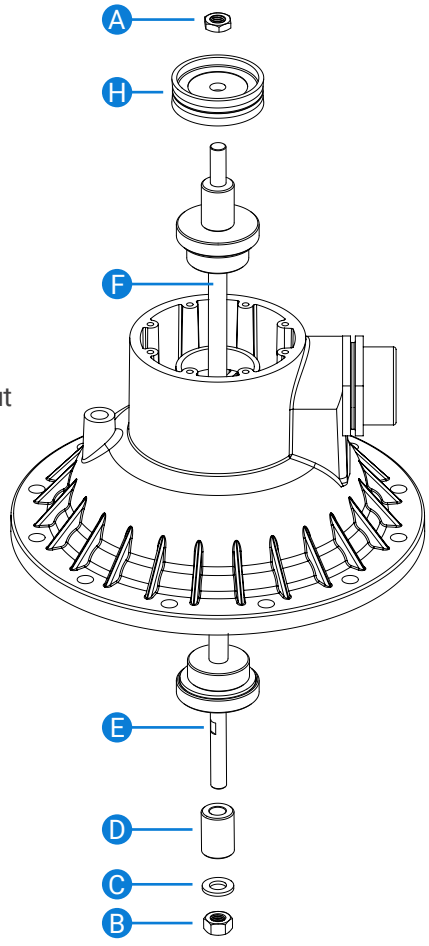
→ Disassembly:

1. Remove 8 screws (A) with a 10mm wrench
2. Remove washers (B)
3. Pull piston cylinder (C)
4. Remove gasket (D)

→ Assembly:

1. Place gasket (D) inside piston cylinder (C)
   (Mind gasket orientation, flat side up)
2. Place piston cylinder (C) on piston cap (E)
3. place washers (B) and hand-tighten screws (A)

Piston Seal Replacement



→ Disassembly:

1. Release nut (A) while holding nut (B) with a 19mm wrenches.
   - If nut (A) is released: Remove the piston seal (H).
   - If nut (B) is released:
     - Remove washers (C) and plastic spacer (D).
     - Under the plastic spacer (D) you will find a recess (E) on the rod (F).
     - Hold this recess (E) to prevent rotation of the rod (F) and release nut (A) with a 19mm wrenches.
     - Do not extract the rod (F) from the piston cover (G).
     - Remove the piston seal (H).
     - Put the plastic spacer (D), washers (C) and nut (B) back in place.

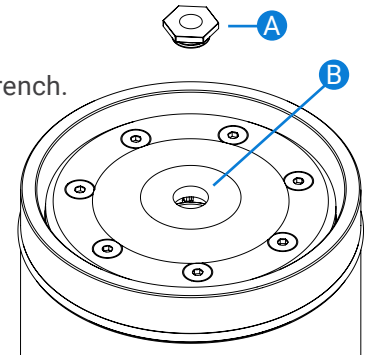
→ Assembly:

1. Place a new piston seal (H).
2. Hold nut (B) to prevent rotation of the rod (F) and tighten nut (A) with a 19mm wrenches.
3. Apply grease to the piston seal (H).

Turbine Brass Bearing Replacement

→ Disassembly:

1. Remove the turbine brass bearing (A) from the turbine set (B) with a 32mm wrench.



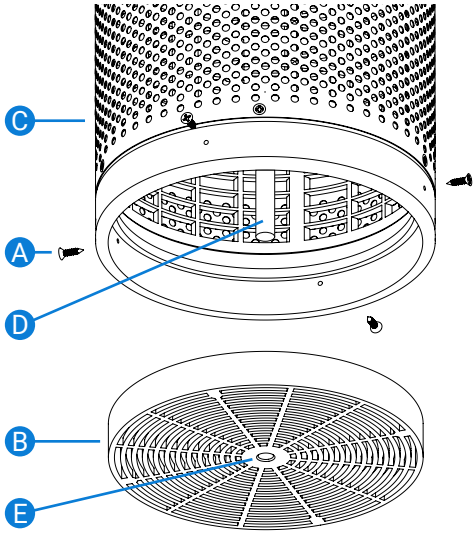
→ Assembly:

1. Place a new turbine brass bearing in its stead. Hand tighten properly.

Coarse Screen with Bearing Replacement

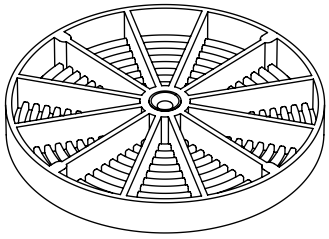
→ Disassembly:

1. Manually unscrew 4 screws (A) with a crosshead screwdriver.
2. Pull the Plastic Coarse Screen with Bearing (B) from the screen assembly (C).



→ Assembly:

1. 1. Insert a new Plastic Coarse Screen with Bearing (B) into the screen assembly (C) Mind correct orientation:



This side facing inside the screen assembly.

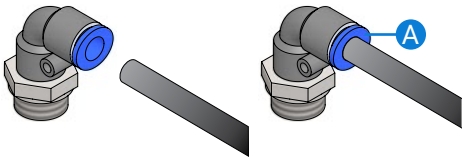
Make sure the Suction Assembly Shaft (D) is aligned and properly inserted into the Bearing (E).

2. Manually rotate the Suction Assembly. It should rotate freely.

Control Tube Fast Connector

→ Connection:

1. Make sure the tip of the tube is cut neatly and straight.
2. Simply insert the tube all the way into the fast connector.
3. Slightly pull the tube back to make sure it is properly inserted.



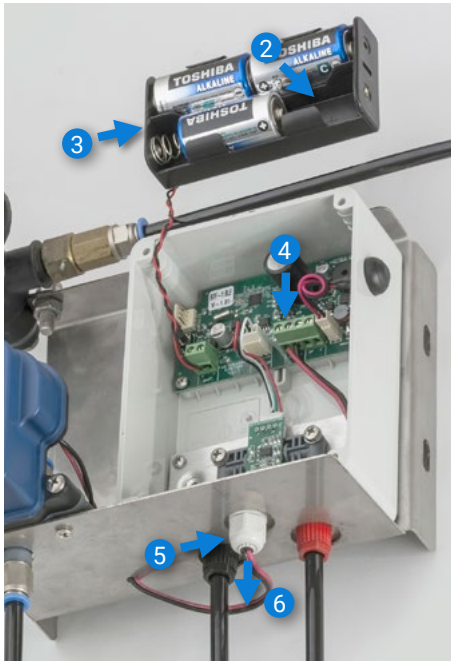
→ Disconnection:

1. Push back and hold the blue locking ring (A) and pull the tube out of the fast connector.

Aquative Solenoid Replacement

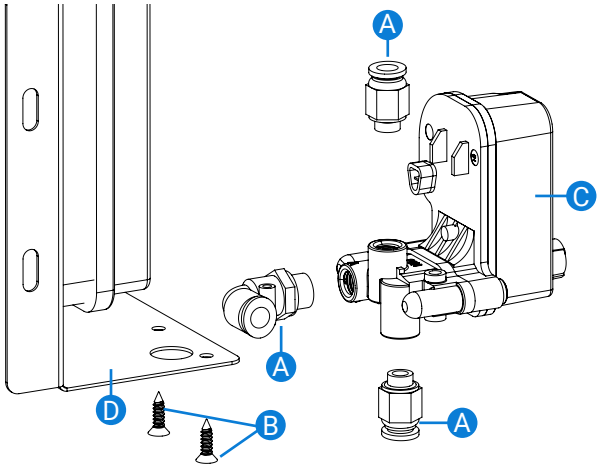
→ Disassembly:

1. Open the flush controller box using a cross-head screwdriver.
2. Extract one battery to deactivate the controller during the procedure.
3. Take the battery compartment out.
4. Disconnect the solenoid wires from the terminal block.
5. Loosen the cable gland nut by hand.
6. Gently pull the solenoid wires through the cable gland.
7. Disconnect the control tubes from the 3 fast connectors (A).
8. Manually unscrew 2 screws (B) with a crosshead screwdriver.
9. Release the Aquative solenoid (C) from the Controller Support Bracket (D).
10. Disconnect the 3 fast connectors (A) from the Aquative solenoid (C) with a 14mm wrench.



→ Assembly:

1. Connect the 3 fast connectors (A) to the new Aquative solenoid (C) with a 14mm wrench.
2. Place the Aquative solenoid (C) on Controller Support Bracket (D) Manually fasten 2 screws (B) with a crosshead screwdriver.
3. Gently thread the solenoid wires through the cable gland.
4. Connect the solenoid wires to the terminal block (mind polarity).
5. Refasten the cable gland nut by hand.
6. Connect the control tubes to the 3 fast connectors (A) (Mind proper location, see control-tube connection scheme, page 12.)
7. Put the battery compartment back in place (make sure that the solenoid wires pass under the battery compartment in a tidy manner).
8. Put the extracted battery back in place to reactivate the controller.
9. Close the flush controller box (mind the alignment of the cover gasket to ensure sealing).

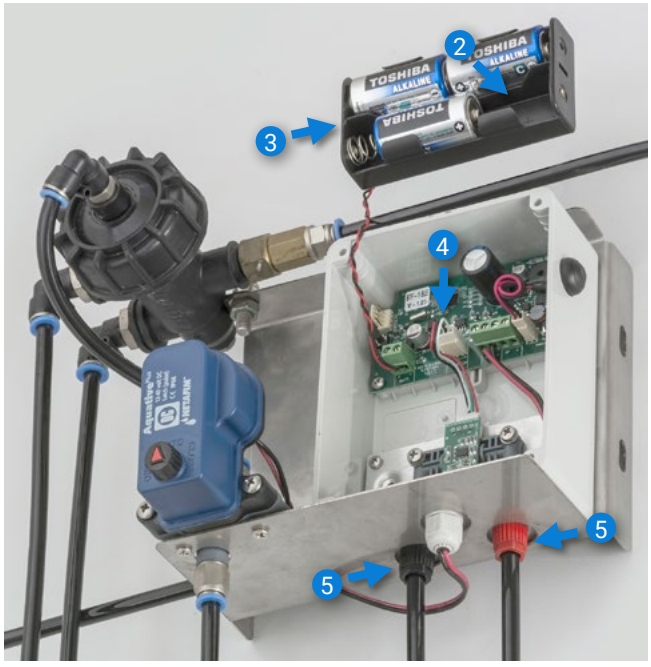


If your SG filter is equipped with the Filtron 1-10 flush controller, see its User Manual enclosed with it.

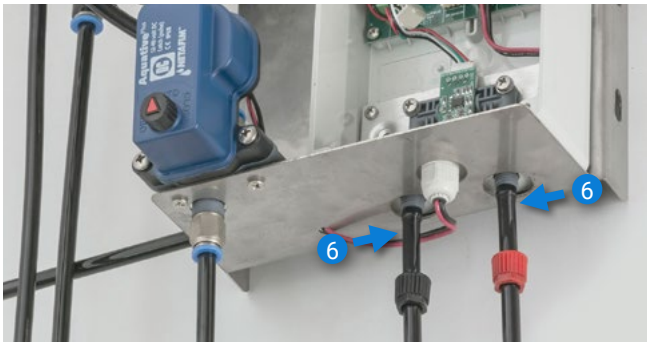
PD Sensor Unit Replacement

1. Open the flush controller box using a cross-head screwdriver.

2. Extract one battery to deactivate the controller during the procedure.
3. Take the battery compartment out to to allow access to the PD sensor unit.
4. Disconnect the PD sensor from the terminal block.
5. Release the 2 control tube nuts by hand.



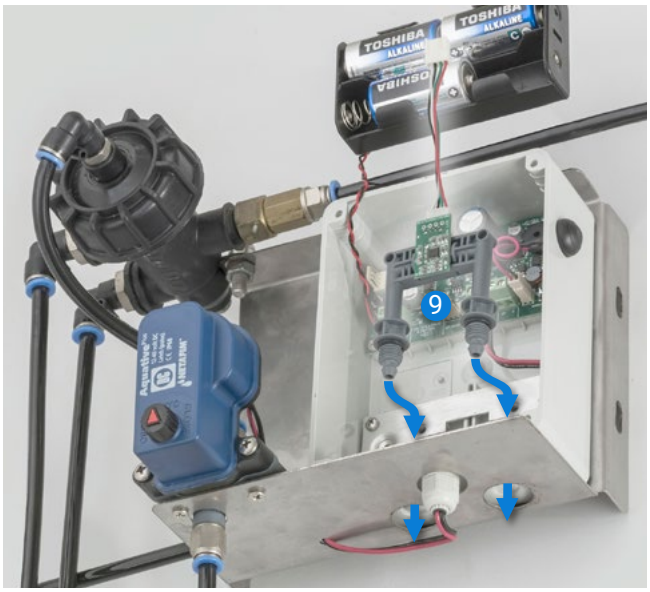
6. Disconnect the 2 control tubes.



7. Release the PD sensor unit 2 screws using a cross-head screwdriver (mind the washers).
8. Remove the PD sensor.

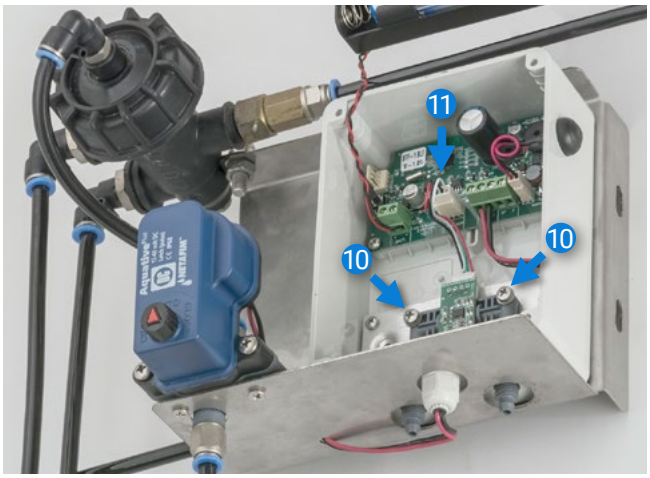
If your SG filter is equipped with the Filtron 1-10 flush controller, see its User Manual enclosed with it.

9 Put the new PD sensor unit in place.

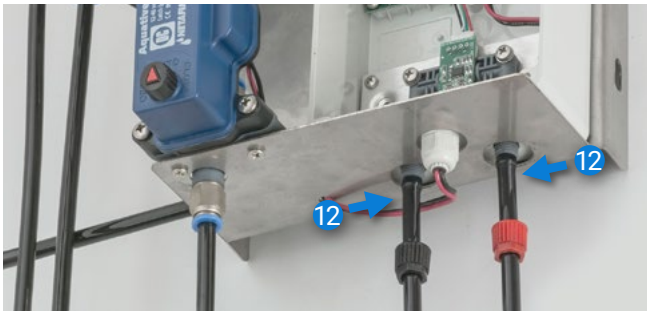


10 Refasten the PD sensor unit 2 screws (mind the washers).

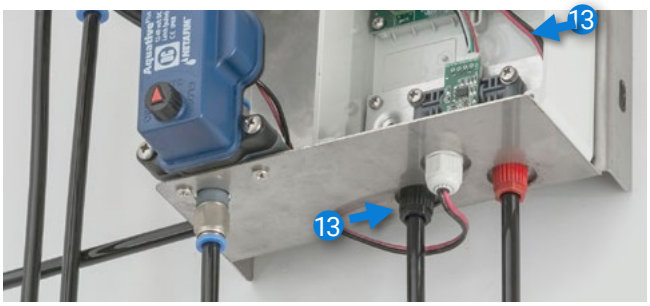
11 Connect the PD sensor to the terminal block.



12 Reconnect the 2 control tubes: Left = low pressure (black nut),Right = high pressure (red nut).

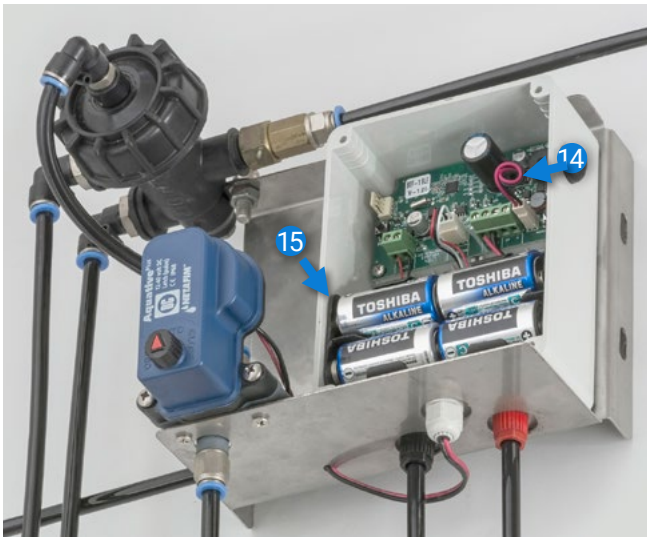


13 Refasten the 2 control tube nuts by hand.



14 Put the battery compartment back in place.

15 Put the extracted battery back in place to reactivate the controller.



16 Close the flush controller box (mind the alignment of the cover gasket to ensure sealing).

Filters

> **NOTE**
> All filter models are available with 100, 130, 200, 300 or 500 micron (150, 115, 80, 50 or 35 mesh) filtration grade. (Other filtration grades are available upon request). All filters with DC controller and DC solenoid.

SG A V 2" 1350 DC

Filtration grade (micron)	Cat. No.	
	BSP	NPT
100 µm	71960-000099	71960-000102
130 µm	71960-000100	71960-000103
200 µm	71960-000101	71960-000104
300 µm	Upon request	Upon request
500 µm	71960-000680	Upon request

SG A V 3" 1350 DC

Filtration grade (micron)	Cat. No.				
	BSP	NPT	ANSI	BSTD	DIN
100 µm	71960-000119	71960-000122	71960-000125	71960-000128	71960-000149
130 µm	71960-000120	71960-000123	71960-000126	71960-000129	71960-000150
200 µm	71960-000121	71960-000124	71960-000127	71960-000130	71960-000151
300 µm	Upon request	Upon request	Upon request	Upon request	Upon request
500 µm	Upon request	Upon request	Upon request	Upon request	71960-000681

SG A V 3" S 2000 DC

Filtration grade (micron)	Cat. No.				
	BSP	NPT	ANSI	BSTD	DIN
100 µm	71960-000169	71960-000172	71960-000175	71960-000199	71960-000219
130 µm	71960-000170	71960-000173	71960-000176	71960-000200	71960-000220
200 µm	71960-000171	71960-000174	71960-000177	71960-000201	71960-000221
300 µm	Upon request	Upon request	Upon request	Upon request	Upon request
500 µm	Upon request	Upon request	Upon request	Upon request	71960-000690

SG A V 4" 2000 DC

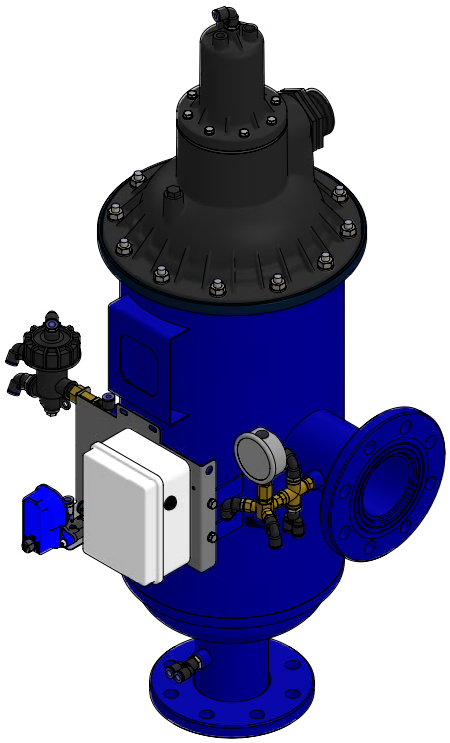
Filtration grade (micron)	Cat. No.		
	ANSI	BSTD	DIN
100 µm	71960-000222	71960-000225	71960-000249
130 µm	71960-000223	71960-000226	71960-000250
200 µm	71960-000224	71960-000227	71960-000251
300 µm	Upon request	Upon request	Upon request
500 µm	Upon request	Upon request	71960-000691

SG A V 4" S 2700 DC

Filtration grade (micron)	Cat. No.		
	ANSI	BSTD	DIN
100 µm	71960-000603	71960-000605	71960-000606
130 µm	71960-000602	71960-000601	71960-000600
200 µm	71960-000604	Upon request	71960-000607
300 µm	Upon request	Upon request	Upon request
500 µm	Upon request	Upon request	Upon request

SG A V 6" 2700 DC

Filtration grade (micron)	Cat. No.		
	ANSI	BSTD	DIN
100 µm	71960-000610	71960-000613	71960-000620
130 µm	71960-000611	71960-000614	71960-000621
200 µm	71960-000612	71960-000279	71960-000622
300 µm	Upon request	Upon request	Upon request
500 µm	Upon request	Upon request	Upon request



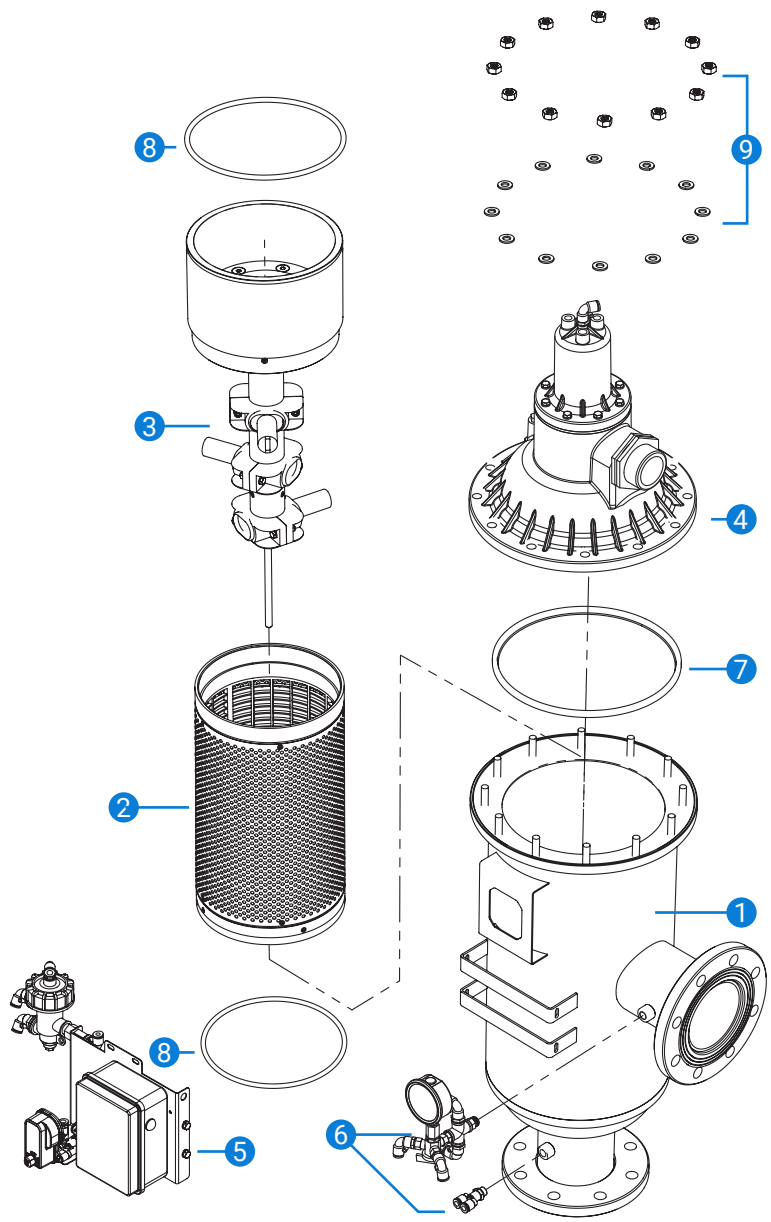
Spare Parts

Main parts and assemblies

Part	Description	Cat. No.	Qty.	See details on page:
1	Metal Body		1	38
2	Screen Assembly kit		1	39
3	Flush Assembly		1	39
4	Piston Cover Assembly		1	41
5	Electronic Controller Assembly		1	42
6	Pressure Gauge Assembly		1	43
7	Cover Gasket	71965-000406	1	44 (Seal Kit)
8	O-ring	71965-000407	2	44 (Seal Kit)
9	10mm SS Washer and Nuts - 12 pcs set	71965-000256	1	44 (Washers and Nuts set)
10	Complete O-ring and gasket kit for SG Filters	71965-000450	1	44 (Seal Kit)

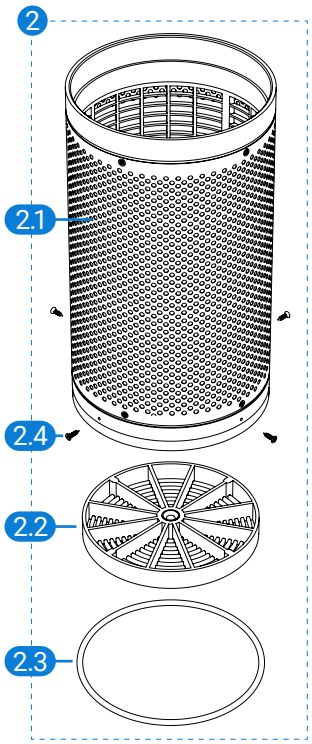
Metal Body

Part 1	Thread type	Cat. No.	Qty.
SGV 2"	BSPT	71965-000100	1
	NPT	71965-000101	1
SGV 3"	BSPT	71965-000102	1
	NPT	71965-000103	1
	DIN	71965-000104	1
	BSTD	71965-000105	1
	ANSI	71965-000106	1
SGV 3"S	BSPT	71965-000107	1
	NPT	71965-000108	1
	DIN	71965-000109	1
	BSTD	71965-000110	1
	ANSI	71965-000111	1
SGV 4"	DIN	71965-000112	1
	BSTD	71965-000113	1
	ANSI	71965-000114	1
SGV 4"S	DIN	71965-000150	1
	BSTD	71965-000151	1
	ANSI	71965-000152	1
SGV 6"	DIN	71965-000140	1
	BSTD	71965-000141	1
	ANSI	71965-000142	1



Screen Assembly

Part	Filtration grade (micron)	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
2	100 µm	71965-000200		71965-000203		71965-000210		1
	130 µm	71965-000201		71965-000204		71965-000211		1
	200 µm	71965-000202		71965-000205		71965-000212		1
	500 µm	71965-000213		71965-000214				1



The Screen Assembly consists of the following parts

Part	Description	Cat. No.	Qty.
2.1	Fine Screen		1
2.2	Plastic Coarse Screen	71965-000265	1
2.3	O-ring (See Seal Kit, page 44)		1
2.4	Countersunk Flat Head Cross Recess Screw		4

Flush Assembly

Part	Description	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
3	Flush Assembly	71965-000250		71965-000262		71965-000249		1

The Flush Assembly consists of the following parts

Part	Description	Qty.
3.1	Turbine Chamber Main Body	1
3.2	O-ring (See Seal Kit, page 44)	1
3.3	Suction Assembly Without Housing (See below)	1

Suction Assembly Without Housing

Part	Description	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
3.3	Suction Assembly Without Housing	71965-00264		71965-00263		71965-000248		1

The Suction Assembly consists of the following parts

Part	Description	Cat. No.	Qty.
3.3.1	Suction Assembly Center Pipe		1
3.3.2	Turbine Chamber Partition		1
3.3.3	Turbine Assembly (See page 40)		1
3.3.4	Nozzle Assembly (See page 40)	71965-000412	2
3.3.5	Center Pipe Top Plug		1
3.3.6	Center Pipe Shaft		1
3.3.7	Center Pipe Shaft Connecting Plastic Bolt		1
3.3.8	Countersunk Flat Head Cross Recess Screw 5x12H A2x70		3
3.3.9	Countersunk Flat Head Cross Recess Screw 4x32H A2x70		3
3.3.10	Countersunk Flat Head Cross Recess Screw 4.2x16H A2x70		6

Turbine Assembly

Part	Description	Cat. No.					Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
3.3.3	Turbine Assembly	71965-000257				71965-000411		1

The Turbine Assembly consists of the following parts

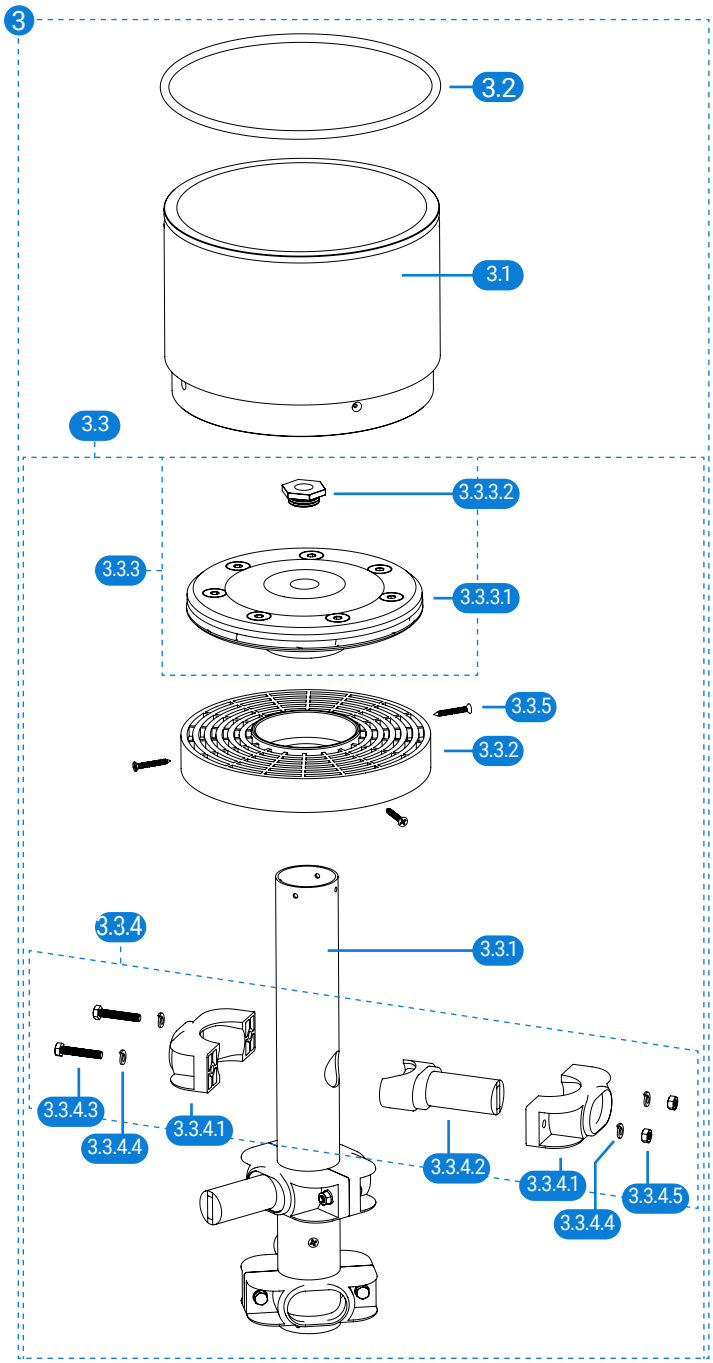
Part	Description	Cat. No.	Qty.
3.3.3.1	Turbine Set		1
3.3.3.2	Turbine Brass Bearing	71965-00266	1

Nozzle Assembly

Part	Description	Cat. No.	Qty.
3.3.4	Nozzle Assembly	71965-000412	1

The Nozzle Assembly consists of the following parts

Part	Description	Qty.
3.3.4.1	Nozzle Clamp	2
3.3.4.2	Nozzle Round	1
3.3.4.3	M6x35 HEX Screw A2x70	2
3.3.4.4	M6 Plain Washer A2x70	4
3.3.4.5	M6 Hex Nut A2x70	2



Piston Cover Assembly

Part	Description	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
4	Piston Cover Assembly	71965-000251				71965-000402		1

The Piston Cover Assembly consists of the following parts

Part	Description		Qty.
	SGV 2", SGV 3", SGV 3"S, SGV 4"	SGV 4"S, SGV 6"	
4.1	Piston Cover		1
4.2	Piston Cylinder		1
4.3	Cylinder Gasket (See Seal Kit, page 44)		1
4.4	Rod Assembly (See below)		1
4.5	Cover Gasket (See Seal Kit, page 44)		1
4.6	M6 Bolts and Washer Kit (See below)		1
4.7	Plug in Metal Connector 90 deg 8mm X 1/8"	Plug in Metal Connector 90 deg 10mm X 1/8"	1
4.8	Plastic Nipple 63x2"		1

Rod Assembly

Part	Description	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
4.4	Rod Assembly	71965-000259				71965-000413		1

The Rod Assembly consists of the following parts

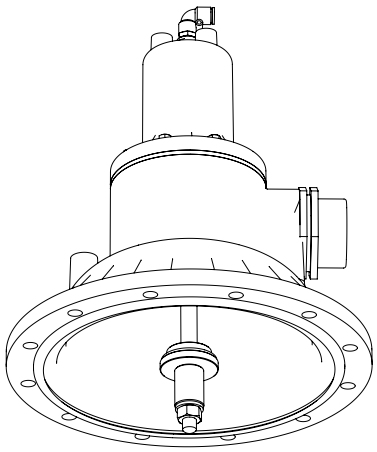
Part	Description	Qty.
4.4.1	Rod	1
4.4.2	Plastic Spacer	2
4.4.3	Seal Disc	2
4.4.4	Brass Disk Seat	2
4.4.5	Plastic Disc	2
4.4.6	Piston Seal	1
4.4.7	M12 Half Hex Nut A2x35	1
4.4.8	M12 Plain Washer A2x70	1
4.4.9	M12 Hex Nut A2x70	1

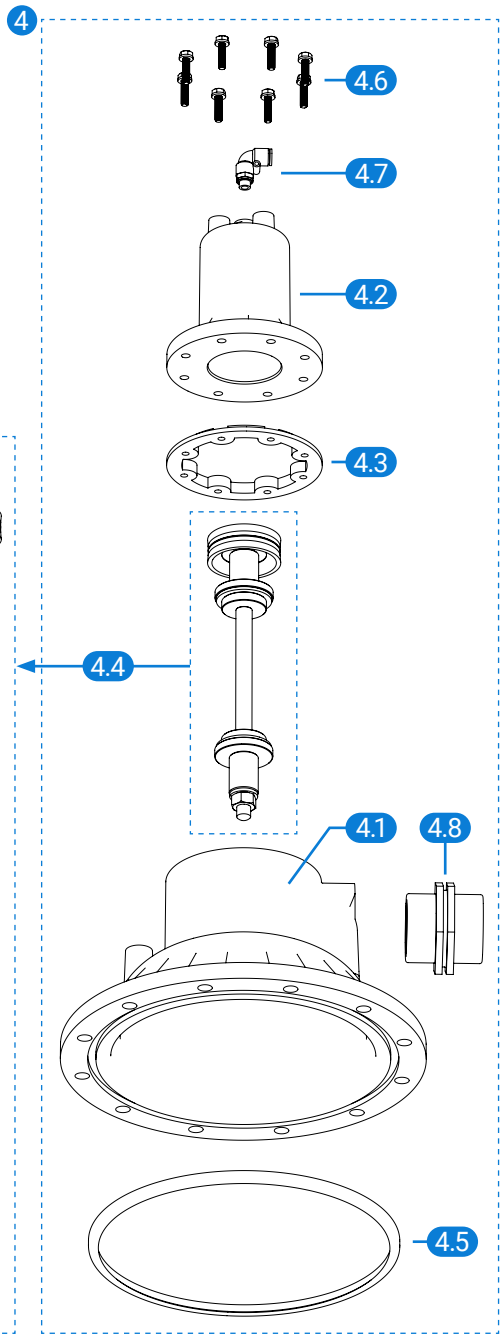
M6 Bolts and Washer Kit

Part	Description	Cat. No.	Qty.
4.6	M6 Bolts and Washer Kit	71965-000260	1

The Bolts and Washer Kit consists of the following parts

Part	Description	Qty.
4.6.1	M6 Plain Washer A2x70	8
4.6.2	M6x25 Hex Screw A2x70	8



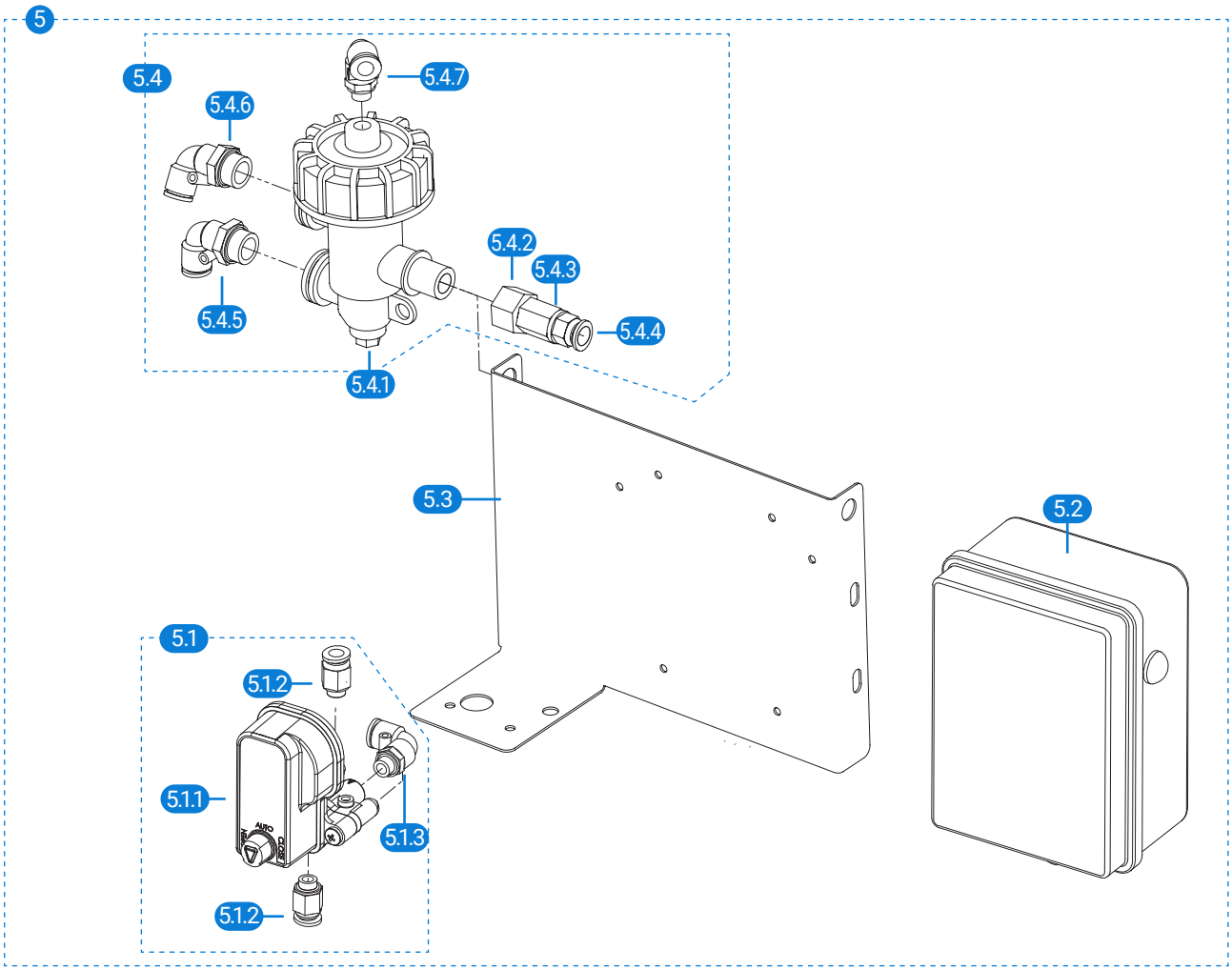


Electronic Controller Assembly

Part	Description	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
5	Electronic Controller Assembly	71965-000520				71965-000510		1

The Electronic Controller Assembly consists of the following parts

Part	Description	Cat. No.	Qty.
5.1	Aquative DC Assembly (See page 43)	71965-000261	1
5.2	Electronic Controller Box SG Plus	74310-000006	1
5.3	Controller Support Bracket SS		1
5.4	Hydraulic Relay Assembly (See page 43)		1



Aquative DC Assembly

Part	Description	Cat. No.	Qty.
5.1	Aquative DC Assembly	71965-000261	1 set

The Aquative DC Assembly consists of the following parts

Part	Description	Cat. No.	Qty.
5.1.1	Aquative DC	35500-001900	1
5.1.2	Plug in Metal Connector 8mm X 1/8"		2
5.1.3	Plug in Metal Connector 90 deg 8mm X 1/8"		1

Hydraulic Relay Assembly

Part	Description	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
5.4	Hydraulic Relay Assembly	71965-000530				71965-000414		1

The Hydraulic Relay Assembly consists of the following parts

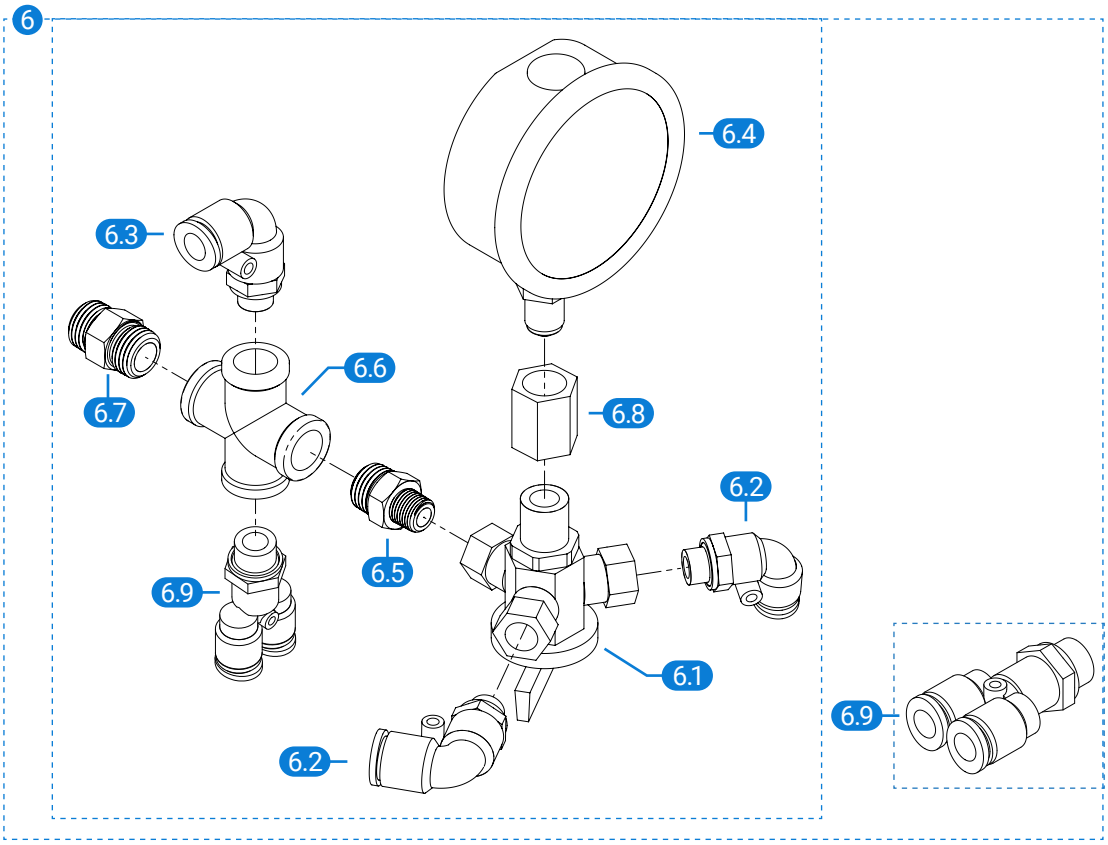
Part	Description		Cat. No.	Qty.
	SGV 2", SGV 3", SGV 3"S, SGV 4"	SGV 4"S, SGV 6"		
5.4.1	SG Hydraulic Relay		71680-000800	1
5.4.2	Brass Connector Adaptor 3/8" X 1/4" D-E			1
5.4.3	Brass Connector 1/4" X 1/4" F-F			1
5.4.4	Plug in Plastic Connector 8mm X 1/4"	Plug in Plastic Connector 10mm X 1/4"		1
5.4.5	Plug in Plastic Connector 90 deg 6mm X 3/8"	Plug in Plastic Connector 90 deg 10mm X 3/8"		1
5.4.6	Plug in Plastic Connector 90 deg 6mm X 3/8"			1
5.4.7	Plug in Metal Connector 90 deg 8mm X 1/8"			1

Pressure Gauge Assembly

Part	Description	Cat. No.						Qty.
		SGV 2"	SGV 3"	SGV 3"S	SGV 4"	SGV 4"S	SGV 6"	
6	Pressure Gauge Assembly	71965-000531				71965-000405		1

The Pressure Gauge Assembly consists of the following parts

Part	Description		Cat. No.	Qty.
	SGV 2", SGV 3", SGV 3"S, SGV 4"	SGV 4"S, SGV 6"		
6.1	Three Way Valve 3 x 1/8"			1
6.2	Plug in Plastic Connector 90 deg 8mm X 1/8"			2
6.3	Plug in Plastic Connector 90 deg 6mm X 1/4"	Plug in Plastic Connector 90 deg 10mm X 1/4"		1
6.4	Pressure Gauge 10Bar 1/4" BSP		77456-000153	1
6.5	Brass Connector Adaptor 1/4" X 1/8" M-M			1
6.6	Brass Connector Cross 1/4"			1
6.7	Brass Connector 1/4" X 1/4" M-M			1
6.8	Brass Connector 1/4" X 1/4" F-F			1
6.9	Plug in Plastic Double Connector 8mm X 1/4"			1



Washers and Nuts set

Part	Description	Cat. No.	Qty.
9	10mm SS Washer and Nuts, 12 pcs	71965-000256	1

The Washers and Nuts set consists of the following parts

Part	Description	Qty.
9.1	M10 Plain Washer A2x70	12
9.2	M10 Hex Nut A2x70	12

O-ring and gasket kit

Part	Description	Cat. No.	Qty.
10	O-ring and gasket kit for SG filters	71965-000450	1

Seal Kit

Part	Description	Cat. No.	Qty.
11	Seal kit for SGV Filters Rod	71965-000023	1

The Kit consists of the following parts

Part	Description	Qty.
5.3	Cylinder Gasket	1
7	Cover Gasket	2
8	O-ring	2

The Kit consists of the following parts

Part	Description	Qty.
4.4.3	Seal Disc	2
4.4.6	Piston Seal	1

Warranty

Netafim™ warrants the ScreenGuard™ screen filter metal body to be free of corrosion, defects in material and workmanship for 5 (five) years from the date of installation.

Netafim™ warrants the ScreenGuard™ screen filter Piston Assembly and Cover in case of fracture under normal conditions of use, and to be free of defects in material and workmanship and for 5 (five) years from the date of installation.

Netafim™ warrants the ScreenGuard™ screen filter bearings, O-rings and seals for 2 (two) years from the date of installation, under normal conditions of use.

Netafim™ warrants the ScreenGuard™ screen filter consumable components, the SG! controller and the Aquative solenoid for 1 (one) years from the date of installation.

If a defect is discovered during the applicable warranty period, Netafim™ will repair or replace, at its discretion, the product or the defective part.

This warranty does not extend to repairs, adjustments or replacements of a Netafim™ screen filter system or part that results from reasonable wear and tear, misuse, negligence, alteration, force majeure, lightning, power surge, improper installation or improper maintenance.

If a defect arises in your Netafim™ product during the warranty period, contact your local Netafim™ representative.

Limited warranty

This warranty is subject to the conditions in Netafim's official warranty statement.
(For the full text of Netafim's official warranty statement, please contact your local Netafim™ representative).

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