

For rainwater tanks
that supply water for internal
and/or external use



rain  **filters**™
FILTRATION SYSTEMS

- The **FIRST SYSTEM** designed specifically for use with rainwater tanks
- For **INTERNAL** and **EXTERNAL** use
- Long life filters
- Heavy duty housings

Rain  **Harvesting**™
www.rainharvesting.com.au

The First System Designed for Rainwater Tanks

The Rain Filters System is the first system designed specifically for use with rainwater tanks. Whilst 'pre-treatment devices' (such as gutter mesh, rain heads and first flush diverters) are critical to keep leaves, debris and other pollutants out of the rainwater tank, Rain Filters should be installed after the pump to provide extra confidence in your water quality.

INTERNAL uses: Rain Filters Triple Action Filtration System

If your rainwater tank supplies water for toilet flushing and laundry use, or whole of house supply, the Rain Filters *Triple Action Filtration System* provides **filtration of fine sediments** (down to 15 micron), **colour** and **odour** in the one cartridge!

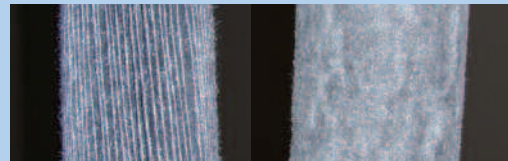
Systems are available in two sizes, utilising either a **10"** or **20"** filter cartridge and housing combination to:

- **protect laundry wash cycles** from discoloured or tainted rainwater
- **protect appliances**, such as washing machines, hot water systems and dishwashers
- **reduce discolouring** of toilet bowls and cisterns
- **protect irrigation systems** and provide cleaner water for other external uses

† In extreme situations a more aggressive product may be required for colour removal.

The *Triple Action Filtration System* features an outstanding filter cartridge that helps extend service life. Cartridges are resistant to bacterial attack allowing them to be used for non-chlorinated water applications. They feature **over 7 times more surface area than traditional carbon filters**, which enables higher dirt loading capacity and maximises cartridge life. A pleated cartridge design optimises filtration efficiency, allowing full flow rates and high water volumes through the filter. **This ensures pumps can operate at full pressure and without restriction***.

** Please note that pressure drops will occur as the filter cartridge is nearing the end of its useful life.*



The pleated cartridges used in the Rain Filters *Triple Action Filtration System* provide 7 times more surface area than traditional carbon filters

The systems are easy to install and feature heavy duty filter housings with UV resistant components and corrosion resistant fittings. A unique three-piece bowl system ensures long life with brass inserts and connections for the inlet/outlet fittings providing strong, watertight connections.



EXTERNAL uses: Rain Filters Sediment Filtration System

If your rainwater tank supplies water purely for outside uses, the Rain Filters *Sediment Filtration* System provides filtration of sediments down to 80 micron.

The *Sediment Filtration* System features a 5" cartridge and housing combination to:

- **prevent blockages of sprinkler heads** allowing garden irrigation systems to operate freely and at full flow
- **provide cleaner water** for high pressure cleaning devices, car washing, pool or pond top-ups, or other uses

| Model | Rain Filters Triple Action Filtration System - 10" (WFRW01) | Rain Filters Triple Action Filtration System - 20" (WFRW02) | Rain Filters Sediment Filtration System - 5" (WFRW05) |
|-------------|---|--|--|
| Flow rate | Suitable for flow rates up to 25 litres per minute | Suitable for flow rates up to 50 litres per minute | Suitable for flow rates up to 30 litres per minute |
| Suitability | Ideal where rainwater tank supplies laundry and toilets | Ideal for whole of house supply, or where tank supplies laundry, multiple toilets, hot water systems and irrigation systems. | Ideal where rainwater tank supplies water purely for outside uses, such as garden irrigation systems, pool or pond top-ups, car washing, etc |
| Dimensions | 64mm diameter x 248mm height | 64mm diameter x 455mm height | 64mm diameter x 127mm height |

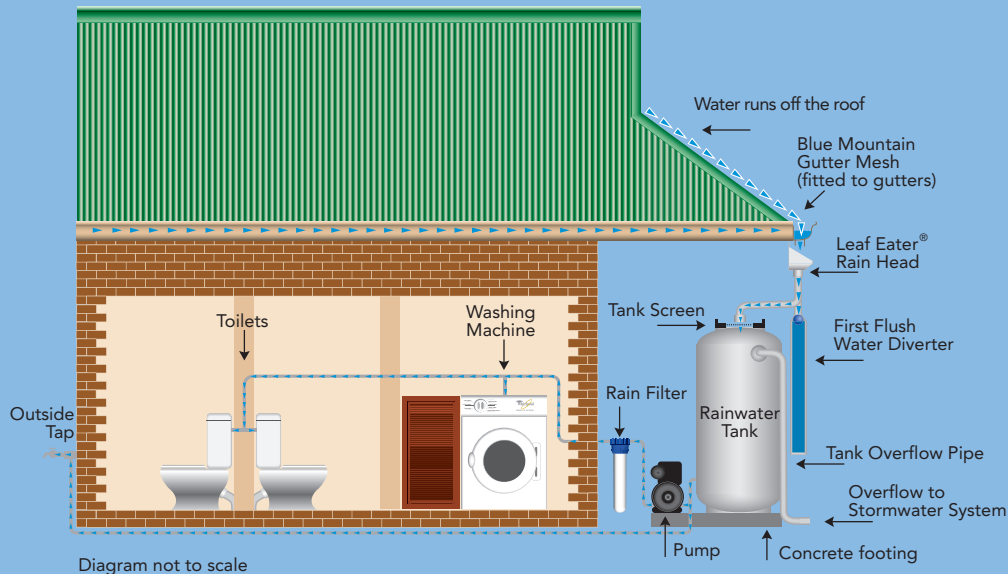


Type Tested
Plumbing Safety
AS/NZS 3407:1996
Certificate Number PS 08669
STANDARDS AUSTRALIA

rain filtersTM
FILTRATION SYSTEMS

The *Sediment Filtration* System uses a high performance polyester filter cartridge that is re-usable and washable to extend service life. The design enables higher dirt loading capacity and optimises filtration efficiency. This allows full flow rates and high water volumes through the filter, so **pumps can operate at full pressure and without restriction.**

Like the *Triple Action Filtration* Systems, the *Sediment Filtration* Systems are easy to install and feature heavy duty filter housings with UV resistant components and corrosion resistant fittings. Rain Filters unique three-piece bowl system ensures long life, and brass inserts and connections for the inlet/outlet fittings provide strong, watertight connections.



How the systems work

- 1. Rainwater is directed from the roof, through 'pre-treatment devices' to help prevent leaves, debris and other pollutants entering the tank.** Check with the local Council as to what devices are required, however these should include gutter mesh, rain heads and first flush diverters.
- 2. Whenever demand for rainwater is detected, and under pressure from the pump, the rainwater is forced through the pleated membrane media.**
- 3. The membrane media in the filter cartridge stops particles passing through** - down to either 15 micron (for the *Triple Action System*) or 80 micron (for the *Sediment System*). Cartridges will need to be replaced* when the membrane eventually becomes fully loaded with sediment and flow rate through the filter decreases.

* The filter cartridges for the *Sediment System* are washable and re-usable. Cleaning may extend filter life beyond a typical 6 to 12 months.

- 4. The *Triple Action System* also filters out colour and odour that may taint the water supply, because the membrane used is impregnated with carbon.** Carbon is used to reduce/remove colour and odour contaminants.

Rain Filters System technical specifications can be downloaded from www.rainharvesting.com.au

Note: Some authorities recommend that rainwater tanks are not to be used for supply of drinking water where potable mains water is available.



Improving Rainwater Quality



The life expectancy of Rain Filters cartridges is determined by three factors - water pressure*, water quality and usage.

Residual sediments and other matter will eventually build up in the filter cartridge causing water pressure drops. Accordingly, cartridge life may vary between 6 and 12 months†. To prolong the life of the cartridges and improve the performance of the rainwater harvesting system, it is recommended that the system be designed to prevent debris getting into the rainwater tank in the first place.

'Pre-treatment devices' are required by many authorities and should be included as part of all rainwater harvesting systems. A fire proof **gutter mesh** system should be installed to keep leaves, debris and vermin out of gutters.

Pre-treatment devices such as **Leaf Eater®** or **Leaf Beater®** screened rain heads should be installed at each downpipe that supplies rainwater to the tank. These devices improve the hydraulic performance of downpipes by deflecting leaves and debris away from the flow of water. Gutter mesh and rain heads prevent gutters blocking and eaves flooding and in doing so, reduce fire risk by keeping flammable material out of the gutter.

It is also critical to install **First Flush Water Diverters** to prevent the first, most contaminated rainfall from polluting tank water. First Flush Diverters can be installed at each downpipe that supplies water to the tank, or larger units that can handle multiple inlet pipes can be installed nearby the tank.

Please refer to the following checklist, or visit www.rainharvesting.com.au for further information.

* Care must be taken to ensure the pump is specified to provide adequate water pressure/flow rates.

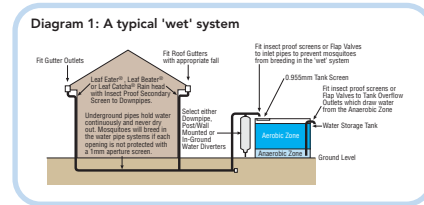
† The filter cartridges for the Sediment System are washable and re-usable. Cleaning may extend filter life beyond a typical 6 to 12 months.

We can remind you when your filters need replacing. To take advantage of this service please complete and mail the warranty card to us, visit our website (www.rainharvesting.com.au) to register your Rain Filter System online, or alternatively call our **National Replacement Filter Service Centre* on 1300 785 355**.

* Replacement Filters Program is administered by Water Filters Australia Pty Ltd

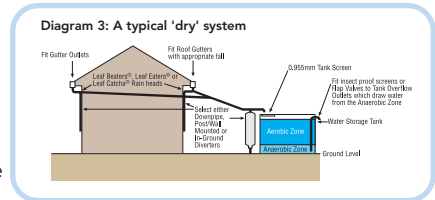
The Importance of Rainwater Filtration in 'Wet' Systems

'Wet' rainwater collection systems (also called 'charged' or 'flooded' systems) are where the pipes from the gutter go down the wall and underground and then up into the tank (see Diagram 1). Because the pipes are underground and below the entry point to the tank, even

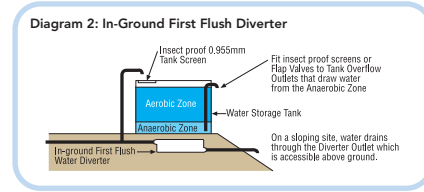


during periods without rainfall, water remains in the pipes. **This water can become stagnant and should not be allowed to enter the rainwater tank.**

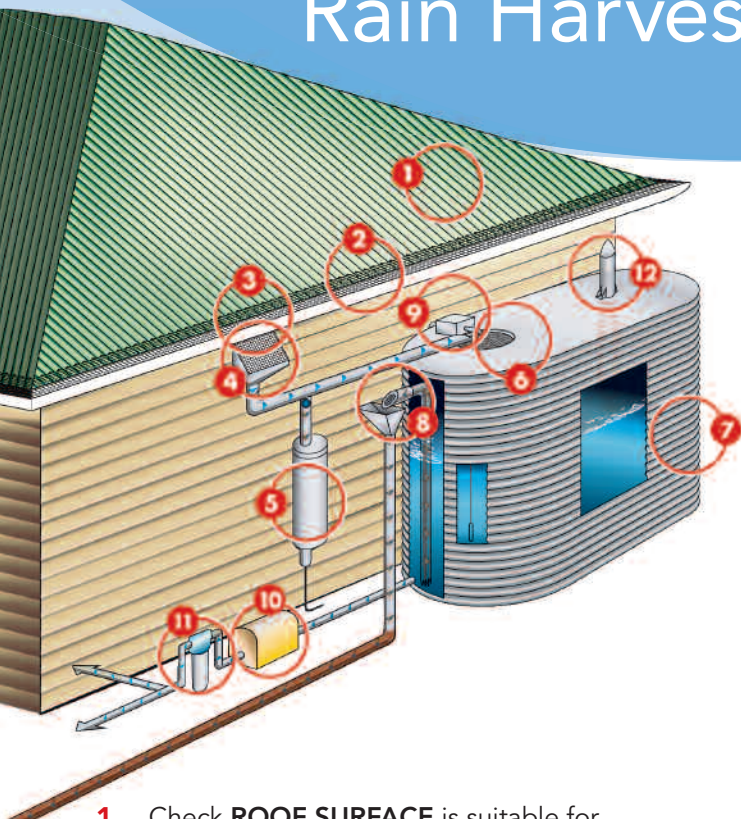
Water quality can be significantly improved by fitting an **In-Ground First Flush Diverter** (see Diagram 2) to convert a 'wet' system into a 'dry' system. This device ensures that not only is the first flush of most contaminated rainwater from the roof prevented from entering the tank, but importantly, the water held in the underground pipe system on a sloping site is emptied out through the diverter after rainfall.



Rain Filters are recommended in both 'wet' and 'dry' systems, however wherever possible, systems should be designed so that the pipes leading to the tank empty out after rain to improve the quality of water collected and to extend the life of the Rain Filters System cartridges.



How to Create the Complete Rain Harvesting System



1. Check **ROOF SURFACE** is suitable for collecting quality rainwater.
2. Install **GUTTER MESH** (such as Blue Mountain Mesh™) to prevent leaves and debris from blocking gutters.
3. Fit **GUTTER OUTLETS** from the underside of the gutter to prevent obstruction of water flow.
4. Fit Leaf Eater® or Leaf Beater® **RAIN HEADS** to downpipes to stop gutters blocking. Rain heads deflect leaves and debris and keep mosquitoes out of pipes that hold water ('wet' systems).

5. Install **WATER DIVERTER/S** to prevent the first flush of most contaminated rainwater from entering the tank.
6. Ensure a **TANK SCREEN** is installed at tank entry point to keep mosquitoes and pests out.
7. Choose a **WATER TANK**. Consider annual rainfall, roof catchment area and water usage when determining its size.
8. Attach **INSECT PROOF SCREENS** or **FLAP VALVES** to the end of all pipes to the tank screen (for 'wet' systems) and to **TANK OVERFLOW OUTLETS** to keep mosquitoes and pests out and ensure the tank is vented properly.
9. Utilise a **TANK 'TOP UP'** system (if required) to automatically top up the tank with mains water when levels fall to a designated minimum level.
10. Select a **PUMP SYSTEM** (if required) to distribute water for use inside or outside the home.
11. **RAINWATER FILTER**. Fit a purpose designed rainwater filter after the pump to help reduce residual sediment, colour and odour.
12. **WATER LEVEL MONITOR**. Install a level indicator to help monitor your water usage. Wireless systems are most convenient and display a reading inside the home.

Consider local council requirements and have a plumber complete installation where required.



rain filters[™]
FILTRATION SYSTEMS


Type Tested
Plumbing Safety
AS/NZS 3497: 1998
Certificate Number PS 08869
STANDARDS AUSTRALIA

Available from:



PO098/1

Rain Harvesting[™]
www.rainharvesting.com.au

Rain Harvesting Pty Ltd

54 Reginald Street Rocklea Q 4106 Australia info@rainharvesting.com.au

Tel: (07) 3248 9600 Fax: (07) 3248 9699