

RAIN HARVESTING

by Blue Mountain Co

Self Cleaning 3 Stage Filter System

Slim



Installation and Specification Guide

PRODUCT DETAILS

This whole of house system features three-stage filtration for longer cartridge life and excellent long term flow rate and filtration performance.

Stage 1 - The 90 micron sediment filter also includes a self cleaning, back-flush function for easy maintenance.

Stage 2 - a fine, 25 micron heavy-duty sediment filter reduces lime, scale, rust, sand and other fine sediment.

Stage 3 - a 10 micron multi action carbon block filter removes even finer particles and improved colour, odour, and chlorine.

rainharvesting.com

Code	Size	Country
WFRW31	10"	Australia
WFRW131	10"	USA
WFRW31	10"	New Zealand

Installation

WHAT'S IN THE BOX?

- Filter Housing
- Pre Filter Self-Cleaning Cartridge
Stainless Steel Net Cartridge
- Filter Cartridge(s)
 - Heavy-duty Sediment Cartridge
 - Multi-Action Filter Cartridge
- Housing Ring Spanner
- Wall bracket & screws
- Cartridge Centering Device
- Discharge Kit

TOOLS/MATERIALS YOU MAY REQUIRE

- Tape measure
- Marker pen
- Pipe cutters
- Deburring tool
- PTFE (Teflon thread tape)
- 2 Threaded adaptors
(Isolation valve and refer to installation layout and existing pipework for further information.)
- Adjustable wrench
- Screw driver
- Drill
- Anchors (for mounting bracket)

CAUTION: Do not use with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts. If not properly maintained, the use of this system may increase the bacterial content of the water unless supplementary treatment is provided.

GENERAL REQUIREMENTS

- Installation must be made in accordance with the Plumbing Code of Australia (PCA) by a licensed plumber only.
- Observe the use limits indicated on the filter label.
- If pressure exceeds use limits, protect with a pressure reducer.
- Install an "anti-water hammer" system to protect the filter.
- Keep away from light sources.
- Keep away from excessive heat and cold (min. 4°C, max 45°C).
- Only use original Blue Mountain Co cartridges.
The use of non-original cartridges may void the warranty.

FEATURES

The Self Cleaning 3 Stage Filter System - Slim have been designed and constructed with an innovative self-cleaning pre-filter cartridge cleaning system that washes in counter-current to remove more substances deposited on the cartridge surface.

The self-cleaning filter has a nominal filtration of 90 micron with a stainless steel net.

FIGURE 1

When filtering element is clogged, it is simply cleaned by opening the valve on the bottom of the cup.

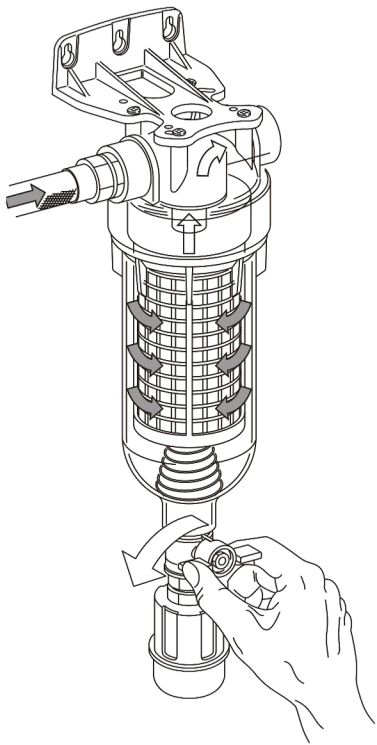


FIGURE 2

This operation generates a depression in the filter that pushes the cartridge down, automatically reversing water flow from the inside (in counter-current) out of the cartridge.

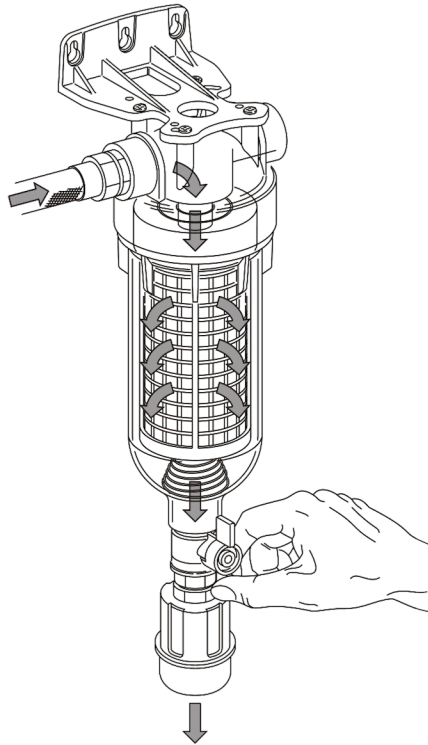
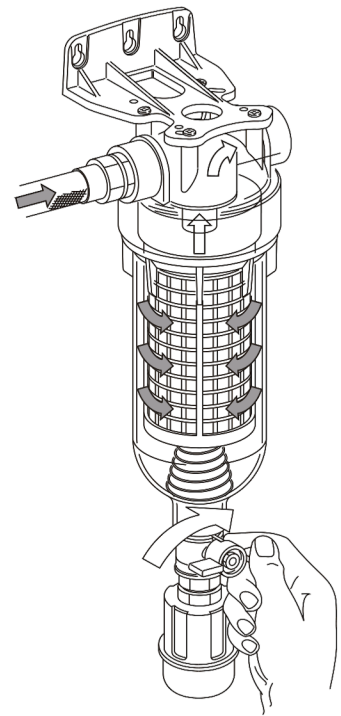


FIGURE 3

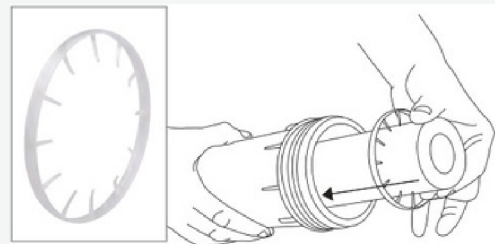
This water flow in counter-current carries particles and substances deposited on the cartridge to the drain. Closing the valve after a couple of seconds returns pressure distribution to its initial conditions and the internal spring returns the cartridge to its service position.



The above described operating modes and cleaning in counter-current requires a minimum 50kPa (7.25psi/0.5bar) supply pressure.

The Whole House Self-Cleaning Two or Three Stage Filtration Systems feature a drain funnel, which is a device designed to protect potable water in water installations against pollution, to prevent pollution by backflow.

Cartridge Centering Device



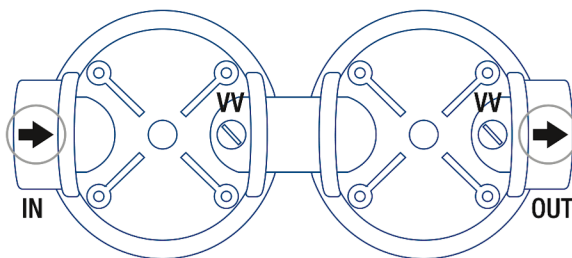
A Cartridge Centering Device is included to help you easily and correctly position the replacement cartridge in the housing.

INSTALLATION

- Before the installation, carefully lubricate the housing o-ring which is located at the bowl top.
- Before the installation, check if the hydraulic system has been set-up according to local authority guidelines.
- Install the products in sheltered areas and protect from freezing and excessive heat.
- Connect the filter inlet and outlet connections (NB: outlet indicated by an arrow on the head) only to pipes with BSP type connections (cylindrical) / US - NPT tapered (conical) connections. Use flexible tubes to connect the filter to the pipes if necessary.
- Please refer to Installation Layout to check the correct location of isolating valves and pressure control devices.
- The installation of any backflow prevention device must be in accordance with the Plumbing Code of Australia (PCA) and AS/NZS 3500.1 and comply with AS 2845.1:2010. Please refer to Installation Layout section: a dual check valve is recommended; a single check valve or non-return valve is not acceptable.
- Internal water pressure in buildings should be limited to a maximum of 500 kPa (0.5 bar). The recommended pressure reducer must be WaterMarked and/or compliant with AS/NZS 3500.1 and installed in accordance with the Plumbing Code of Australia (PCA).

WARNING: Water pressure above 500 kPa may damage connected products including water filters and will void the product warranty.

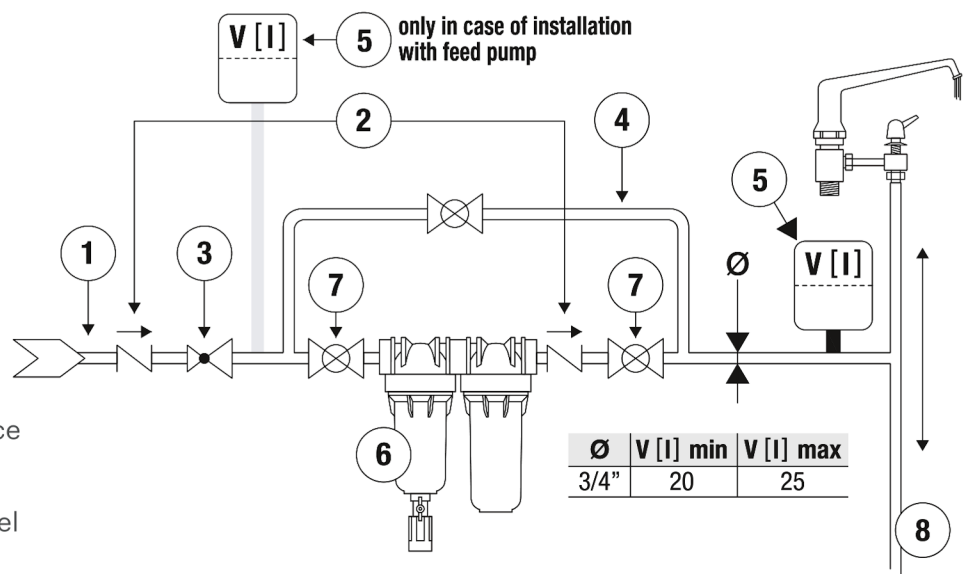
IN-OUT directions and vent-valve (VV) location



Only use PTFE thread seal tape to seal filter connections. Using other types of sealing material may void the warranty.

Installation layout

- 1 - Water mains
- 2 - Dual check valve
- 3 - Pressure reducer
(optional or check local authority guidelines)
- 4 - By-pass
- 5 - Anti-water hammer device
(expansion vessel)
- 6 - Filtering unit of any model
- 7 - Isolating Valve
- 8 - Other Utilities



Discharge kit

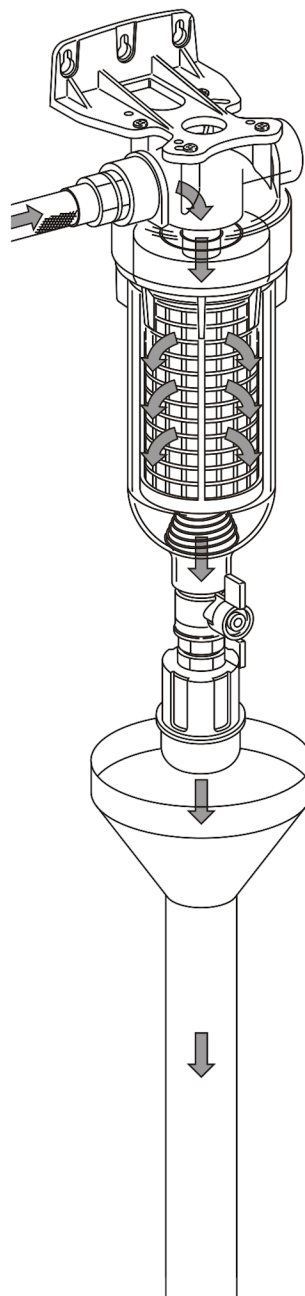
- a. Screw the plastic nipple with o-ring to the threaded port for discharge on the bottom of the housing.
- b. Screw on the ball valve to the nipple, making sure that the gasket of the valve is in place.
- c. Screw the ball valve to the drain funnel, making sure that the gasket is in place.

WARNING: Ensure appropriate backflow prevention has been installed to comply with local and state government guidelines.

Connecting the filter discharge to drain

FIGURE 4

Using the drain funnel, connect the waste outlet to a suitable discharge point, ensuring to comply to all state and local government guidelines.



INSTALLATION START-UP AND FIRST USE

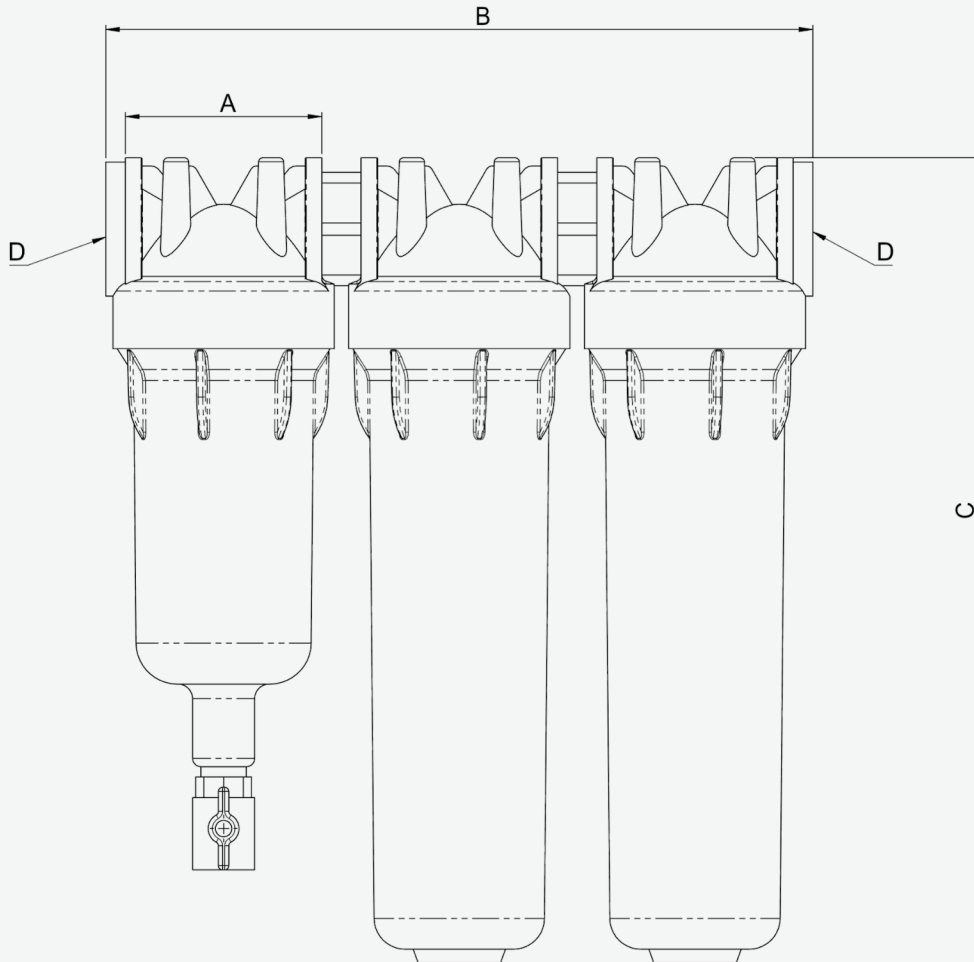
- 1 - Turn-off water mains.
- 2 - Avoid all kind of tensions by using original wall brackets as a support
- 3 - The installation of a by-pass is recommended.
- 4 - Connect the inlet to the product's side with the indication IN and the outlet to the side with the indication OUT.
- 5 - Connect to pipes using cylindrical (parallel) fittings or US - conical (tapered) fittings, possibly with flexible hoses.
- 6 - Use only sealing tape as a sealant for the connections.
- 7 - If the product is supplied without cartridge/s, unscrew the housing bowl from head and insert the cartridge/s, lubricate the o-ring, then screw the bowl to head and tighten with original spanners.
- 8 - Turn-on water mains.
- 9 - Unscrew the vent-valve and wait for air purge, then screw and tighten the vent-valve. After installation, slowly turn on a water supply (tap) downstream the installed unit and let the water flow for at least 5 minutes to flush the system before use.

WARNING: Make sure that there are no water leaks from the product, ensure you control the tightening between the housing head and the housing bowl. Continue checking that the tightening is good and there is no water leakage for 48 hours following the Installation and start-up. In case of leakage, open the housing, remove the o-ring from the bowl, place a new o-ring and apply lubricant, then re-tighten the bowl to head and repeat the leakage check as above.

WARNING: For correct operation of this appliance, it is essential to observe the manufacturer's instruction.

Product Specifications

Self Cleaning 3 Stage Filter System - Slim



COUNTRY	CODE	A	B	C	D
Australia	WFRW31	107	336	390	1" BSP
USA	WFRW131	4.21"	13.23"	15.35"	1" NPT
New Zealand	WFRW31	107	336	390	1" BSP

All dimensions are in mm unless otherwise stated.

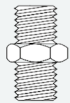
Self Cleaning 3 Stage Filter System - Slim

Filter Housing

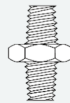
TEMPERATURE RANGE	WORKING PRESSURE
4 to 45°C	50kPa (7.25psi/0.5bar) to 830kPa (120psi/8.3bar)
BOWL BROKEN	REPLACE THE BOWL AND O-RING
83 litres/min*	3/4" Brass BSP (20mm) US - 3/4" Plastic NPT

*Flow rate will depend on cartridge selection, supply pipe pressure and size.

Thread Type



BSP parallel
(cylindrical)



NPT tapered
(conical) - US

Included cartridges

1 - Prefilter Self-Cleaning Cartridge

TEMPERATURE RANGE	MICRON RATING	MATERIAL	REDUCES	AVERAGE LIFE-SPAN
4 to 45°C	90 micron (nominal)	Stainless steel	Sediment	Self-cleaning

2 - Heavy-duty Sediment Cartridge

TEMPERATURE RANGE	MICRON RATING	MATERIAL	REDUCES	AVERAGE LIFE-SPAN
4 to 45°C	25 micron (nominal)	Wound polypropylene filtering	Scale, silt, rust, sand and other fine sediment.	3-6 months

2 - Heavy-duty Sediment Cartridge

TEMPERATURE RANGE	MICRON RATING	MATERIAL	REDUCES	AVERAGE LIFE-SPAN
4 to 45°C	10 micron (nominal)	Eco-friendly Carbon Block	Sediment, taste, colour, odour and chlorine	3-6 months

Maintenance

Thanks to the self-cleaning pre-filter, the Self Cleaning 3 Stage Filter System - Slim can provide long-last improved performance if maintenance is correctly and regularly performed following the instructions indicated in Routine Maintenance.

- Periodically clean the housing with cold water and a soft sponge.

Routine Maintenance

STAGE 1 – Self-Cleaning pre-filter

Clean the filter cartridge in counter-current by opening the drain valve for 15/20 seconds. Washing the counter-current is performed as indicated in the Technical Specifications. If the cartridge is not perfectly clean after washing, repeat the operation with the same procedure one or more times until the desired cleanliness is reached. If acceptable cleanliness is not achieved for good filter operations, follow the Corrective Maintenance procedure described below.

STAGE 2 – Post-filter (Heavy Sediment; Whole House Self-Cleaning Three-Stage model only)

Replace the post-filter cartridge after 3-6 months or when a drop in downstream water pressure is observed.

STAGE 3 – Carbon filters (Multi-Action)

Replace the Multi-Action Filter cartridge at least every 3-6 months or if odours, colours or bad taste are noticed in the water or when a drop in downstream water pressure is observed.

Corrective Maintenance

Self-Cleaning pre-filter

Over time, routine cartridge cleaning may become difficult due to build-up on the cartridge net. In this case, cleaning is required as follows:

- 1 - Isolate water flow upstream from the filter
- 2 - Release filter pressure by opening the water tap downstream from the filter
- 3 - Open the filter unscrewing the cup from the head using the spanner (supplied)
- 4 - Remove the cartridge (wearing protective gloves to prevent scratches due to worn mesh)
- 5 - Clean the cartridge under a jet of cold water and use a soft brush to remove most impurities
- 6 - Insert the clean cartridge in the cup
- 7 - Screw the cup onto the head
- 8 - Following the procedure under "FIRST USE" to re-instate the filter

Corrective Maintenance (cont'd)

Heavy-duty Sediment and Multi-Action Filter Cartridge Replacement:

In the event of prolonged filter disuse, disconnect the device from the mains and remove cartridges, storing them in a cool and dry place until next use.

- Flush system for 10 minutes after any period of non-use more than two days.
- For a period of non-use of two weeks or more, it may be necessary to replace the cartridge/s.

Filter Cartridge Replacement

- 1 - Before opening the housing turn-off water mains.
- 2 - Release the pressure from the product by un-screwing the vent-valve.
- 3 - Open the housing unscrewing the bowl from head.
- 4 - Remove the used cartridge.
- 5 - Wipe clean the filter housing with cold water and a soft sponge.
- 6 - Open the new cartridge wrap and discard wrap. Carefully read the leaflet/sticker for directions and keep it for future reference.
- 7 - Insert the new cartridge and place it into the housing.
- 8 - Lubricate the o-ring with lubricant or change with a new o-ring.
- 9 - Tighten the housing bowl to the housing head using original spanners. Do not over-tighten.
- 10 - Turn on water mains.
- 11 - Wait for air purge from the vent-valve, then screw and tighten the vent-valve.
- 12 - Slowly turn on water supply (tap) downstream of the installed unit and let the water flow for at least 5 minutes to flush the system before use.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Water does not run from taps	Cartridge clogged	Clean the cartridge following the corrective maintenance procedure
	Bowl broken	Replace the bowl and O-ring
	Cut-off valves and/or By-pass closed	Open the closed cut-off valve or by-pass
Unfiltered water runs from taps	Cartridge broken	Replace the cartridge
	Spring broken	Replace the spring
	By-pass valve open	
	Cartridge gasket ruined	Plastic Paddle
The cartridge does not clean during self-cleaning operation	Insufficient pressure in the bowl	Check the drain pipe: if pinched or bent, remove the problem;
	Cartridge not correctly positioned in the bowl	Rotate the cartridge clockwise – counter-clockwise so that it moves vertically without strain in the bowl
Water leaks between the filter head and bowl	Bowl O-ring ruined	Bowl O-ring ruined
Water leaks from connections between pipes and from the sides of the filter	Sealant (PTFE tape) insufficient	Add a few turns of PTFE tape
Water leaks between the bowl and drain valve	Drain valve gasket damaged	Replace the gasket



A common misconception about collecting rainwater is that all you need is a roof, a tank and some rain. This ‘tanking’ approach cannot always be relied on to deliver the volume – or quality – of water that you require. That is where we can help.

With some thought, your rain harvesting system can provide you with cleaner water and lots of it. Whether you’re completely reliant on tank water or wanting to keep the garden green, our simple steps will help you achieve your goal.

The Rain Harvesting approach to rainwater collection involves using tested and proven products to make quality rainwater available for use in and around your property. You don’t need much to get started and you will be surprised how easy it is to get the most out of your rainwater system.

[How can we help you?](#)

WARRANTY INFORMATION

Blue Mountain Co guarantees this product for 12 months from date of purchase.

Under this warranty we will replace the product or repair it free of charge. Claims must be received by Blue Mountain Co (info@bluemountainco.com.au) within 12 months of the date of purchase. The benefits conferred by this warranty are in addition to all other rights and remedies available in law in respect to the goods and services to which it relates. Our goods come with guarantees that can not be excluded under the Australian Consumer Law.

You are entitled to a replacement or refund for a major failure and for compensation for any other reasonable foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

DISCLAIMER This product specification is not a complete guide to product usage. Further information is available from Rain Harvesting Pty Ltd and from the Installation and Operating Instructions. This specification sheet must be read in conjunction with the Installation and Operating Instructions and all applicable statutory requirement. Product specifications may change without notice. © Rain Harvesting Pty Ltd

RAIN HARVESTING

by Blue Mountain Co

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Or visit our website at

rainharvesting.com