



# Waterplex

## Creative Rainwater Solutions

[www.ecosac.co.nz](http://www.ecosac.co.nz)

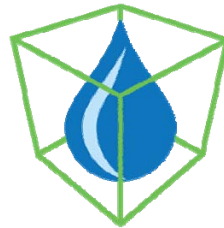
[www.reosac.co.nz](http://www.reosac.co.nz)

**0800 RAINSAC**  
**(724 672)**



# Waterplex

Creative Rainwater Solutions  
for New Zealand Homes



Liquidity VLS



# Waterplex Group

- New Zealand's premier rainwater bladder & flexible water solutions provider
- Three standard size bladder ranges with more than 264 product / size combinations
  - **eco sac**® residential & commercial
  - **reo sac**™ residential
  - **reo sac**™ commercial
  - **Liquidity VLS**™ residential and commercial
- National Sales & Technical representation
  - Sales, quoting & installation training for staff and customers
- Distributed exclusively in NZ by Orion Distributors (NZ) Ltd





# Waterplex



## Waterplex delivers:

- The largest range of bladder tank & flexible water solutions in New Zealand
- The only bladder tank systems with fixed mounting plates locking all pipe work in place – i.e. **no moving parts**
- The only bladder tank system accredited to AS/NZS 4020 for potable water storage
- Product manufactured to order – lead time of 4 weeks on all products
- Design and solution advice
- Consultation, expert advice and Technical support
- A full 10 year warranty supported by sales and technical specialists



# Waterplex



## Why specify a Waterplex Bladder solution?

- Only system that utilises a secured manifold that allows multiple bladders to act as a single tank
- Largest bladder tank range in New Zealand
- National network of preferred installers or easily installed by a licenced plumber
- Potential to connect all rainwater down pipes due to its central location under a building
- Utilise wasted space - out of sight!
- Improved water quality - water is stored in a dark, cool location & **eco sac**® is accredited to AS/NZS4020
- Easily delivered country wide
- Cost competitive with slim line tanks





# Waterplex



Specify **eco sac**® Architectural Range or **reo sac**™ Builder Range?

- **eco sac**® Architectural Range

- Stores 20% more water per m<sup>2</sup> than frameless reinforced bladders
- Secures bladder tank within a steel frame and harness
- Fixed mounting plate ensures pipe work static and secure
- Accredited to AS/NZS 4020 for contact with potable water
- Full 10 year warranty
- CAD drawings & resources available at [www.ecosac.co.nz](http://www.ecosac.co.nz)
- protective covers available for exposed locations

- **reo sac**™ Builder Range

- For more cost-conscious customers
- Reinforced PVC means no frame is required to support fabric
- Potable standard but not accredited to AS/NZS 4020
- Fixed mounting plate ensures pipe work static and secure



Liquidity VLS



# Waterplex



## Waterplex Bladder Tank Applications

- all external and internal uses within regulatory guidelines (to drinking water standard)
- primary filtration is required (rainhead filtration, first flush)
- any pump with run dry control can be used
- Tirckle top-up & mains water change-over units can all be used with **eco sac**<sup>®</sup> & **reo sac**<sup>™</sup>
- Waterplex bladder wireless water level gauges available



Liquidity VLS



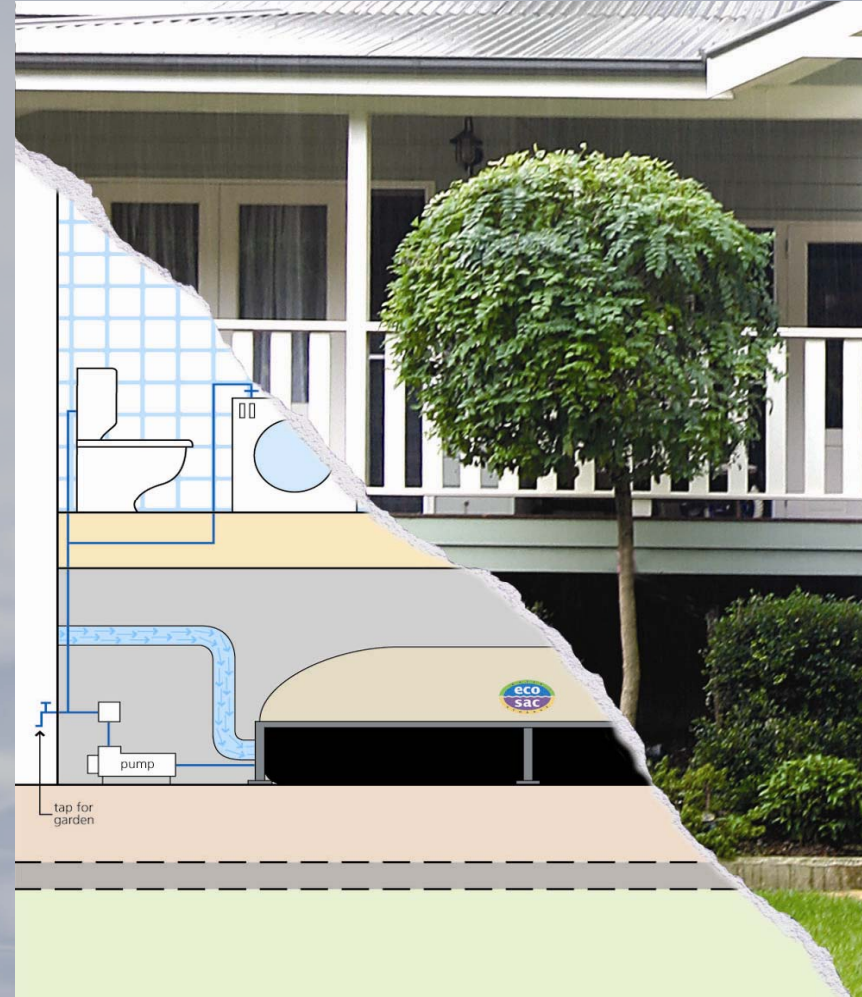


# Waterplex



## Design Considerations

- available width between jack-studs
- available length
- level ground
- available height (700mm)
- downpipe locations
- storm water overflow
- ventilation





# Waterplex



## PVC & Environmentally Sustainable Design

- PVC when used for short term purposes and not recycled can have a significant impact on the environment
- **Waterplex** bladder tanks have a design life of 30+ years and are fully recyclable by a number of companies in New Zealand that recycle PVC
- in 2001 the Australian CSIRO concluded "the balance of available evidence indicates that PVC in its building and construction applications has no more effect on the environment than its alternatives."



# Waterplex



Waterplex NZ contact details:

Orion Distributors

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- [www.ecosac.co.nz](http://www.ecosac.co.nz)
- [www.reosac.co.nz](http://www.reosac.co.nz)



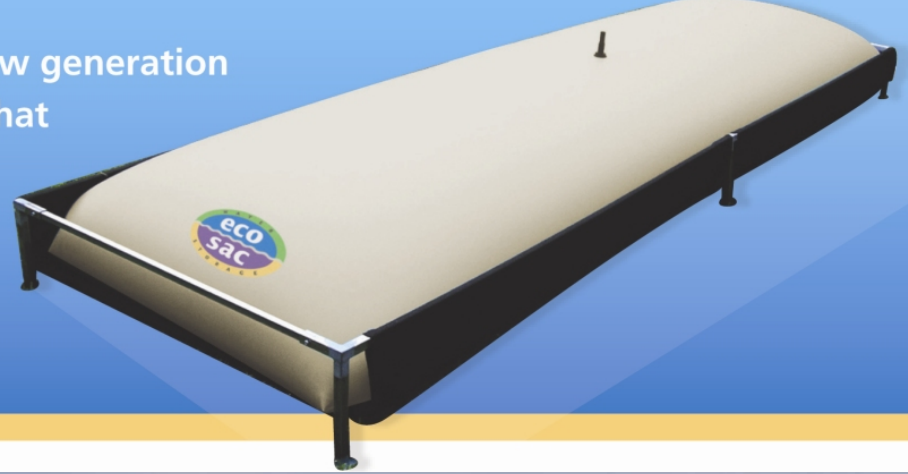
Liquidity VLS







The revolutionary new generation  
of rain water tanks that  
hide away under  
floors and decks



eco sac<sup>®</sup> by Waterplex

Hidden Rainwater Storage  
0800 724 672



Waterplex



# eco sac® bladder tank range

- flexible under-house or under-deck water storage bladder tanks
- fills up to 600mm in height and are available in more than 132 different configurations
- comes in 66 different sizes up to 8,600 litres in a single bladder – multiple bladders are easily connected via inlets & outlets with fixed standard PVC pipes
- each **eco sac®** has its own unique serial number and **all** are tested prior to shipping and have a full 10 year warranty





eco  
sac





# eco sac® the superior flexible bladder tank

- The **only** flexible bladder system with a full frame **AND** mounting plate and frame that secures all pipe work in place. It has no moving parts.
- Inlet (100mm, 90mm & 80mm) & outlets (2 x 32mm) side location means no stress on fittings vs. bladders with top or bottom entry
- Overlap welded seams (rather than inferior pinch welds) with folded corners mean seams only experience shear tension
- The combination of the flexible bladder tank within a frame and harness means that 20% more water can be stored per m<sup>2</sup>





# what is included with the **eco sac**®

- galvanised, pre-drilled steel frame and legs (zinc & powder coated) – stainless steel option available
- geo-tech harness to secure bladder within frame
- unique mounting plate to secure pipe work
- 100mm inlet, & 100mm-90mm/80mm reducers
- 2 x 32mm outlets, brass locking nuts and ball valves & fail-safe relief flap
- air vent with mosquito protection
- each **eco sac**® has its own unique serial number & **all** are tested to US military standards prior to shipping & have a full 10 year warranty
- fabric accredited to AS/NZS 4020 for drinking water



# eco sac® - features

- 66 sizes to fit in most locations (+ custom sizes)
- mounting plate (patent pending) - no moving parts, static pipe work
- fills faster than tanks - larger inlet & multi-fill design
- manifold multiple sacs side by side (no limit)
- potable water bladder system accredited to AS/NZS4020
- strongest fabric welds – “prayer” vs. “overlap”
- stronger frame – industrial welds, rounded feet
- download 3 plan view CAD drawings from [www.ecosac.co.nz](http://www.ecosac.co.nz)





# eco sac® - application

- all external and internal uses within regulatory guidelines (to drinking water standard)
- primary filtration is required (rainhead filtration, first flush)
- any pump with run dry control can be used
- mains water change-over units can all be used with eco sac®
- Full range of protective covers available
- **Waterplex™** bladder wireless water level gauges available





# eco sac® - exclusive features

- **eco sac®** is the only under house storage system with all of the following:
  - No moving parts
  - Accreditation to AS/NZS 4020 for potable use
  - Steel frame and fixed mounting plate
  - Standard 100mm over pipe pvc inlet (with reducers)
  - Superior lap welding
  - Ability to manifold bladders at 100mm inlets
  - Overflow fail safe
  - Optional protective cover



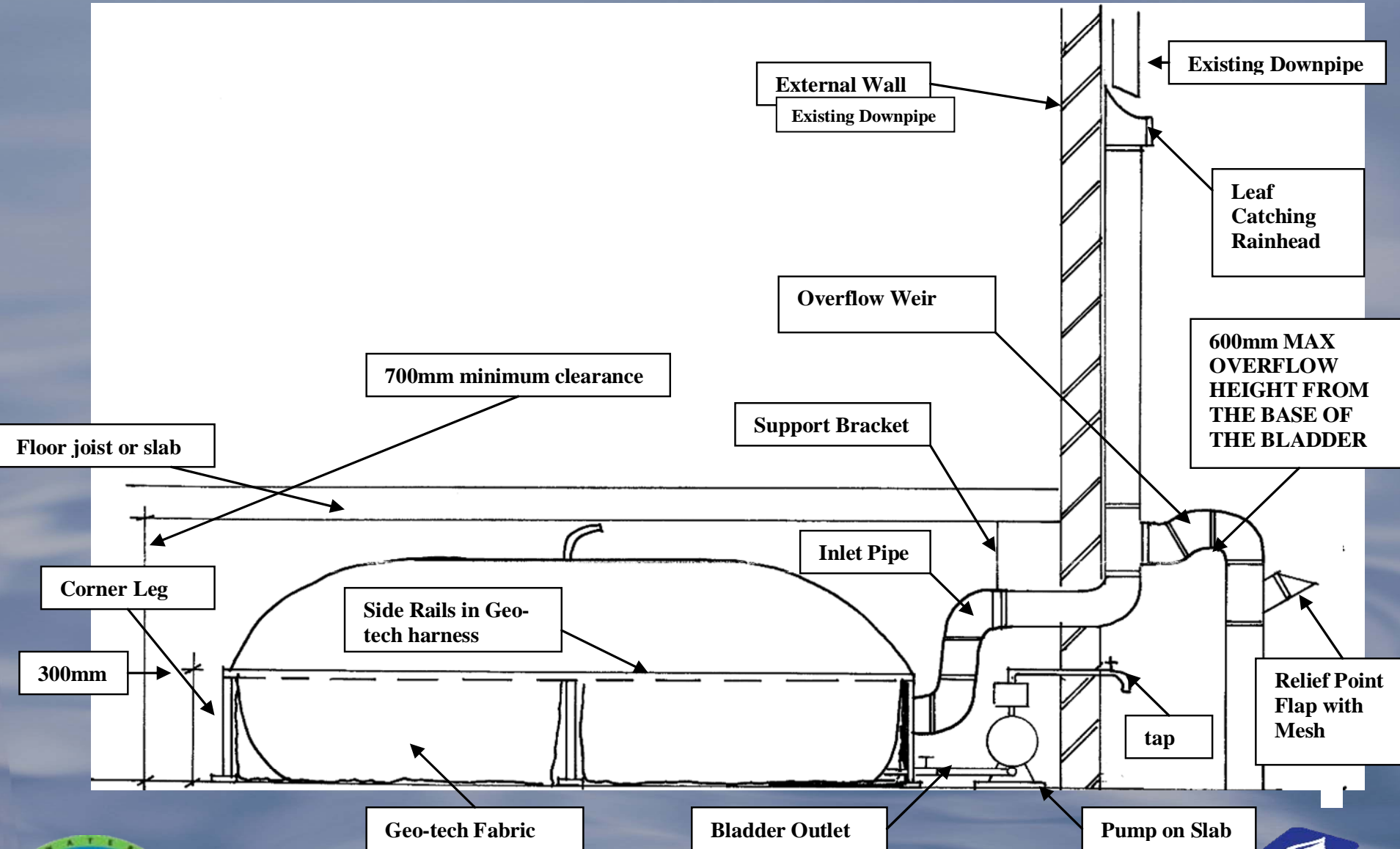
# eco sac® - design resources

- download 3 plan view CAD drawings from [www.ecosac.co.nz](http://www.ecosac.co.nz)
- enHealth Council “Guidance on the Use of Rainwater Tanks” booklet
- “how it works video”
- size charts
- regulatory body hyperlinks
- FAQ’s
- Reference Guide – HB230 Rainwater Tank Installation and Design





# eco sac® Installation Detail





When it rains it stores

The revolutionary new generation  
of rain water tanks that  
hide away under  
floors and decks



## eco sac® Technical Data Sheet

### eco sac® Rainwater Storage Bladders



eco sac® rainwater storage bladders are available in 66 sizes and range in storage capacity from 1,700 litres through to 8,600 litres in a single bladder. Multiple eco sacs® can be linked together so that storage capacity is only limited by the available space. Custom sizes are also available.

### Materials

The eco sac® bladder is made using a 0.75mm lap-welded PVC material. The fabric is suitable for potable water and is accredited to **AS4020:2002 Testing of Products for Use in Contact with Drinking Water** as tested by the independent Australian Water Quality Centre. The eco sac® frame is made using galvanised steel and comes in pre-cut lengths with pre-drilled screw holes to ensure that the frame is the stated dimension when assembled. The frame is protected by the geo-tech fabric harness when the eco sac® is fully assembled.

The fabricated corner and centre legs for the eco sac® are made from galvanised steel and then zinc and powder coated.

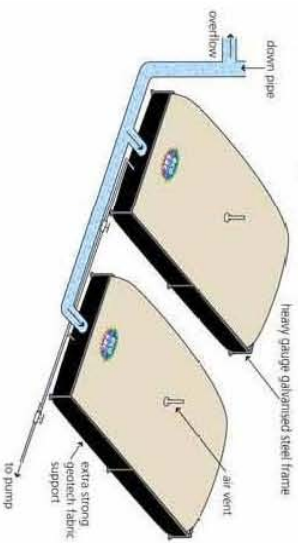
The one-piece geo-tech fabric is designed so that as the eco sac® fills, the fabric stretches to create a "square" edge so that the maximum storage capacity is achieved while ensuring that the bladder stays within the internal dimensions of the frame. The fabric is pre-cut at the locations of the corner and centre legs.

### Design

The unique design of eco sac® includes a specially designed mounting plate (patent pending) securely attached to the frame. This ensures that the rigid rainwater pipes are not damaged or stressed by the movement of the bladder as

it fills and empties. Multiple down-pipes can be connected together using a manifold to ensure that the maximum amount of rainwater is harvested. The unique mounting plate design also means that multiple eco sacs® can be linked by the 100mm inlet as well as the 32mm outlets. This facilitates optimal water levelling between multiple storage bladders when filling and emptying.

Each eco sac® has a mosquito protected air vent centred in the top of the bladder to allow any air entering with the rainwater to escape from the bladder.



### Capacity

eco sac® is available in 66 sizes that will store between 1,700 litres and 8,600 litres in a single bladder. Refer to the eco sac Size & Capacity Chart available on the eco sac® website for dimensions and individual bladder capacities. Refer to the Building Professionals and Designers webpage on the eco sac® website.

### Size & Space Requirements

The dimensions provided on the eco sac® website are the guaranteed external dimensions of the frame. A further 500mm is required at the inlet end of the eco sac® to allow for the inlet and outlet pipe work. Clearance on the remaining three sides of the eco sac® should be a minimum of 50mm between the frame and any part of the building structure.

The maximum fill height of the bladder is 600mm. A minimum height of 700mm is required to allow for the additional height of the air vent in the centre of the bladder.

If the minimum available height is less than 700mm, an eco sac® can still be installed by simply reducing the height of the overflow. The absolute minimum available height required is 400mm. A reduction in the fill height below 600mm will result in a reduction in the stated capacity of the eco sac®.





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## Site Preparation

The site for the eco sac® must be level. The base can be either concrete or compacted fill (such as sand or fine crusher dust or equivalent). Where the base is not concrete, a concrete paver must be placed under each leg.

## Access Requirements

Provided a person can access the installation site, an eco sac® can be installed at that site. Access to confined spaces must be within the appropriate confined spaces regulations.

## Installation

In order for the warranty to be valid, the bladder must be installed exactly according to instructions by either a licenced plumber or a preferred eco sac® installer.

## eco sac® Kit Contents

The eco sac® kit comes in a box measuring 2000mm x 480mm x 380mm (H x W x D).

All components required for installation of an eco sac® are included in the kit except for the rainwater pipe to the bladder and the outlet pipes from the bladder. The kit contents include:

- eco sac® bladder and pre-cut geo-tech fabric
- pre-cut, pre-drilled frame, legs and screws
- powder coated steel mounting plate and legs with pre-drilled holes
- 100mm inlet fitting plus 100mm-90mm reducer and butt pipe
- 2 x 32mm outlets, brass locking nuts and 2 x 32mm threaded ball valves
- Air vent with mosquito protection
- Fail-safe relief valve
- Homeowner and installer instructions
- Optional pump and filtration devices

## Fittings

All fittings connecting the eco sac® to the rainwater collection pipes and to the outlets are standard Australian plumbing industry fittings.

## Cost Effective

eco sacs® are more cost effective than slim-line tanks on a dollar per litre basis. In addition, a single bladder can potentially be used to harvest water from the whole roof due to its under-house location.

## Custom Sizes

Custom sizes can be made within certain limitations. If there is a requirement for a specific size that is not included in the standard range, contact the eco sac® team.

## Product Testing & Identification

Each bladder is tested under pressure before it leaves the factory. Each bladder also has its own unique serial number used to track it through the manufacturing and selling process and for the subsequent warranty registration (via the supplied warranty form or direct registration on the eco sac® website).

## Warranty

There is a 10 year warranty on materials and workmanship on each eco sac® provided it is installed exactly according to instructions by a licenced plumber or a preferred eco sac® installer.

## Water Quality & Cleaning the eco sac®

As bladders do not have traditional tank inlets, a primary filter in the form of a rainhead or in-line filtration device is required for each down-pipe. These are inexpensive and ensure that larger pieces of debris do not enter the eco sac®. First flush devices are recommended for each down-pipe to divert the first rain from the roof that carries any pollutants. The team at eco sac® can advise on the best applications for each installation.

Periodically, all tanks should have the sediment removed, eco sac® is easily cleaned by simply opening the ball valves and rolling the bladder up towards the inlet end to force the sediment from the bladder. For more detail refer to the Product Care document available on the eco sac® website.

## UV Exposure

It is not recommended that the eco sac® be exposed to full or direct sunlight. Filtered sunlight may be acceptable (in a south or east facing location but covered by deck or lattice). If in doubt, specify the inclusion of a protective cover.

## Accessories

eco sac® has a range of accessories including:

- Protective covers for partially exposed installations
  - Rainwater storage level gauges
  - Float chambers for mains water reticulation
- Call the eco sac® team for a full list of accessories.

## Pump Recommendations

Eco Sac carries a full range of pumps and mains water controllers for use in reticulation inside the house. Call the eco sac® team for sizing and specification of pumps.

## Enquiries

To obtain more information on eco sac®, to contact a preferred installer or to find out how to purchase an eco sac®, visit us at [www.ecosac.com.au](http://www.ecosac.com.au) or call 1300 72 66 70.





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hide away under  
floors and decks



# eco sac® Protective Covers Technical Data

## eco sac® Protective Covers



eco sac® has launched a new range of protective covers which are now available in all 54 eco sac® bladder sizes. The covers provide peace of mind for eco sac® owners who prefer extra protection for their investment.

The tailor-made protective covers are fully shaped and gusseted to closely fit the eco sac® and to provide protection from the elements and any debris falling through the decking.



## Modular Design

Eco Sac commissioned one of Australia's leading sail designers to develop the innovative modular covers which are made up from individual panels joined together by the same quality, high grade zips used by sail makers.

Each panel is fully shaped and gusseted to fit the straight sides of the lower half of the eco sac® and the curvature of the upper half of the eco sac® when it is full. This design allows any water pooling on the top of the cover to drain away through the zips and webbing, thus minimising any

risk of stagnant water or mosquito breeding for bladders that may be exposed to the elements.

## Materials

The eco sac® protective cover is manufactured from polyurethane coated polyester. The polyester provides the necessary strength to the cover, while the polyurethane coating provides sun, dirt and water resistance.

To ensure that the cover perfectly fits the eco sac® and frame, a fully adjustable webbing strap and buckle locks around each leg of the frame and an extra long webbing strap fastens around the mounting plate and inlet and outlet pipes.



## Installation

The installation of the eco sac® protective cover is quick and simple. The modular panels zip together easily. An additional locking nut is provided to attach the cover to the central air vent. A full set of instructions is included with each protective cover.

## Protective Cover Specifications

Material	Polyester
Material Weight	600 Denier
Coating	Polyurethane
Material Strength - Warp	750 Newtons
Material Strength - Weft	610 Newtons
Material Tear Strength - Warp	55 Newtons
Material Tear Strength - Weft	50 Newtons

## Warranty

eco sac® protective covers carry a full 2 year repair or replace warranty on all materials and workmanship. In a filtered light location, the cover will perform its function for 8 to 10 years.

## Enquiries

To find out how to purchase an eco sac® protective cover, to obtain more information or to contact a preferred installer, visit us at [www.ecosac.com.au](http://www.ecosac.com.au) or call 1300 72 66 70.







The revolutionary reinforced bladder tank with rigid fittings and NO moving parts that hides away under floors and decks



# reosac™ by Waterplex

Hidden Rainwater Storage  
0800 RAINSAC



**Waterplex**



# reo sac™ reinforced bladder range

- reinforced under-house or under-deck rainwater storage bladder tanks
- fill up to 600mm in height and are available in more than 66 different configurations up to 7,050 litres in a single bladder – multiple bladders easily connected via inlets & outlets with fixed standard PVC pipes
- each **reo sac™** has its own unique serial number and **all** are tested prior to shipping and have a full 10 year warranty



# reo sac™ the superior reinforced bladder tank

- The only reinforced bladder system with a mounting plate and frame that secures pipes in place. It has no moving parts
- Inlet (100mm, 90mm & 80mm) & outlets (2 x 32mm) side location means no weight or stress on fittings vs. bladders with top or bottom entry. Easy permanent access
- Overlap welded seams (rather than inferior pinch welds) with folded corners mean seams only experience shear tension
- Extra strength reinforced fabric provides peace of mind for under house water storage





# reo sac™ - application

- all external and internal uses within regulatory guidelines (to drinking water standards)
- primary filtration is required (rainhead filtration, first flush)
- any Orion pump with run dry control can be used
- mains water change-over units can all be used with **reo sac™**
- **Waterplex™** bladder wireless water level gauges available



# Reinforced Bladder Tank Comparison

	reo sac™	Other frameless bladders
No moving parts	✓	✗
Mounting Frame to support inlets and outlets	✓	✗
Potable Fabric	✓	✗
Accredited to AS4020 for Potable Use	✓	✗
Standard 100mm or 90mm inlet pipe	✓	✗
Joining Multiple bladders via 100mm Inlets	✓	✗
Dual outlet fittings	✓	✗
Lap Welded (strongest available)	✓	✗
Overflow Fail Safe included in kit	✓	✗
Full Material & Fabrication Warranty	✓	✗
Roll Up to remove any sediment	✓	✗





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## reosac™ Technical Data Sheet

### reosac™ Reinforced Rainwater Storage Bladders



reosac™ reinforced rainwater storage bladders are available in 66 standard sizes and range in storage capacity from 1,150 litres through to 7,050 litres in a single bladder. Multiple reosacs™ can be linked together so that storage capacity is only limited by the available space. Custom sizes are also available.

#### Materials

The reosac™ bladder is made using a 0.75mm lap-welded reinforced PVC material. The fabric is suitable for potable water and is accredited to **AS4020:2002 Testing of Products for Use in Contact with Drinking Water**. The reosac™ mounting plate frame is made using galvanised steel and comes in pre-cut lengths with pre-drilled screw holes.

The fabricated corner legs for the reosac™ mounting plate frame are made from galvanised steel and are zinc and powder coated for protection against the elements.

The reosac™ is supplied with an oversized geo-textile ground sheet to protect it from sharp objects on the ground. Note that obvious sharp objects should be removed prior to installation. The fabric is pre-cut at the locations of the inlet and outlets so that it is inserted between the reinforced bladder tank and the mounting plate for protection.

#### Design

The unique design of reosac™ includes a specially designed mounting plate (patent pending) securely attached to a steel frame. This ensures that the rigid rainwater pipes

are not damaged or stressed by the movement of the bladder as it fills and empties. There are **no moving parts**. Multiple down-pipes can be connected together using a manifold to ensure that the maximum amount of rainwater is harvested. The unique mounting plate design also means that multiple reosacs™ can be linked by the 100mm inlet as well as the 32mm outlets. This facilitates optimal water levelling between multiple storage bladders when filling and emptying.

Each reosac™ has a 25mm mosquito protected air vent centred in the top of the bladder to allow any air entering with the rainwater to escape from the bladder.

#### Capacity

reosac™ is available in 66 sizes that will store between 1,150 litres and 7,050 litres in a single bladder. Refer to the reosac™ Size & Capacity Chart available on the reosac™ website for dimensions and individual bladder capacities.

#### Size & Space Requirements

The dimensions provided on the reosac™ website are the external dimensions of the bladder tank laid out flat prior to filling. A further 500mm is required at the inlet end of the reosac™ to allow for the mounting plate frame and the inlet and outlet pipe work. Clearance on the remaining three sides of the reosac™ should be a minimum of 50mm between the bladder tank and any part of the building structure.

The maximum fill height of the bladder is 600mm (500mm for 1.1 and 1.3m widths). A minimum height of 800mm is required to allow for the additional height of the air vent in the centre of the bladder. The length of the air vent can be reduced to allow for lower sub-floor heights.

If the minimum available height is less than 700mm, a reosac™ can still be installed by simply reducing the height of the overflow. A reduction in the fill height below 600mm (500mm for the 1.1m and 1.3m widths) will result in a reduction in the stated capacity of the reosac™. Note that the air vent should always be above the height of the highest overflow point to prevent water from overflowing through the air vent.

#### Site Preparation

The site for the reosac™ must be level. The base can be either concrete or compacted fill (such as sand or fine crusher dust or equivalent). Where the base is not concrete, a concrete paver must be placed under each leg of the mounting plate frame.





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processes and for the warranty registration (via the supplied warranty form or registration on the [reosac™](http://www.reosac.com.au) website).

### Access Requirements

Provided a person can access the installation site, a **reosac™** can be installed at that site. Access to confined spaces must be within the appropriate confined spaces regulations.

### Installation

In order for the warranty to be valid, the bladder must be installed exactly according to instructions by either a licenced plumber or a preferred **reosac™** installer.

### reosac™ Kit Contents

The **reosac™** kit comes in a box measuring 600mm x 900mm x 400mm (H x W x D).

All components required for installation of a **reosac™** are included in the kit except for the rainwater pipe to the bladder and the outlet pipes from the bladder. The kit contents include:

- **reosac™** bladder and pre-cut geo-tech fabric ground sheet
- steel frame lengths, powder coated steel mounting plate and legs with pre-drilled holes & all screws
- 100mm inlet fitting plus 100mm-90mm reducer and butt pipe
- 2 x 32mm outlets, brass locking nuts and 2 x 32mm threaded ball valves
- Air vent with mosquito protection
- Fail-safe relief valve
- Homeowner and installer instructions
- Optional pump and filtration devices

### Fittings

All fittings connecting the **reosac™** to the rainwater collection pipes and to the outlets are standard Australian plumbing industry fittings.

### Cost Effective

**reosac™** are more cost effective than slim-line and flexible bladder tanks on a dollar per litre basis. In addition, a single bladder can potentially be used to harvest water from the whole roof due to its under-house location.

### Custom Sizes

Custom sizes can be made within certain limitations. If there is a requirement for a specific size that is not included in the standard range, contact the **reosac™** team.

### Product Testing & Identification

Each bladder is tested under pressure before it leaves the factory. Each bladder also has its own unique serial number and is tracked through the manufacturing and selling

### Warranty

There is a 10 year warranty on materials and workmanship on each **reosac™** provided it is installed exactly according to instructions by a licenced plumber or a preferred **reosac™** installer.

### Water Quality & Cleaning the reosac™

As bladders do not have traditional tank inlets, a primary filter in the form of a rainhead or in-line filtration device is required for each down-pipe. These are inexpensive and ensure that larger pieces of debris do not enter the **reosac™**. First flush devices are recommended for each down-pipe to divert the first rain from the roof that carries any pollutants. The team at **reosac™** can advise on the best applications for each installation.

Periodically all tanks should have the sediment removed. **reosac™** is easily cleaned by simply opening the ball valves and rolling the bladder up towards the inlet end to force the sediment from the bladder. For more detail refer to the Product Care document available on the [reosac™](http://www.reosac.com.au) website.

### UV Exposure

It is not recommended that the **reosac™** be exposed to full or direct sunlight. If in doubt, ensure that a UV stabilised protective cover is installed or contact the **reosac™** team.

### Accessories

**reosac™** has a range of accessories including:

- Pumps, first flush and filtration devices
  - Rainwater storage level gauges
  - Float chambers for mains water reticulation
- Call the **reosac™** team for a full list of accessories.

### Pump Recommendations

**reosac™** carries a full range of pumps and mains water controllers for use in reticulation inside the house. Call the **reosac™** team for sizing and specification of pumps.

### Enquiries

To obtain more information on **reosac™**, to contact a preferred installer or to find out how to purchase a **reosac™**, visit us at [www.reosac.com.au](http://www.reosac.com.au) or call 1300 72 66 70.





reo sac™ by Waterplex  
Liquid Storage Solutions  
Commercial Bladder Tanks

[www.reosac.co.nz](http://www.reosac.co.nz)



# Commercial Bladder Tanks

- From 11,400 to 136,000 litres in a single bladder tank
- Connect any number of bladder tanks together for greater storage amounts
- Standard range and custom sizes / shapes / capacities available
- Tested to US military standards and used by ADF
- Reinforced unframed bladders or fully framed bladders





Waterplex





Waterplex





# Commercial Bladder Fittings

- all bladders come with two (inlet plus outlet) 3" (75.4mm) galvanised special flange fittings with a 3" (75.4mm) aluminium male camlock fitting (including cap) and one 2" (50.8mm) poly (bulkhead fitting) complete with vent flap





The revolutionary reinforced bladder tank with rigid fittings and NO moving parts that hides away under floors and decks



September 2008

## Commercial Bladders Size & Capacity Chart\*\*

Part No	Capacity	Bladder Dimensions (metres)	Bladder Fill Height (metres)	Ground sheet Dimensions (metres)	Bladder Weight (kg)	Grounds	Combined Weight
						heet Weight (kg)	
RSC0114	11400	4.9 X 3.6	1.0m	6.0 x 4.7	61.0	26.5	87.5
RSC0152	15200	4.9 x 4.4	1.1m	6.0 x 5.3	70.0	29.5	99.5
RSC0190	19000	4.9 x 5.3	1.1m	6.0 x 6.3	79.0	35.5	114.5
RSC0200	20000	4.9 x 5.6	1.1m	6.0 x 6.3	83.0	71.0	154.0
RSC0250	25000	4.9 x 7.0	1.1m	5.8 x 7.9	98.0	44.0	142.0
RSC0300	30000	6.1 x 5.8	1.3m	6.6 x 6.3	101.0	39.0	140.0
RSC0380	38000	6.1 X 6.3	1.5m	7.7 x 7.9	108.0	56.5	164.5
RSC0400	40000	7.3 x 5.6	1.5m	6.2 x 7.9	115.0	45.6	160.6
RSC0500	50000	7.3 x 6.9	1.5m	7.5 x 7.9	135.0	55.0	190.0
RSC0570	57000	7.3 x 7.9	1.5m	8.5 x 7.9	152.0	62.5	214.5
RSC0600	60000	7.3 x 8.3	1.5m	9.1 x 7.9	155.0	67.0	222.0
RSC0760	76000	9.75 x 7.9	1.5m	10.7 x 9.5	197.0	94.5	291.5
RSC0950	95000	9.75 x 9.8	1.5m	13.0 x 12.6	238.0	153.0	391.0
RSC1140	114000	9.75 x 12.0	1.5m	13.3 x 12.6	286.0	156.5	442.5
RSC1360	136000	12.2 x 11.3	1.5m	13.5 x 12.6	334.0	160.0	494.0





# Liquidity VLS

by Waterplex Pty Ltd



Waterplex

“you design it – we’ll line it”

0800 724 672



Waterplox



# Liquidity VLS – Void Lining Systems

- Waterplex is able to line any cavity without protusions capable of holding water with its unique Liquidity VLS system
- Liquidity VLS is a very cost-effective solution for storage of small or vast amounts of rainwater - it removes the need for tanks.
- Total storage capacity is limited only by the space available
- Potable or non-potable solutions
- Primary fabrication is all off-site



# Liquidity VLS – Features & Benefits

<b>Feature</b>	<b>Benefit</b>
Can be designed to fit almost any space	The solution is determined by the design
Flexible lining installed with surplus fabric	Moves with any building movement and remains watertight
Long life cycle, recyclable	Minimal environmental impact
Limited access required	Ideal for retro-fits or installation at end of building process

2006/07/11



Waterplex



# Liquidity VLS – Capability Statement

- Liquidity VLS design & specification consultation to ensure the best solution
- Linings can be made in any size or shape in potable or non-potable material
- Linings are primarily fabricated off-site thereby minimising site impact and risk of damage

2006/07/11



# PVC & Environmentally Sustainable Design

- PVC when used for short term purposes and not recycled can have a significant impact on the environment
- **Liquidity VLS** liners have a design life of 40+ years and are fully recyclable by a number of companies that recycle PVC
- in 2001 the Australian CSIRO concluded “the balance of available evidence indicates that PVC in its building and construction applications has no more effect on the environment than its alternatives.”





# Liquidity VLS – Site Requirements

- Structurally sound void with top access only (side access only possible if above the maximum water storage level)
- Adequate inlet and overflow design (Waterplex can provide specifications)
- Clear access to the void for installation
- Structural walls should be smooth & able to take fixing systems (minimal weight involved)

2006/07/11



# Liquidity VLS – Additional Products

- Primary & secondary filtration systems
- Water surface skimming system
- Pumping systems
- Water inflow calming systems (velocity reduction and water calming)
- Floating inlets to maximise water quality (in conjunction with submersible pumps)

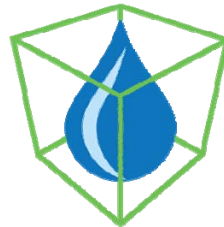






# Waterplex Accessories

Creative Rainwater Solutions for  
New Zealand Homes



**Liquidity VLS**



# Waterplex



The Waterplex accessory range consists of:

- A large selection of Orion pumps including submersible pumps
- Primary filtration systems
  - Downpipe filtration and first flush devices
  - Whole of roof & industrial filtration systems
- Secondary filtration for reticulation internally
- Protective Covers for **eco sac**® bladder tanks
- Manual and wireless tank gauges
- FOC repair kits during 10 warranty lifetime for damaged bladders



Liquidity VLS







When it rains it stores

The revolutionary new generation  
of rain water tanks that  
hide away under  
floors and decks



# eco sac® Protective Covers Technical Data

## eco sac® Protective Covers



eco sac® has launched a new range of protective covers which are now available in all 54 eco sac® bladder sizes. The covers provide peace of mind for eco sac® owners who prefer extra protection for their investment.

The tailor-made protective covers are fully shaped and gusseted to closely fit the eco sac® and to provide protection from the elements and any debris falling through the decking.



## Modular Design

Eco Sac commissioned one of Australia's leading sail designers to develop the innovative modular covers which are made up from individual panels, joined together by the same quality, high grade zips used by sail makers.

Each panel is fully shaped and gusseted to fit the straight sides of the lower half of the eco sac® and the curvature of the upper half of the eco sac® when it is full. This design allows any water pooling on the top of the cover to drain away through the zips and webbing, thus minimising any

risk of stagnant water or mosquito breeding for bladders that may be exposed to the elements.

## Materials

The eco sac® protective cover is manufactured from polyurethane coated polyester. The polyester provides the necessary strength to the cover, while the polyurethane coating provides sun, dirt and water resistance.

To ensure that the cover perfectly fits the eco sac® and frame, a fully adjustable webbing strap and buckle locks around each leg of the frame and an extra long webbing strap fastens around the mounting plate and inlet and outlet pipes.



## Installation

The installation of the eco sac® protective cover is quick and simple. The modular panels zip together easily. An additional locking nut is provided to attach the cover to the central air vent. A full set of instructions is included with each protective cover.

## Protective Cover Specifications

Material	Poly ester
Material Weight	600 Denier
Coating	Polyurethane
Material Strength - Warp	750 Newtons
Material Strength - Weft	610 Newtons
Material Tear Strength - Warp	55 Newtons
Material Tear Strength - Weft	50 Newtons

## Warranty

eco sac® protective covers carry a full 2 year repair or replace warranty on all materials and workmanship. In a filtered light location, the cover will perform its function for 8 to 10 years.

## Enquiries

To find out how to purchase an eco sac® protective cover, to obtain more information or to contact a preferred installer, visit us at [www.ecosac.com.au](http://www.ecosac.com.au) or call 1300 72 66 70.

## Waterplex™ Cartridge Filter for “Whole of House” Filtration



The latest solution for whole of roof filtration in a central location is the new Cartridge Filter.

The Cartridge Filter can be located under floor and in a central location close to the eco sac installation and can provide whole of roof filtration for areas up to 200m<sup>2</sup>.

### The Cartridge Filter is an ideal solution for primary filtration because:

- It is made from drinking quality grade materials (polyethylene and stainless steel)
- It can filter up to 200m<sup>2</sup> of roof area
- It can be located out of sight under in the sub-floor area
- It is a closed system so that water does not splash out of the unit as it is filtered
- Rubbish is removed to storm water by the residual water that runs over the top of the filter
- It acts not only as a filter but also as the overflow mechanism for the eco sac system once the water storage is full
- It has an automated backwash system that can be programmed to switch on automatically to backwash the filter making the system almost maintenance free
- It connects to standard 100mm PVC pipe

### The Cartridge Filter provides a two step cleaning system:

1. The first stainless mesh provides immediate coarse filtration to remove larger leaves and debris.
2. The second, finer mesh removes smaller debris and provides mosquito protection.

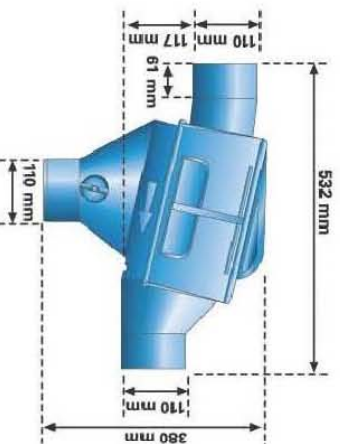




## The Cartridge Filter Process

1. Harvested rainwater and debris enters the filter from the downpipe.
2. Coarse debris is captured by the first filter on top of the mesh and removed to storm water by any residual water passing over the first coarse mesh filter.
3. Finer debris is then captured on the lower mesh and also pushed to storm water by the residual water passing over the first coarse mesh filter.
4. Filtered water is then directed to the Waterplex™ storage bladders
5. Residual water and debris is washed to storm water. This also acts as the overflow for the eco sac when the storage capacity is full. The overflow function also backwashes the filter each time the storage is full.

## Cartridge Filter Dimensions



Note that clearance of 1000mm is required to allow the filter cartridge to be removed for cleaning.

## Recommended Retail Price

The recommended retail price for the Cartridge Filter is \$430 including GST. The backwash device and connection kit (not including the timer) is \$80 including GST.



Creative rainwater storage solutions  
you can count on.

## Waterplex™ Volume Filter for “Whole of Roof” Filtration



The Volume Filter is a centralised filtration solution for whole of roof filtration for areas of up to 500m<sup>2</sup>. The Volume Filter can be located under floor and in a central location close to the **Waterplex™** installation.

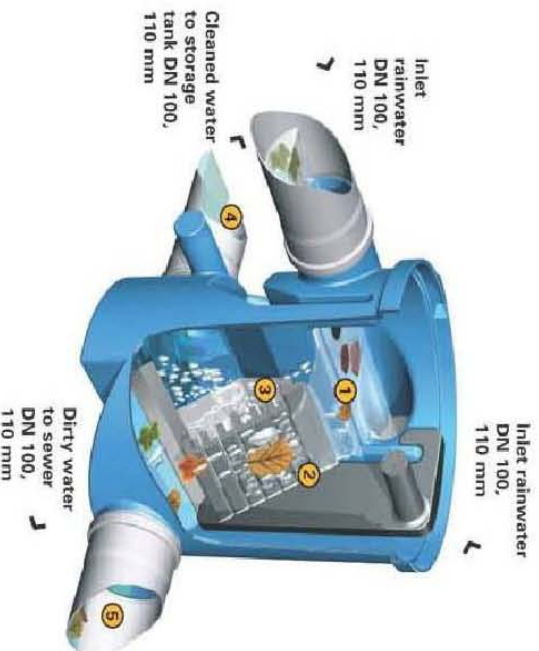
### The Volume Filter is an ideal solution for primary filtration because:

- It is made from drinking quality grade materials (polyethylene and stainless steel)
- It can filter up to 500m<sup>2</sup> of roof area
- It can be located out of sight under in the sub-floor area
- It is a closed system so that water does not splash out of the unit as it is filtered
- Rubbish is removed to storm water by the residual water that runs over the top of the filter
- It acts not only as a filter but also as the overflow mechanism for the **Waterplex™** system once the water storage is full
- It connects to standard 100mm PVC pipe

### The Volume Filter provides a two step cleaning system:

1. The first stainless cascading “ladder” provides immediate coarse filtration to remove larger leaves and debris.
2. The second, finer mesh sieve (0.65mm) removes smaller debris and provides mosquito protection.

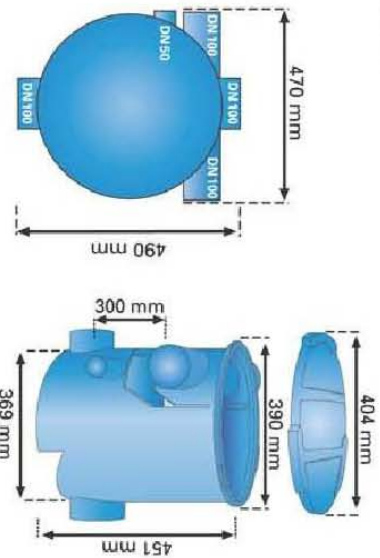




## The Volume Filter Process

1. Harvested rainwater and debris enters the filter from the downpipe and fills the recess to enable water to distribute evenly over the filter.
  2. Coarse debris is pushed over the stainless cascade and removed to storm water.
  3. Finer debris is then captured on the secondary filter mesh and also pushed to storm water by the residual water passing over the first coarse mesh filter.
  4. Filtered water is then directed to the **Waterplex™** storage solution.
  5. Residual water and debris is washed to storm water. This also acts as the overflow for the **Waterplex™** storage solution when it full.
- The filter should be cleaned on a regular basis. The frequency of cleaning depends on the rain catchment environment.

## Volume Filter Dimensions



Note that clearance of 1300mm is required to be able to remove the internal filter.

## Recommended Retail Price

The recommended retail price for the Volume Filter is \$580 including GST.

## Waterplex™ Industrial Volume Filters



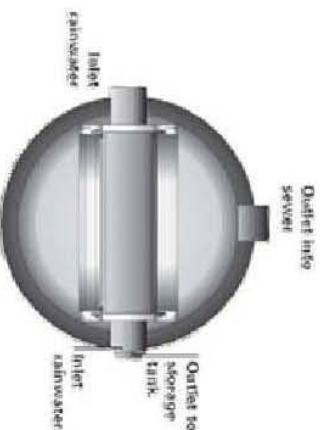
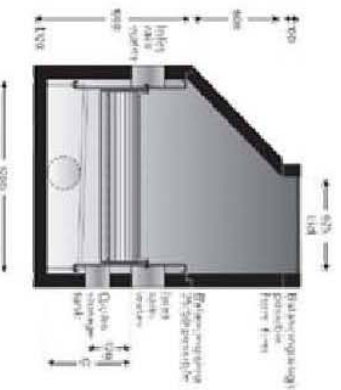
The Industrial Volume Filters are designed for filtering harvested rainwater in large catchment, high flow installations. These unique filters provide a centralised filtration solution for whole of roof filtration for areas of up to 500m<sup>2</sup>.

The Industrial Volume Filter range is an ideal solution for primary filtration because:

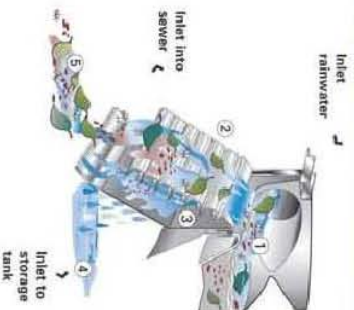
- It is made from drinking quality grade materials (polyethylene and stainless steel)
- It can filter up to 2,350m<sup>2</sup> of roof area
- It can be located out of sight under in the sub-floor area
- It is a closed system
- Rubbish is removed to storm water by the residual water that runs over the top of the filter
- It connects to standard PVC pipes

The Volume Filter provides a two step cleaning system:

1. The first stainless cascading "ladder" provides immediate coarse filtration to remove larger leaves and debris.
2. The second, finer mesh sieve (0.55mm) removes smaller debris and provides mosquito protection.



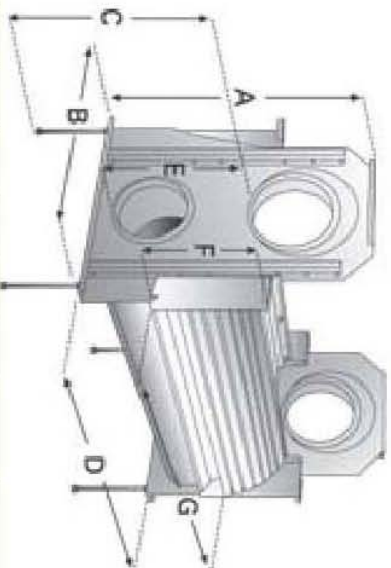




## The Industrial Volume Filter Process

1. Harvested rainwater and debris enters the filter and fills the recess to enable water to distribute evenly over the cascading filter.
2. Coarse debris is pushed over the stainless cascade and removed to storm water.
3. Finer debris is then captured on the secondary filter mesh and also pushed to storm water by the residual water passing over the first coarse mesh filter.
4. Filtered water is then directed to the Waterplex™ storage system
5. Residual water and debris is washed to storm water.  
The filter should be cleaned on a regular basis. The frequency of cleaning depends on the rain catchment environment.

### Industrial Volume Filter Dimensions & Recommended Prices



Filter	Inlet Rain-water	Outlet to sewer	Outlet to storage tank	A in mm	B in mm	C in mm	D in mm	E in mm	F in mm	G in mm	min. ∅ inspect chmbr	Capacity Ltrs per sec thruflow	Capacity Ltrs per sec to storage	Roof Capacity m <sup>2</sup>	RRP (incl GST)
<b>VF2</b>	1 X DN200	1 X DN200	1 X DN150	670	540	525	390	325	275	320	1000	20	3.0	850	\$2,970
<b>VF3*</b>	2 X ** DN200	1 X DN200	1 X DN150	670	540	525	980	325	275	880	1200	30	4.5	1,100	\$4,180
<b>VF4</b>	2 X ** DN250	1 X DN250	1 X DN150	670	540	575	980	325	275	880	1200	60	9.0	1,700	\$5,170
<b>VF6</b>	2 X ** DN250	1 X DN250	1 X DN200	670	540	575	980	325	275	880	1200	60	99.0	2,350	\$5,390

\* VF3 has a filter unit only on one side.

\*\* You don't need to use both inlets but filter capacity will be higher.