

Aqua Exclusive™

Green Line RDF 30 OWNER'S MANUAL



Version: 2023.2

YOUR OWNER'S MANUAL

For the latest and most accurate information about your filter you can find the owner's manual online. To download or view this manual, please go to <https://www.aqua-exclusive.com/manuals>.

To ensure that your new filter functions properly and safely, we advise you to read this manual thoroughly before usage.

ILLUSTRATIONS AND PRODUCT SPECIFICATIONS

The illustrations provided in this document are for demonstration purposes only. All specifications and descriptions contained in this document are verified to be accurate at the time of printing. However, because continuous improvement is a goal at Aqua Exclusive™, we reserve the right to make product modifications at any time. To communicate any inaccuracies or omissions in this document, please send an email to: support@aqua-exclusive.com.

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Aqua Exclusive™ Overview

1.1 What is the Green Line RDF 30?

The Aqua Exclusive Green Line RDF 30 is a professional and automatic pre-filter system. It is a mechanical filter and this is the first step in the filtering process. The task is to remove faeces and other particles from the water before they break down in ammonia or nitrite. Smaller particles are harder to capture and result in adverse water quality conditions. Organic loading increases bacterial growth, reduces the biological filter performance and decreases water quality. The Green Line RDF 30 removes these faeces and particles from the water and discharges them to the sewer. The filter works fully automatically and is suitable for many applications.

1.2 How does the Green Line RDF 30 work?

The Aqua Exclusive Green Line RDF 30 has three inlets and two outlets. Water flows through the inlets into the filter. Then the water is filtered through the periphery of the drum and particles are carefully separated from the water through the special cell structure of the filter panel. As solids build up on the filter panel, the automatic system starts rotating the drum and initiates the cleaning process. Solids are gently rinsed off the filter panel with the special stainless steel nozzles and collected in the drain gutter and discharged. These nozzles are fed by a stainless steel high pressure pump that is built inside the filter. The filtration continues on the clean filter panel during the rinse process, this allowing a continuous filtration process. This cycle is repeated as often as necessary and fully automatic! Our unique design of the filter panels prevents fragmentation through careful handling of the solids. This high filtration efficiency is essential in optimizing water quality parameters.

1.3 Aqua Exclusive™ Green Line

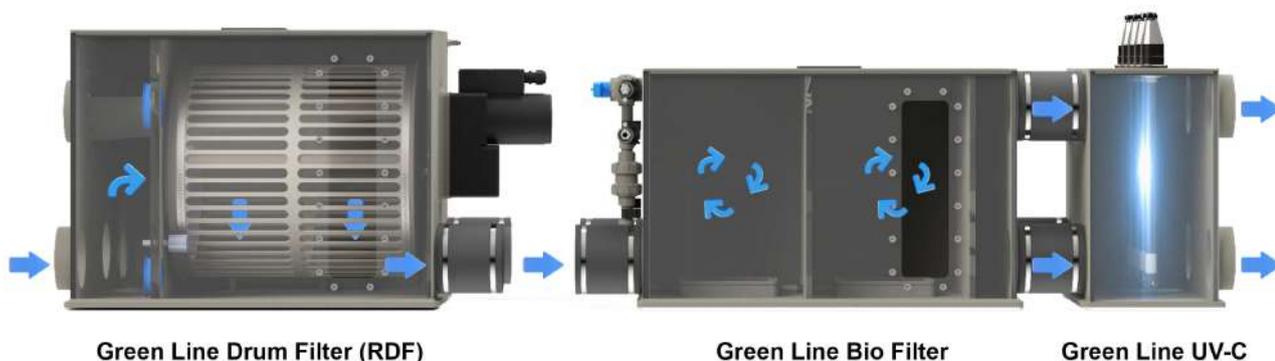


Figure 1: Green Line overview

1.4 What is included

- Aqua Exclusive™ Green Line RDF 30
- Drum filter control box
- Rinse pump box
- 24 months manufacturer's warranty
- Lifetime customer support

The filter is delivered ready to use in a special wooden pallet box. You don't have to assemble the filter, what makes it easy to install.

1.5 Filter overview

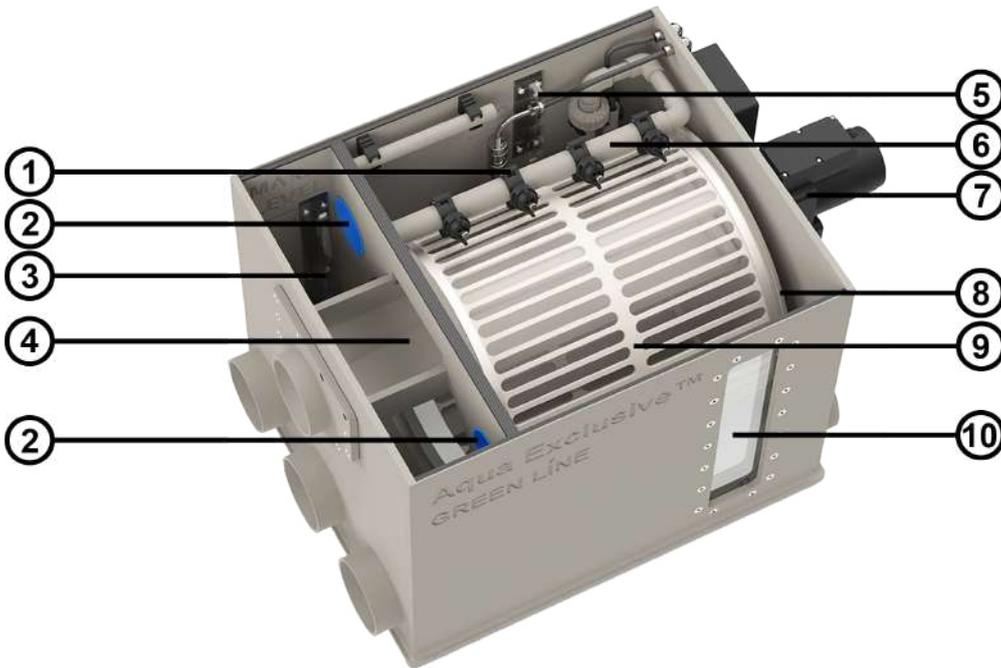


Figure 2: Green Line RDF overview

- | | |
|---|-----------------|
| 1. Stainless steel 316L nozzle + holder | 6. Spray bar |
| 2. By-pass system | 7. Drum motor |
| 3. Water level sensor holder 1 | 8. Drum |
| 4. Drain gutter | 9. Filter panel |
| 5. Water level sensor holder 2 | 10. Sight glass |

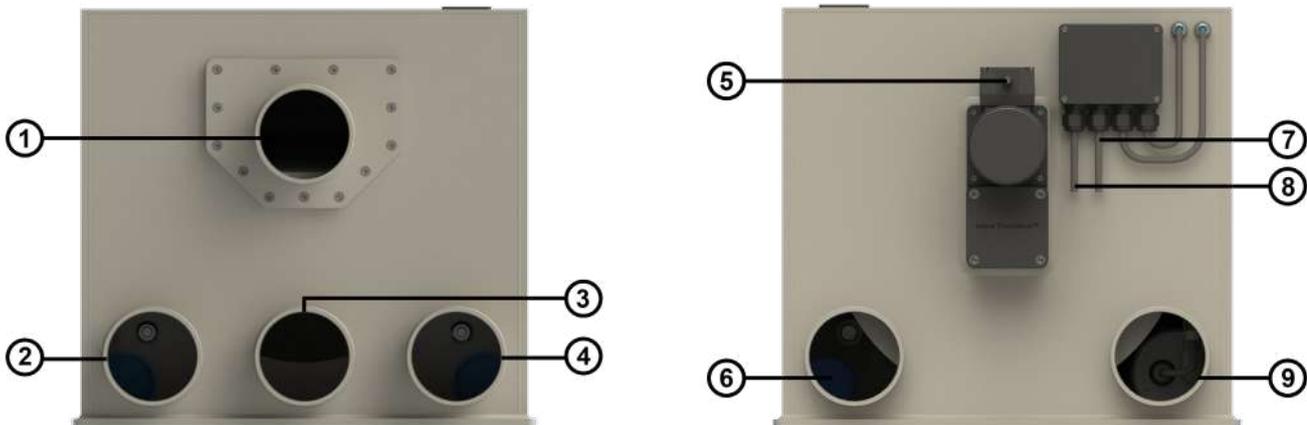


Figure 3: Green Line RDF front and back view

- | | |
|----------------------------|-----------------------------|
| 1. Drain outlet 4" (110mm) | 6. Outlet 4" (110mm) |
| 2. Inlet 4" (110mm) | 7. Rinse pump cable |
| 3. Inlet 4" (110mm) | 8. Water level sensor cable |
| 4. Inlet 4" (110mm) | 9. Outlet 4" (110mm) |
| 5. Drum Motor Cable | |

Aqua Exclusive™ Specifications

1.6 Specifications

Specifications	
Model:	Green Line RDF 30
Brand:	Aqua Exclusive™
Product number:	300101 (110v), 300102 (220v)
Model Year:	2023
Type of filtering:	Mechanical filtration
Type of filter:	Rotary drum filter
Water volume:	Up to 60.000 Liters (16000 Gallon)
Minimum water flow:	No minimum flow required
Maximum water flow:	30.000 LPH (8000 GPH)
Installation:	Gravity / Airlift / Pump fed setup
Filter weight:	35kg (77 lbs)
Inlet pipes:	3x 110mm (4" inch)
Outlet pipes:	2x 110mm (4" inch)
Drain pipe:	1x 110mm (4" inch)
Materials:	Stainless steel 316L, Polypropylene, ABS, SBR, PMMA
Voltage:	2 options: 110v and 220v
Power consumption 24/7:	7 watts
Power consumption during rinse process:	435 watts
Duration rinse process:	12 seconds
Water consumption rinse process:	3 Liters
Filter panel:	Standard 70 micron (Optional: 24 up to 300 micron)
Suitable for:	Aquaculture, Aquaponics systems, Hydroponics systems, Fish farms, (koi) ponds, (Large) aquariums, Natural swimming pools and more!
Dimensions (Length x width x height):	850 x 520 x 475 mm (33.5" x 20.5" x 18.7")
Manufacturer:	Aqua Exclusive B.V.
Country of origin:	Netherlands

2. Safety information

This system may cause bodily harm or damage to property if you do not use it properly and in accordance with all safety guidelines, or if you attempt to use it for any purpose other than that for which it was designed. This system must never be operated by children or anyone under the age of 16, or by anyone who has a physical, mental or sensory impairment or lack of experience and knowledge, unless they are under supervision and have been instructed on the safe usage of the system and are informed of the dangers associated with it. Children must be made aware that this system is not a toy. Cleaning and maintenance must be performed by an adult. This must never be performed by a child, even if they are under supervision.

- The device may only be connected to an electrical installation that meets the legal standards. A residual-current device (30 mA) and earthed wall socket are required. If in doubt, consult a qualified installer.
- Before commissioning, check the entire device, mains lead and plug for damage. If damage is found, the device may not be used. Contact our support team about the damage.
- Keep the power plug free from moisture. Prevent water from running along the power lead into the socket.
- When opening the lid/maintenance cover, the power to the device/control box must always be switched off.
- We advise to install the filter in a dry, sheltered place. Not in direct sunlight. The filter can be placed outside, but this shortens the lifespan of the filter.
- Not suitable for salt water.
- The device is suitable for fresh water and water temperatures between +4 to +35 °C.
- Outside this temperature range, the filter material may lose its strength and can break.
- The device may only be switched on when there is sufficient water flow.
- Connect the system only to a power outlet that has been installed according to industry standards and does not contain a dimmer.
- For your own safety, always consult a professional electrician in case of any problems.

If you have any questions or concerns about your filter, you can email support@aqua-exclusive.com or open the live chat at www.aqua-exclusive.com. Our support team is 24/7 available to help you.

Aqua Exclusive™ Installation

3. Suitable for many applications

The Green Line RDF 30 is a part of the Aqua Exclusive Green Line.

With the launch of the Aqua Exclusive™ Green Line, we bring a professional and complete automatic filter line to the market. A very efficient and compact filter line with the latest techniques in the field of water purification. This premium filter line offers exceptional performance with very low energy consumption.

The Aqua Exclusive Green Line filter is suitable for many applications because you can compose your own filter setup. The different filter parts can be ordered separately so you can make it suitable for the following applications:

- **Aquaculture**
- **Fish Farms**
- **Koi Ponds**
- **Natural ponds**
- **Natural swimming ponds**
- **Aquaponics systems**
- **Hydroponics systems**
- **Aquariums**
- **And more...**



4. Filter installation

In this manual we show you how to install the Green Line RDF 30 on a pond, but the filter is suitable for almost all freshwater applications. If you plan to install this system in a way that deviates significantly from the recommendations in this user manual, allow for a specialist to inspect the installation to ensure that all technical specifications have been met.

The filter must always be placed in a level position. The bottom of the filter must be completely supported. When positioning the filter, ensure that there is adequate space on all sides so that you have room to perform maintenance.

The drain gutter can be connected to a sewage connection with a 110mm (4" inch) diameter. Make sure that the drain gutter is positioned at an adequate incline. It is recommended to install a pipe with a flexible rubber coupling. These can compensate for small differences in dimensions and also absorb vibration. They can also be detached to remove the drain gutter.

To maintain a constant water level, you can install an automatic filling station with overflow function for your pond.

Always use high-quality pipes with an adequate wall thickness. Lay the pipes at a downward angle so that they can be fully emptied during the winter to protect them against frost.

Always use suitable transport and lifting equipment when transporting and assembling this system.

Aqua Exclusive™ Installation

5. Pump Fed or Gravity setup?

Before you start with the installation you need to know how you want to install your filter. The Green Line RDF 30 can be used for both, gravity and pump fed setup.

6. Pump Fed setup

In a pump fed setup, a pump moves the water from the pond the filter. The water flows through the filter and must be able to flow freely back into the pond. These filters are therefore always placed above water level, otherwise the filter will overflow.

6.1 Advantage pump fed setup

The advantage of a pump fed setup is that the filter is quick and easy to install. The disadvantage is that you use more power than with a gravity setup.

6.2 Example pump fed setup

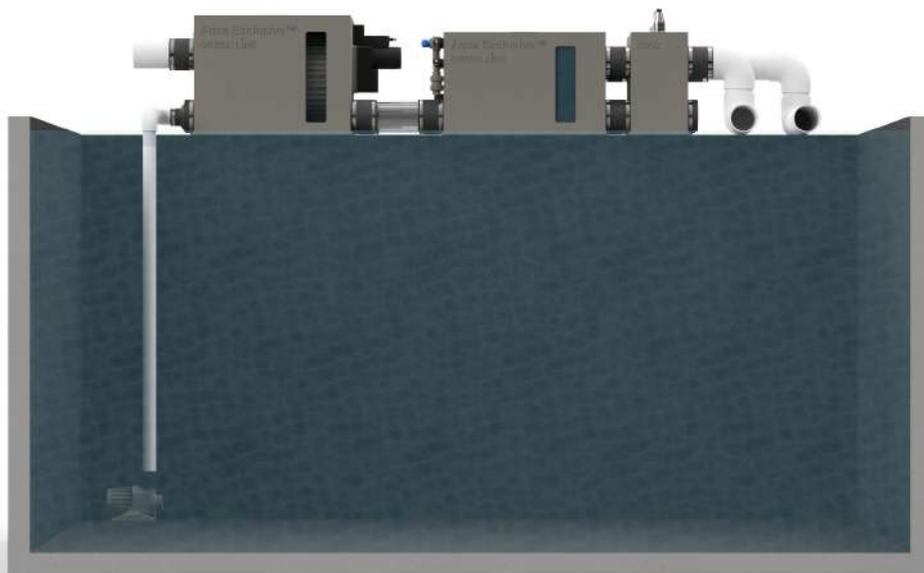


Figure 4: Pump fed setup overview

7. Gravity setup

A gravity fed filter works in the opposite way to a pump fed filter system, with the pump drawing water away from the filter either via a suction hose, or been situated in the filter's final chamber. Because gravity will always keep the water levels equal, pond water is replaced in the filter via the bottom drain when the pump pulls water from the filter. Gravity fed systems are generally more efficient when compared to pump fed systems; bottom drains require very little maintenance and are able to remove all pond waste, whereas pump cages can become blocked over time. The pump in this system is pumping clean, filtered water and therefore does not need as much maintenance. With a gravity setup there are also no cables or hoses coming from the pond which can look unsightly and may trap debris in the pond. On top of that, water entering the filter isn't as turbulent as in a pump fed system.

7.1 Advantage gravity setup

The big advantage of a gravity setup compared to a pump fed setup is that you need less power to run the same amount of water through the filter. The disadvantage is that it takes more time to install everything.

7.2 Example gravity setup

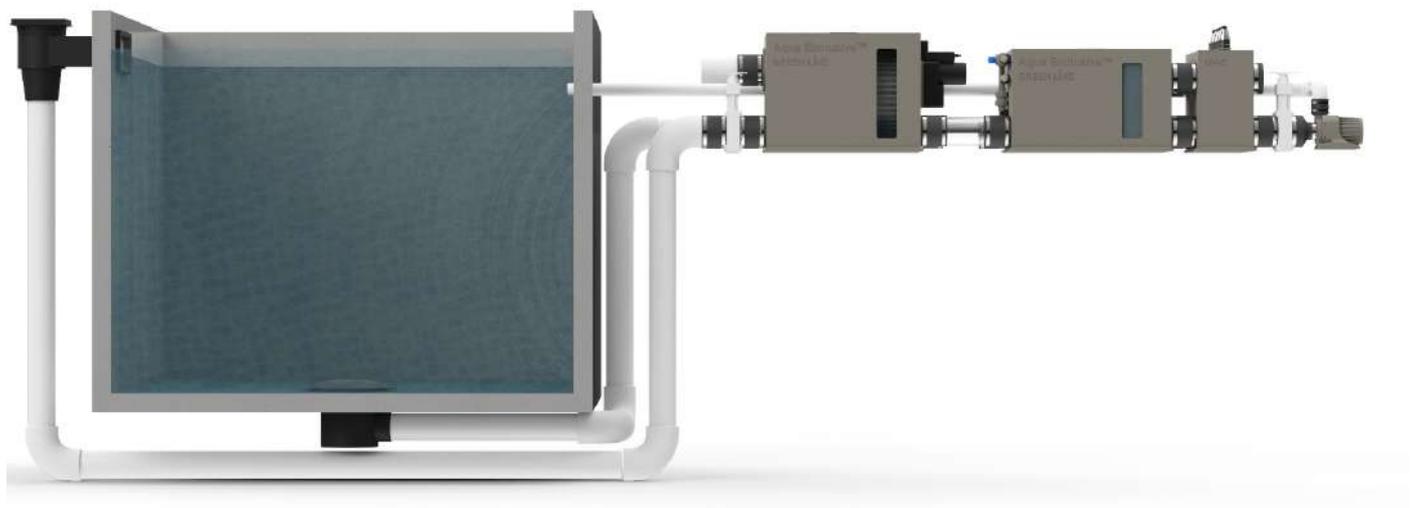


Figure 5: Gravity setup overview

Aqua Exclusive™ Installation

8. Water level

It is important to maintain the correct water level for an optimal operation of the filter system. A lower water level will not make the system work properly and higher water levels can cause leaks.



—Max. water level line

8.1 Water level gravity setup:

- Min. water level: 320mm from the bottom (20mm below the max. level line)
- Max. water level: 340mm from the bottom (max. level line)

8.2 Water level pump fed setup:

- Min. water level: 120mm from the bottom (220mm below the max. level line)
- Max. water level: 340mm from the bottom (max. level line)

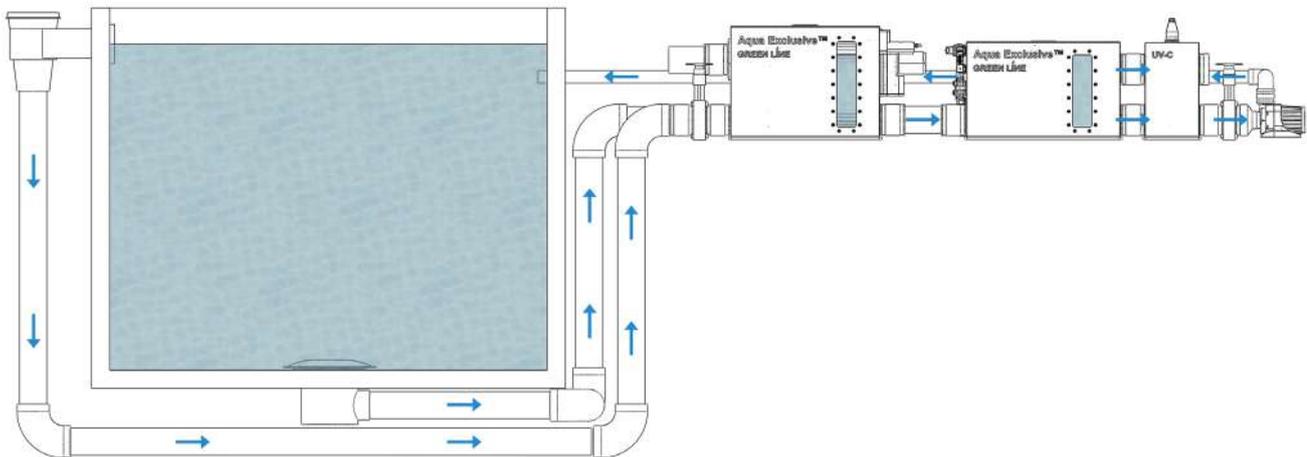


Figure 6: Water level gravity setup

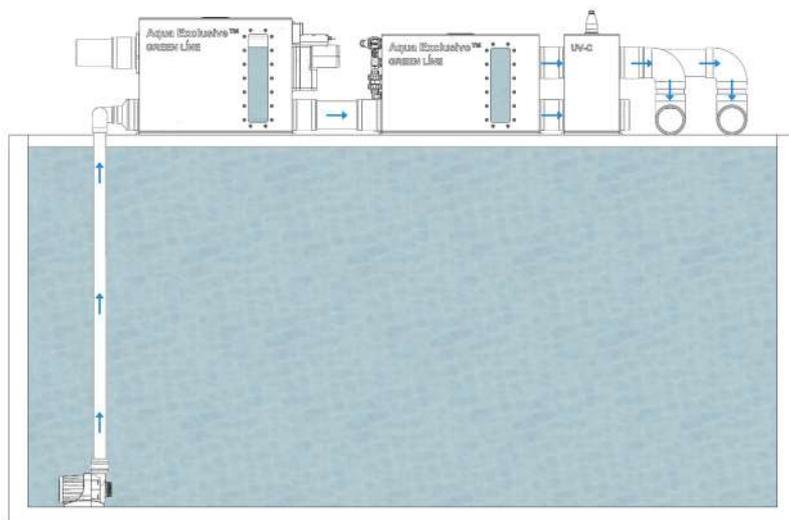


Figure 7: Water level pump fed setup

9. Flexible couplings

It is recommended to use flexible rubber couplings when connecting the water lines. These can compensate for small differences in dimensions and also absorb vibration. This allows you to connect the pvc pipes and various filter parts and makes the installation easy.



Reducer connector

Straight connector

End cap

Figure 8: Flexible rubber couplings

10. Slide Valve

For a gravity setup we advise to install slide valves or ball valves in front of and behind the filter, so that the filter can be emptied during maintenance.



Figure 9: Green Line RDF, BIO and UV-C

Aqua Exclusive™ Water Level Sensor

11. Water level sensor

The stainless steel 316L water level sensor measures the water level and sends a signal to the control box when the drum with filter panel needs to be cleaned. The location of the sensor depends on whether you have a pump fed setup or a gravity setup, see figure 10. The special PMMA holder makes it easy to manually adjust the height of the sensor.

11.1 How to set water level sensor pump fed setup

For a pump fed setup the water level sensor should be installed above water level and upwards on holder number 1.

With a pump fed setup you pump water to the filter. As the filter panel gets dirtier, the water level will slowly rise in the first chamber because less water can flow through the filter.

When the water pushes the bottom float up, the rinse process will be activated and the water will immediately drop. If something is wrong and the water continues to rise, the water will push the top float up. This will activate the built-in safety and shuts the system off to prevent any damage.

11.2 How to set water level sensor gravity setup

For a gravity setup the water level sensor should be installed under water and downwards on holder number 2.

With a gravity setup you pump water from the filter back to the pond/tank. As the filter gets dirtier, the water level will slowly drop in the second chamber because less water can flow through the filter.

When the water drops the top float will move downwards, and the rinse process will be activated. If something is wrong and the water continues to drop, the bottom float will also move downwards. This will activate the built-in safety and shuts the system off to prevent any damage.



Figure 10: Water level sensors.

12. Built-in safety

The filter is equipped with a built-in safety. This shuts the system down when there are problems and prevents any damage.

12.1 Safety with pump fed setup

With the pump fed setup, the safety ensures that the filter can never overflow. If too much water is pumped into the filter or the filter has problems, the system will switch everything off. When the water level drops, everything will turn on again. Provided everything is connected to the drum filter control box.

12.2 Safety with gravity setup

Dry run protection. With a gravity setup, the safety works different then with a pump fed setup. With a gravity setup, you pump water out of your filter and the filter can run dry. When the water level drops to far, the filter will switch off everything. When the water level rises again, the system will turn everything on again. Provided everything is connected to the drum filter control box.

13. Pond/circulation pump

The filter can handle up to 30.000 liters per hour (8000GPH) under optimal conditions. We don't advise to connect a larger pump to the filter, but a smaller pump won't be a problem of course. The multiple inputs and outputs make it easy to connect 2 or 3 small pumps as well.

13.1 Built in pump protection

By means of the supplied connector it is possible to connect your own pump to the control box. This means your pump is protected against dry running of the filter due to the built-in safety in the filter.

Aqua Exclusive™ Controlbox

14. Cleaning process

The filter cleans itself fully automatically when the filter panel is saturated with dirt. The drum will start to rotate and the special nozzles will spray the filter panel on the drum clean. The dirty water gets washed away through the drain gutter.

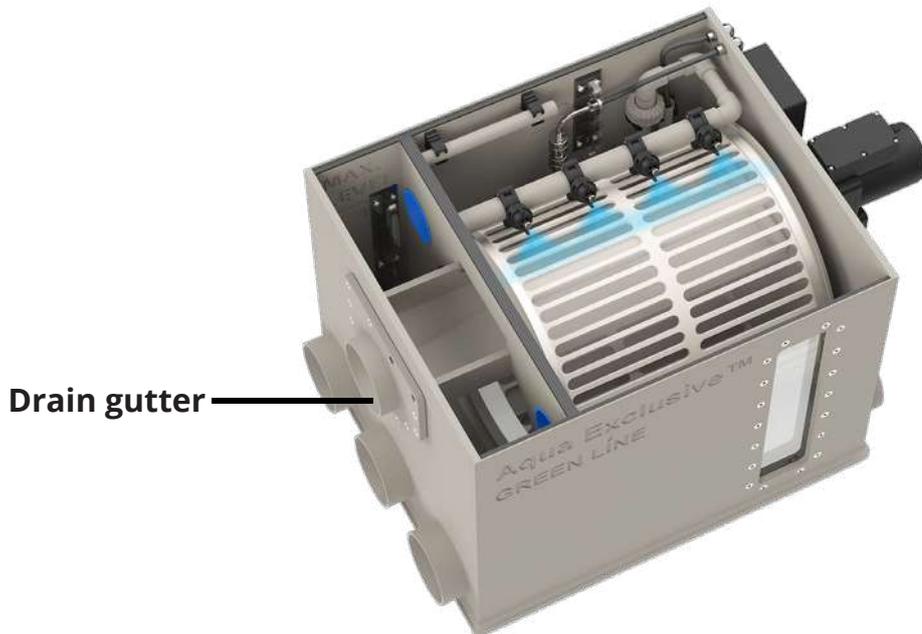


Figure 11: Cleaning process

14.1 Built-in rinse pump

The filter is equipped with our special stainless steel high pressure pump that supplies the spray nozzles with the right amount of water and pressure. The pump is located at the bottom of the filter on the clean water side.

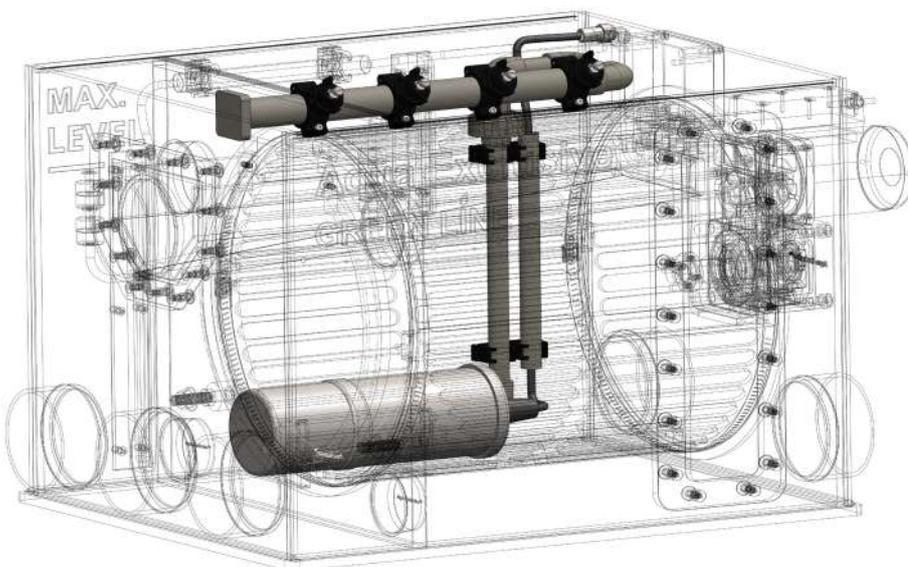


Figure 12: Built-in rinse pump

14.2 Spray nozzles

Our high-quality stainless steel 316L nozzles are made with the utmost precision and provide a special water jet for optimal cleaning of the filter panel. With our new designed quick release system you can easily clean the nozzles when necessary.

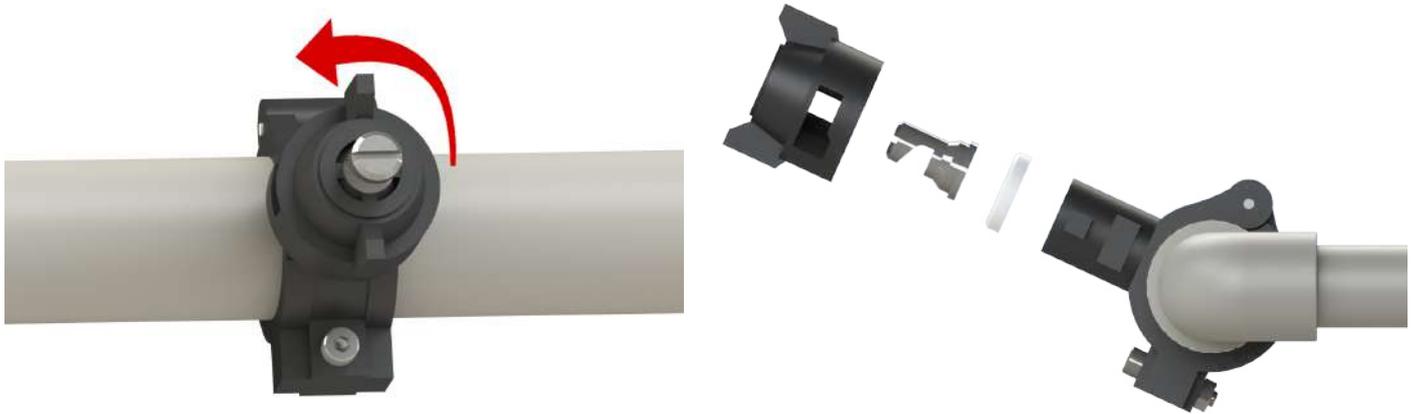


Figure 13: Quick release nozzle system

15. Electronic enclosures



Figure 14: Electronic enclosures

Aqua Exclusive™ Controlbox

15.1 How to install the rinse pump box

Mount the rinse pump box on a wall. The rinse pump cable coming out of the black box on the back of the filter must be connected to the rinse pump box. The main supply cable of the rinse pump box must be connected to the drum filter control box.



Figure 15: Rinse pump box

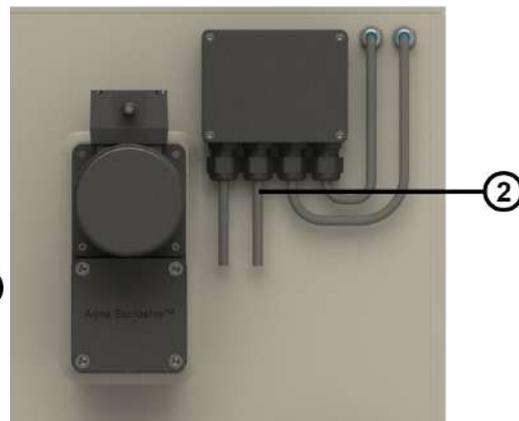


Figure 16: Rinse pump box overview

1. Main Supply Cable

2. Rinse Pump Cable

15.2 How to install the drum filter control box

Mount the drum filter control box on a wall and connect all cables to the correct connectors on the bottom of the control box. For details see figure 18.



Figure 17: Drum filter control box



Figure 18: Drum filter control box overview

- | | | | |
|----|--------------------------|----|------------------------|
| 1. | Fuse 2 | 6. | On/off Switch |
| 2. | Fuse 1 | 7. | Circulation Pump Cable |
| 3. | Main Supply Cable | 8. | Rinse Pump Cable |
| 4. | Water Level Sensor Cable | 9. | Drum Motor Cable |
| 5. | UV-C System Cable | | |

Aqua Exclusive™ Maintenance

16. Filling up the system

- Step 1: Open the valves on the inlet and the outlet if present, in order to fill the filter system with water.
- Step 2: Let the filter fill until the correct water level has been reached.
- Step 3: Check the water level in the housing.
- Step 4: Check all pipes, hoses and connections for leaks.
- Step 5: Insert the main supply cable of the control box in a socket and switch on the system by toggling the ON/OFF switch (figure 18).
- Step 6: Hold the manual rinse button (figure 17) for ten seconds to activate the motor and high pressure pump.
- Step 7: The system is now ready and will rinse automatically.

Please note: Immediately after the filter is installed/used, the rinse cycle may be very short and will increase in length as the contamination/floating debris decreases.

17. Maintenance

We advice to check your filter system at least once a month. During maintenance the power supply must be disconnected.

17.1. Bypass activation

During maintenance or when there is a problem, the drum can be short-circuited by means of the bypass.

Activation of the bypass:

- Step 1: Press the buttons from the drum motor and rinse pump (see figure 17) so they are OFF. Led on is ON, led off is OFF.
- Step 2: Remove the blue caps from the partition wall, now the bypass is activated.

17.2 Replacing filter panel

Once you have established that the filter panel is showing wear, it is important that you replace it with a new filter panel as soon as possible. This will ensure the continued optimal performance of the filter. Follow the steps below to replace the filter panel, this takes 5-10 minutes. Take your time and work carefully.

- Step 1: Press the buttons from the UV-C system, circulation pump and rinse pump so they are OFF. Led on is ON, led off is OFF.
- Step 2: Hold the manual rinse button so the drum rotates, stop when the strip with 5 screws is on top.
- Step 3: Switch off the control box by toggling the ON/OFF switch.
- Step 4: Unscrew the 5 screws and loosen the two filter panel clamps.
- Step 5: Remove the filter panel carefully and replace it with a new one.
- Step 6: Tighten the panel clamps and fastening the strip again. Check if the assembly is attached correctly.
- Step 7: Switch on the control box by toggling the ON/OFF switch.
- Step 8: Press on the buttons from the UV-C system, circulation pump and rinse pump so they are ON. Led on is ON, led off is OFF.
- Step 9: Hold the manual rinse button for ten seconds, now everything is activated again.

Aqua Exclusive™ Maintenance

18. Technical drawing

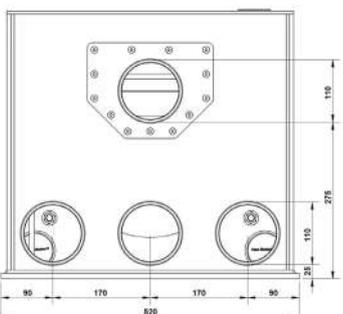
The technical drawing can be downloaded online at www.aqua-exclusive.com.

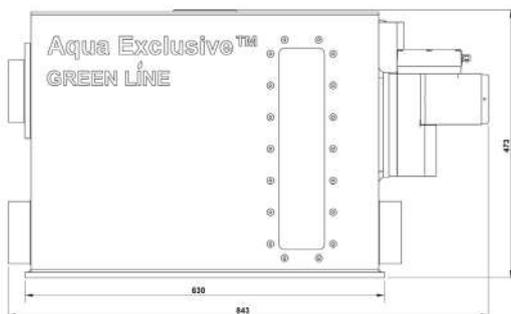
TECHNICAL DRAWING

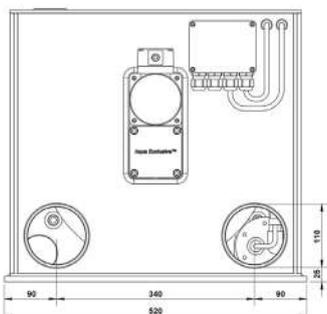
Aqua Exclusive™

GREEN LINE RDF 30









Model:	Green Line RDF 30	Minimum water flow:	No minimum flow required
Product:	300101	Maximum water flow:	30.000 LPH (8000 GPH)
Model year:	2023	Water volume:	Up to 60.000 L (16000 G)
Type of filter:	Rotary drum filter	Aqua Exclusive B.V. The Netherlands www.aqua-exclusive.com	
Type of filtering:	Mechanical filtration		
Max water height:	340mm		

All dimensions are in millimeter (mm)
 Patented Design: This system may not be modified, reproduced or copied, in whole or in part, without the prior written permission of Aqua Exclusive B.V.

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