

Hydromentum™

The world's only pumped rainwater recovery system that does not require power!



'Plug and go' assembly

Zero electrical connections

Minimal maintenance

Range of water filtration options

Delivered complete & assembled

'No dig' installation

Ready for connection to existing drainage services



System Overview

The Hydromentum rainwater recovery system represents a revolution in water re-use technology. The system utilises the natural energy of water power to screen, filter and pump your valuable rainwater resource so that it can be safely re-used for most applications.

By collecting rainwater at an elevated level, the system stores this as potential energy. When it rains, this water is automatically released through pipes entering two Papa pumps.

The Papa pump is patented technology that utilises the flow of water to enhance a proportion of that water flow to pressures of up to 30 times greater. The pumps use a simple elastomeric venturi valve to increase pressure by intermittent opening and closing, thereby allowing the water flowing through them to convert momentum into pressure. The water flowing through the pumps is diverted into two separate supplies - low and high pressure.

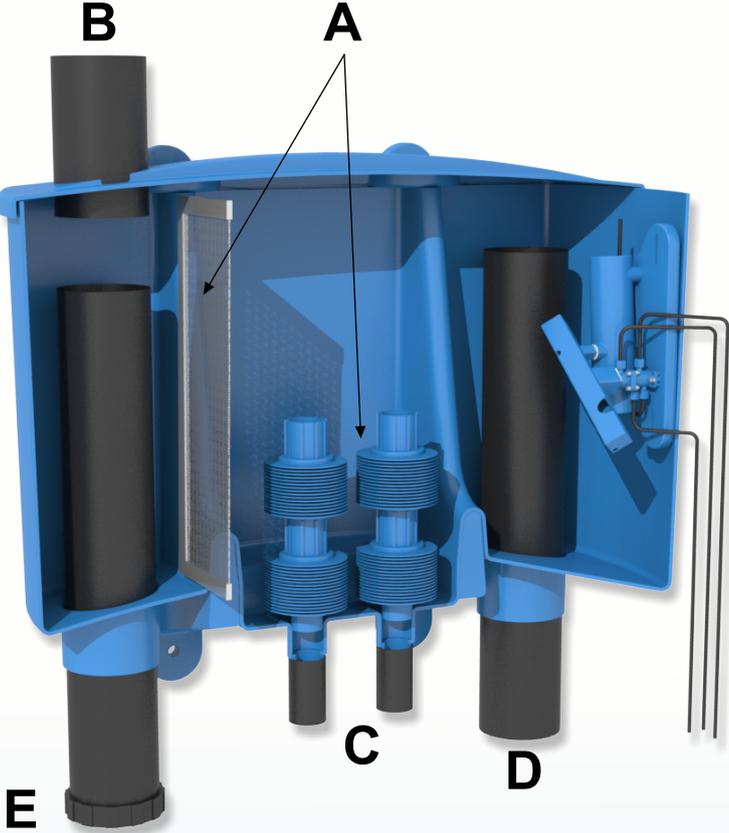


The low pressure connection diverts water which is stored in the ground level storage chambers from where it can be utilised for non-filtered purposes, processed separately, or slowly released to drain.

The high pressure connection diverts water through a primary stage filtration system and then into a suitable storage tank, which may be situated at either a higher level to provide a pressurised supply or stored in a ground level pressurised vessel, as required. From here, this water can be utilised for a multitude of uses. Additional filtration or water treatment processes can be implemented separately to meet any applications that require particular water quality standards.

The quantity of pressurised filtered water delivered will vary depending on the filtration process and stored pressure - however, this quantity may be increased by the simple recirculation of water from the ground level storage chambers back up to the rainwater collection tank. This can be achieved by the installation of a simple electric/solar low-head submersible pump installed in the ground level storage chambers.

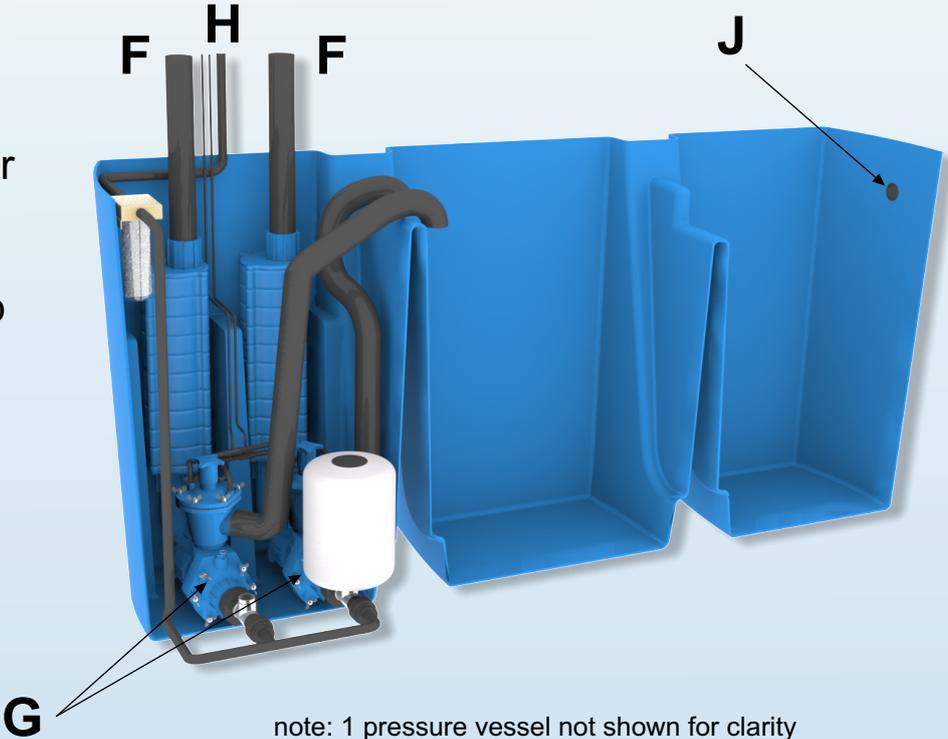
Rainwater collection tank



- A** - Primary filtration: screen and Seradisc® filters
- B** - Water inlet from guttering
- C** - Outlets to feed PAPA pumps
- D** - Overflow
- E** - Debris collector

Pump/storage chambers

- F** - Inlets from rainwater collection tank
- G** - Double PAPA pump installation
- H** - Pumped water delivery
- J** - Chamber overflow



note: 1 pressure vessel not shown for clarity

Access

Safe maintenance platform for single operator access.

Security

Secure, lockable ground tanks prevent access

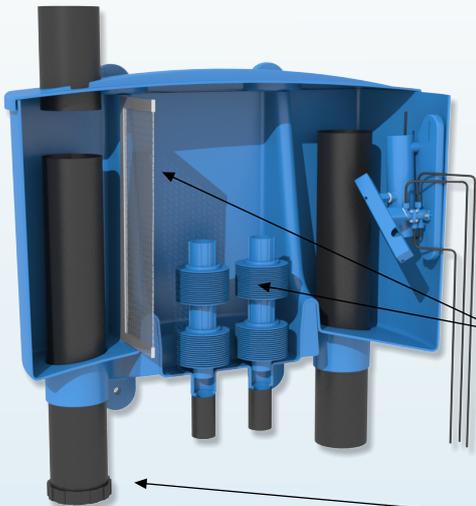


Connection

The system comes ready assembled, only requiring connection to existing building drainage services:

1. Roof guttering (Rainwater collection tank inflow)
2. Guttering downpipe (rainwater collection tank overflow)
3. Existing drain (storage chambers overflow)

Maintenance



Top tank - Rainwater Collection

Periodical visual inspection and cleaning of coarse filtration recommended*

Periodical emptying of debris collector*

Bottom tank - Pump/storage chambers

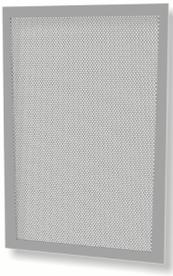
Pump and controls are easily accessed to check operation and perform valve/filter replacement when required**

*Frequency will depend on the amount of debris liable to land on roof area.

**A set of replacement valves and a comprehensive manual detailing pump maintenance procedures are supplied free with every Hydromentum kit - replacement is simple DIY. Replacement of the water filtration cartridge(s) is as per the manufacturer's recommendations.

Filtration

(Supplied as standard in rainwater collection tank)



Coarse filtration - solid particles eg leaves & twigs

5mm solid debris filtered



Coarse filtration - Seradisc® patent pending

3mm solid debris filtered with 4 x Seradisc units



Primary stage - fine filtration

Pre-treatment of pumped rainwater

Filtration options

Various grades of micron filtration can be supplied as an option, depending on the ultimate water use. Filter units may be mounted inside or outside the pump chamber or mounted on the frame or a wall in a cabinet for ease of access if preferred.

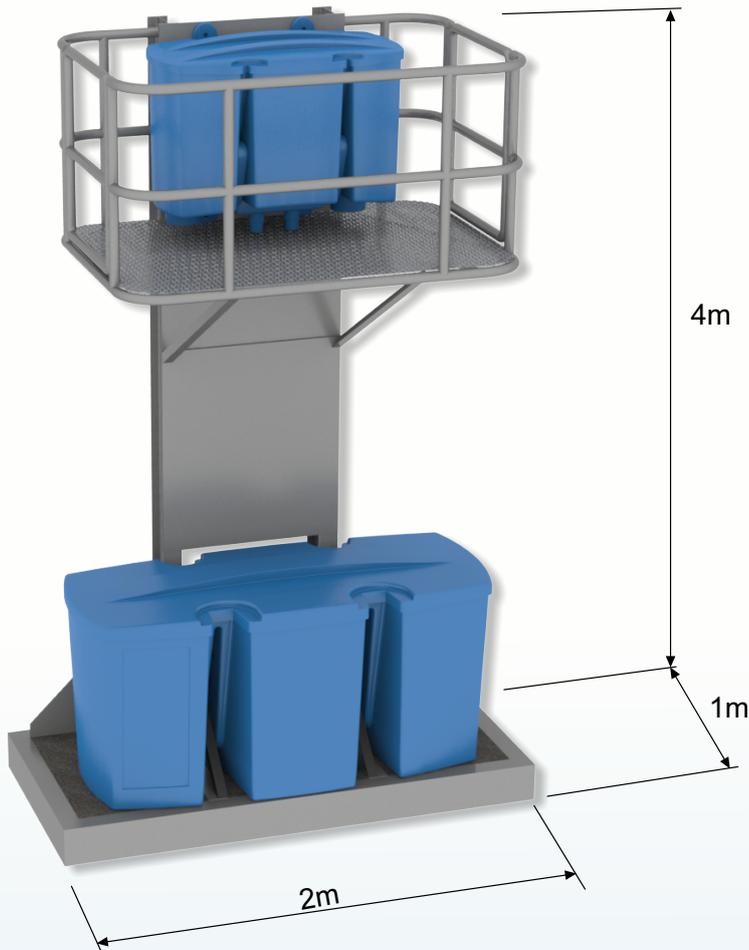


Second stage filtration



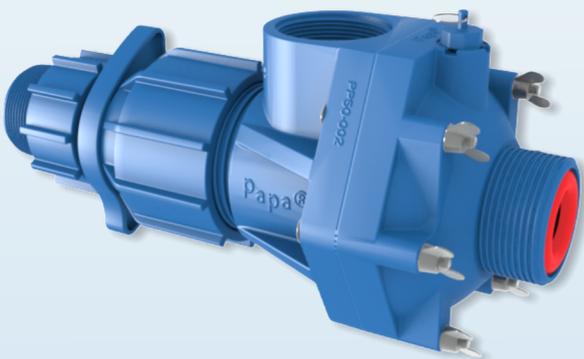
Third stage filtration

Integrated stand



Materials: stainless steel & concrete

Pump performance



See separate PAPA Pump performance and specification information sheet

Pump material: Potable water certified

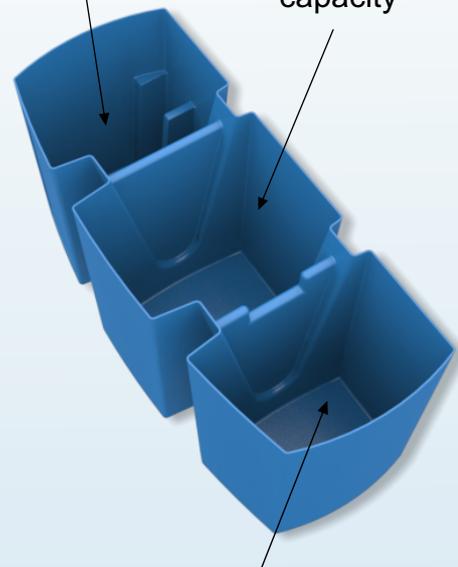
Rainwater collection tank

rainwater collection tank
approx 400 litres capacity



Pump/storage chambers

pump chamber main storage chamber
approx 400 litres
capacity



secondary storage chamber
approx 300 litres capacity

Rainwater collection tank: 35kg.
Pump/storage chambers: 85kg

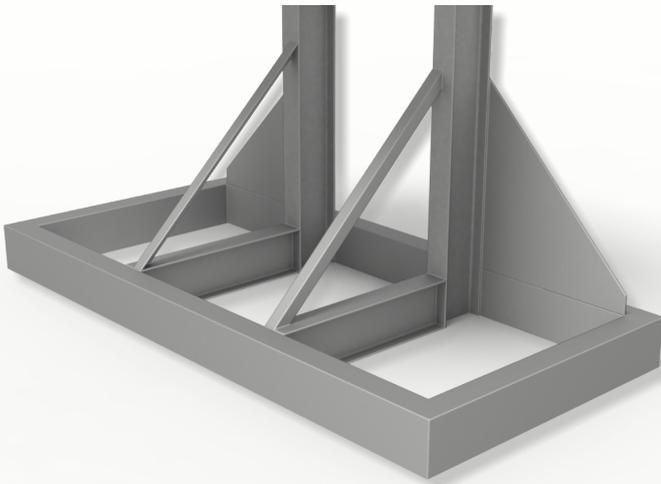
Tank material: Potable water certified
& UV stabilised

Ground Fixing Options

Unprepared ground

Cradle may be integrated with foundations for soft, unprepared ground installations.

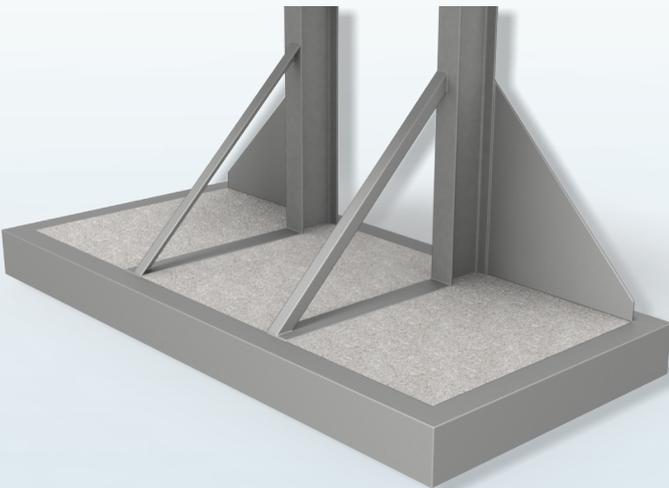
Concrete should be poured in ground excavation and then cradle embedded, with concrete poured into it.



Prepared ground

Concrete is poured on-site.

Steel pins may also be inserted into the hard surface prior to pouring the concrete, thus preventing lateral movement and aid anchoring.



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