



AQUARIUS

Rainwater Harvesting Systems



Water is a scarce natural resource that we must all value, and recent droughts and publicity on climate change have concentrated all our minds on the need to reduce our demand for water.

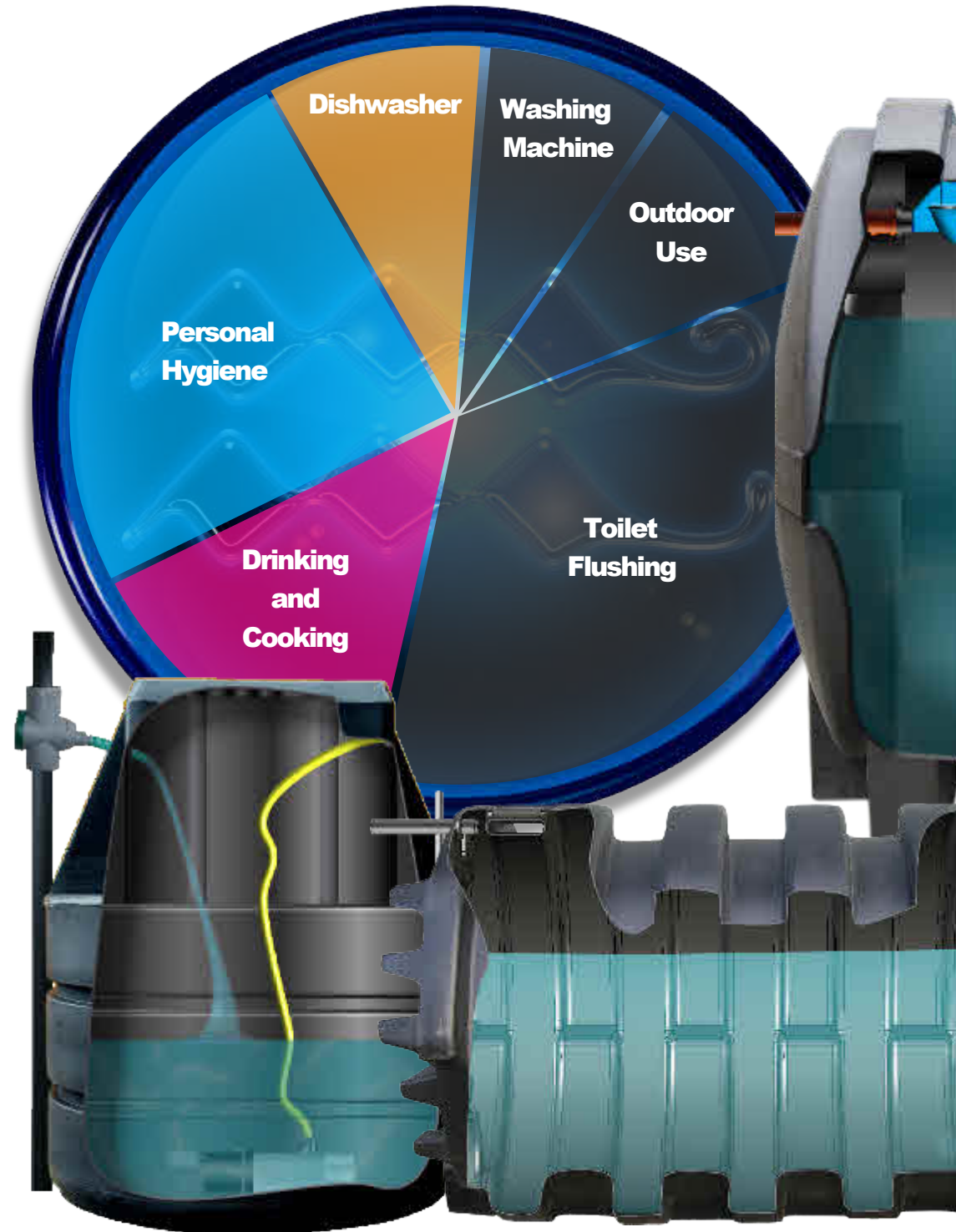
Traditionally, water use was not metered and households and even industry could use as much as they wanted, usually only paying according to the rateable value of their home or property. Water companies are increasingly installing meters, predominantly in all new homes and for householders that choose to have one fitted and water meters are now fitted into over 95% of all commercial buildings and industrial property.

In 2008 less than 20% of all housing in the UK is metered and the use of water for many daily tasks is taken for granted. As shown in the darker segments in the pie chart opposite, over 50% of our water consumption is used on toilet flushing, washing machines and for outdoor use in gardening and car wash applications, where potable metered water does not need to be used.

Potable water supplied via a water meter can become very costly where large quantities of water are used. This is particularly relevant for businesses and commercial properties who are now mostly all metered and their exposure to large water and sewage bills should encourage a review of the water supply.

Average household water use for washing and drinking in the UK is about 150 litres per person per day, but we consume about 30 times as much in "virtual water" used in the production of imported food and textile's. With this virtual use this equate's to each person in the UK using up 4,645 litres a day. So in total we use an astounding 15 to 20 billion litres of potable water every day for domestic and household applications. Even more concerning is that we use ten times that on "virtual water" use, at over 200 billion litres of water a day.

With this sort of demand without rainfall replenishing the watercourse and reservoirs, water supply will run out very quickly .





AQUARIUS

One of the most effective ways of reducing potable water consumption is by using one of our Aquarius Rainwater Re-cycling or "Harvesting" system. By storing and then utilising rainwater which drains from your property via roofs and surface areas, you can effectively store rainwater in any quantity in one of our Aquarius Systems.

For smaller volumes used in outdoor applications like gardening and jet washing, we have designed two systems Garden Handy and Garden Pro. These systems are sited outside your property, close to a rainwater down pipe either above or below ground. Once the rainwater from your chosen roof area fills the Aquarius tank, then the system is ready to be used. Water is supplied via a pumped system which terminates in a hose fitting for easy connection to a hose.

For indoor use on domestic appliances like toilets and washing machines, our Home or AquaPod system will distribute the stored rainwater into your home replacing the metered water. The rainwater is distributed via our standard control system which features a high specification pump and level control installed within the tank. Alternatively you can upgrade to our Regal Control System, which is standard on our Aqua Pod system. The Regal System feature's an above ground pump mounted inside a robust kiosk that can be sited internally. The Regal system supports larger developments and we recommend you use in surface areas over 300 sq. metres.

In all systems the roof water or surface water is filtered before entering the storage tank. All underground systems feature innovative overflows that will skim off surface pollen and algae and for combined sewer applications and on all AquaPod systems we supply a non return valve on the overflow outlet. This stops solids back flow and prevents vermin entering the tank from the outlet sewer.

Our Aquarius range has been designed to harvest surface water from the smallest roof to extremely large commercial sites.



General Specifications



Tanks

We are main distributors for H2O Group the leading UK manufacturers of High Density Polyethylene (HDPE) Tanks and Sumps for the Construction and Water Industry.

We have an extensive range of tanks available for use in Rainwater Harvesting and water storage. Capacities from 350 litres to 6000 litres and now with the introduction of our new AquaPod modular storage system we can harvest any quantity of surface water from roofs and hard standing. All our tanks come with a minimum ten year guarantee and in underground installations should last well over 100 years.

For all Aquarius Tanks we use our own unique polymer which helps prevent algae build up. Our tanks are very robust, ideal for site storage and for use above ground. The AquaPod can be installed in stone to four metres invert or in suitable good ground non trafficked areas in as dug material.

If you are specifying or contemplating building your own Rainwater Harvesting System and are looking for storage tanks. Then please note that all our tanks and parts are available to purchase as separate items.

Filter and Overflow Systems

All the Aquarius range is fitted with proven high performance filter systems. In the main we fit and supply 3p Technik filters into our standard ranges 3p are the worlds leading supplier of rainwater filters . We have formed a strategic supply partnership with 3p for all its companies. For our AquaPod systems we also supply our own filter systems which will filter out oils and silts from landscaped and hardstanding areas. Our separators supply clean water to less than 5 mg/l and have been tested to EN standard.

Pumps

All pumps used in the Aquarius range are of the highest quality, meticulously specified by us to be extremely robust and hard wearing providing many years of performance. As an example of this, the Forta Duo pump which we use externally for our Garden Handy basic range is used very commonly by many suppliers in the industry for internal use. We only use this pump externally, which it was designed to for. We have chosen to go for a far higher specification of pump for internal use and all of our integrally fitted pumps are heavy duty featuring stainless steel casings. All pumps and have a minimum five year life expectancy with a 12 month return policy.

Control Systems

Standard Control systems are supplied on our Home Range which feature a high specification pump and level control installed within the tank. Alternatively you can upgrade to our Regal Control System, which is standard on our Aqua Pod system. The Regal System feature's an above ground pump mounted inside a robust kiosk that can be sited internally. The Regal system supports larger developments and we recommend you use in surface areas over 300 sq. metres. On some larger housing schemes and on commercial systems we can design control systems for specific applications, dealing with up to 20,000 litres of re cycled rainwater per day.

GardenHandy



Garden Handy is the base model of our Aquarius Rainwater Harvesting range.

Designed mainly for use around the garden and outside applications like watering, washing down paving and brickwork.

The Handy System down pipe filter (shown above) should be first connected to a chosen rainwater down pipe. The connection is easy. Simply cut away the existing down pipe and fit the filter as described in the instructions enclosed in the filter pack. Then the filter's flexible connection pipe will fit into the top of the Handy's tank.

When it rains, the rainwater passes through the filter located in the down pipe. The filter takes out most of the dirt, leaves and debris from your roof that may have become suspended in the flow from your guttering system. Once filtered the rainwater is collected in the tank and can then be used .

All Handy systems come with a High Quality Forta Duo pump which has a pre filter unit fitted. The pre filter removes any tiny particles of dirt that may be in the stored water.

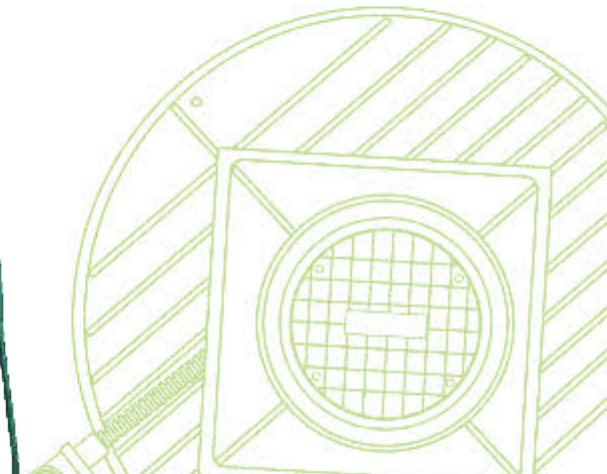
By connecting the Forta Duo pump to the connector at the base of the tank, as shown opposite. Then connect your garden hose to the top of the pump, as shown in the inset in main picture left. You are now ready to use your Handy system. So just simply turn on the pump and your water supply will be automatic.

The Forta Duo pump also has an integral automatic run dry switch, which stops the pump from running if there is no water in the Aquarius Tank. This feature prevents pump burn out.

The Garden Handy range features :

350L, 1250L, 2100L, 3300L & 6000L models.

All in one piece moulded tanks.



GardenPro



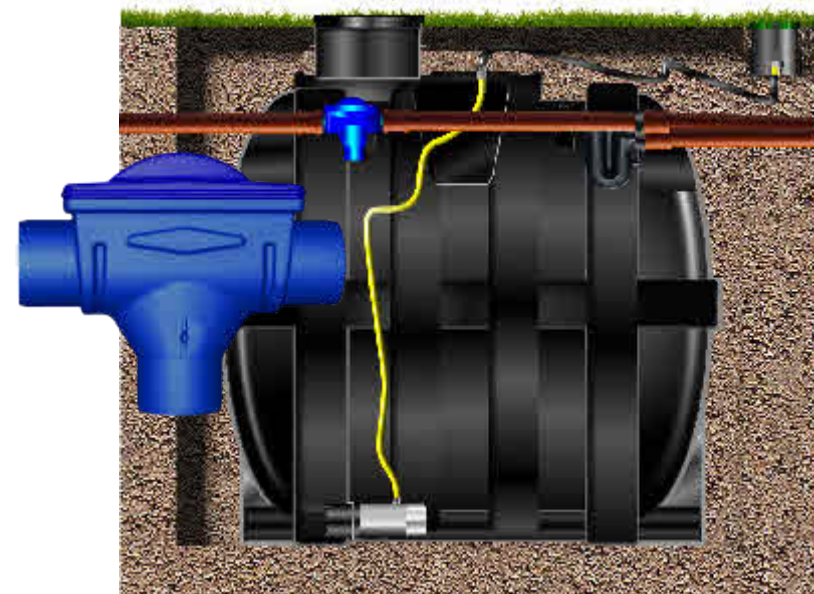
The Garden Pro system comes in Above and Below Ground models.

The Pro Above Ground model functions in the same way as the Handy system. Rainwater is collected in the tank after passing through the down pipe filter. This model features a high performance heavy duty stainless steel pump fitted internally rather than externally as the Handy Model. The pump has a sieve filter fitted to the inlet end of the pump to filter out finer dirt and algae that may be in suspension. On the larger 3300 litre and 6000 litre models the pump has a floating suction filter which takes clean water from the mid section of the tank. All pumps feature a run dry switch to stop pump burn out when the tank water level is low. These pumps give a superior discharge pressure than the Forta Duo pump on the Handy model. The pump is connected via a delivery hose which connects to a simple BSP connection at the top of the tank as shown opposite.



The Below Ground model (shown below) features the same high specification pump as the above ground system, only in this model the tank is located below ground, so it needs to be connected to your below ground drainage system, instead of the down pipe filter, as in the above ground model. The Below Ground model has an integral filter fitted to the inlet on the inside of the tank. The tank also features a trapped overflow system that allows excess rainwater to bypass to the surface water drainage system. The Garden Pro Below Ground units have a separate outlet and overflow, which means that two connections are needed to the nearest respective manhole. The tank comes with a 250mm high by 470mm diameter extension shaft complete with pedestrian lockable cover. The pump delivery hose which terminate's at the top of the tank, can be connected to either a surface tap box or a watering post. Both these ancillaries can be supplied as optional extra's and are both easily installed. See ancillaries on inside back page.

The Garden Pro range features :
1250L, 2100L, 3300L & 6000L models.
In both Above and Below Ground Models.



Home

The Aquarius Home System offers two systems ZF and VF. Both are Below Ground models.

- **ZF System** will manage roof areas up to 200 sq metres
- **VF System** will manage roof areas above 200 sq metres to 450 sq metres

Our ZF system detailed in the Black Tank directly opposite, features a high quality Hdpe tank with a proven stainless steel fine mesh 3P filter, to ensure the highest quality of water. The ZF's filter is located on the inlet of the tank and the outlet from the inlet filter is then connected to the Duo overflow on the outlet. The specially designed Duo overflow skims off pollen and algae that may have gathered on the top water level, it also has a trap moulded in to stop smells from the sewer and prevents vermin entering the tank.

After passing through the inlet filter the water then enters the tank and is then calmed at the base to prevent disturbing the surface of the tank and potentially clouding the tank. As the ZF has a slight fall across it any debris will pass across the filter face and discharge to sewer via the overflow which in this model is connected at the rear by the horizontal inlet filter connection, as stated above.

These systems are all fitted with integral high quality stainless steel pump which have a floating suction inlet fitted which also has a stainless steel sieve filter attached. The float allows the suction hose to intake the cleaner water from a higher level. The delivery hose from the outlet of the pump is connected through underground ducting to the internal wall mounted control system. When the tank is empty there is a low level probe fitted as part of the control system. This probe when activated by a low water level will open the solenoid valve and the tank is then re filled from mains water supply. The control system can then be connected to your specific internal appliances.

Combining the same high quality throughout, our VF System offers rainwater harvesting for larger housing applications for roof areas up to 450 sq metres.

As shown in the main illustration opposite, which features the VF system the roof water primarily passes through the VF filter which is located upstream of the Aquarius tank. Inside the filter housing is a removable high specification stainless steel filter cartridge.

The operation of the rest of the VF System is exactly the same as the ZF System.

Maintenance and accessibility of the filters is straightforward. Both filters are simply removed for cleaning as shown above and opposite left.

Regal Control System

Both the above systems can be upgraded with a Regal Control System shown directly opposite. Regal Controller's feature a high specification suction pump rather than a submersible pump as in the standard system. The pump, low level switch, water level metre, solenoid switch and tundish are all integrated into the wall mountable control panel.

We thoroughly recommend the Regal system for furnished or dry areas and applications requiring dual connections.

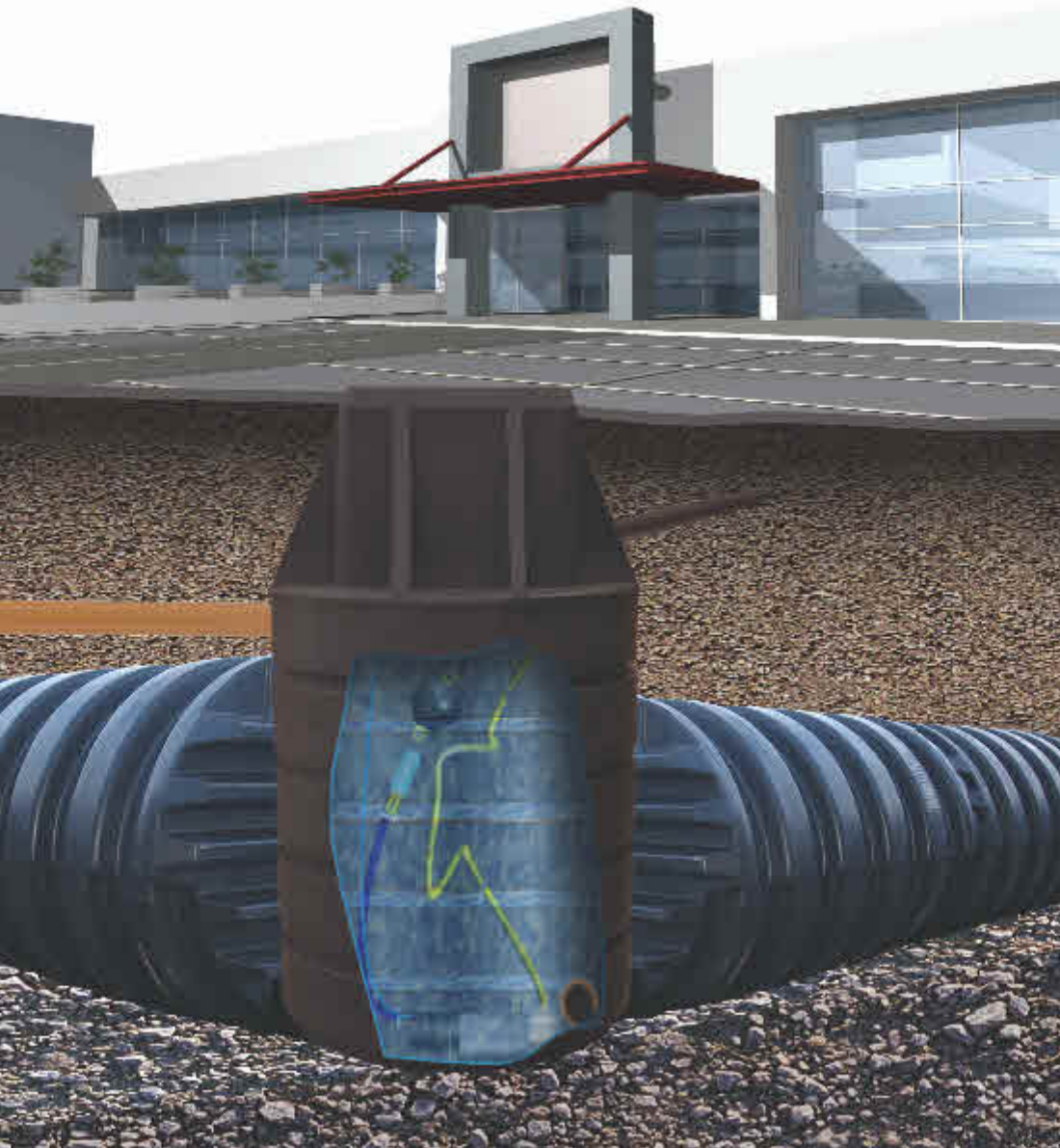
The Regal controller can be retrofitted to suitable existing storage systems.

We recommend a qualified plumber carries out the internal work



AquaPod

commercial systems



Our AquaPod System has been specifically designed for use in larger housing schemes and for commercial surface water harvesting applications. Its unique design and shape offer high strength, durability and total sustainability having a minimum 50 year life expectancy.

The AquaPods shell/body design allows for installation in high water tables and adverse ground conditions with a minimum 300mm of stone backfill. No special excavation is required. Its low profile single skin body makes it lightweight and easy to install without the use of any specialised heavy plant or craneage. Simply install the control chamber and then simply couple the pods together at the base and push together, when the ribs are interlinked on each end of the pod, a steel rod is pushed through the interlinking pods rib structure and ties the pods together. The insertion of this rod makes the structure extremely strong and able to take extreme soil and water pressure. The process of joining two pods together takes minutes and a multiple pod installation up to 50, 000 litres can be done in less than 3 hours.

The AquaPod comes into its own on Commercial Rainwater installations, when used with our Geocceptor Silt/Oil Separator, which is proven and tested to EN standard 858 and will separate roof and many contaminated ground water areas to less than 5mg/l, which is a better dilution than bottled drinking water.

In many instances in garden, landscaped or non trafficed light loading areas the AquaPod can be installed with a minimum 350 mm cover and in dry ground conditions can be installed in as dug material, saving huge amounts of money on earth moving.

With two system options

Aquapod H : For larger housing installations.

Includes 1400 or 2000 litre hdpe control chamber dependant on depth. A mains top up controller. The system is provided with a Rainus filter for connection on downpipes up to 90mm. The control chamber has a integrally fitted pump with floating filter intake and non return valve on overflow. Standard H Systems are capable of supplying 3cu metres per hour or 6 toilets

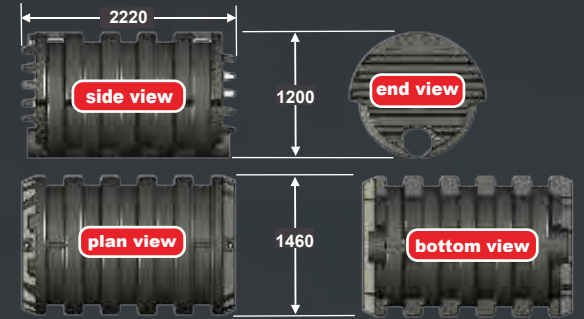


Aquapod C : For commercial installations

Includes 1400 or 2000 litre hdpe control chamber dependant on depth. A wall or floormounted control system with integrated suction pump, high level control and top up reservoir. At the head of the drainage run we supply our Geocceptor separator, providing for roof and surface water filtration with pipework options up to 450mm. The control chamber has a floating filtered intake and non return valve on overflow. Standard C Systems are capable of supplying 8 cu metres per hour or 20 toilets



Specification AquaPod System

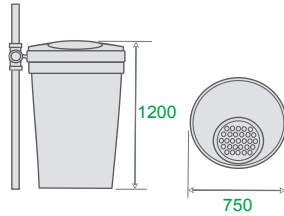


Number of Pods in system	Storage per pod	Volume Storage Including Control Unit	Overall Length Including Control Unit
1	2280	3430	3780
2	4560	5710	6000
3	6840	7990	8220
4	9120	10270	10440
5	11400	12550	12660
6	13680	14830	14880
7	15960	17110	17100
8	18240	19390	19320
9	20520	21670	21540
10	22800	23950	23760
11	25080	26230	25980
12	27360	28510	28200
13	29640	30790	30420
14	31920	33070	32640
15	34200	35350	34860
16	36480	37630	37080
17	38760	39910	39300
18	41040	42190	41520
19	43320	44470	43740
20	45600	46750	45960
21	47880	49030	48180
22	50160	51310	50400



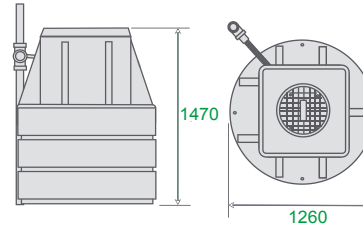
Range Specification

Above Ground Systems



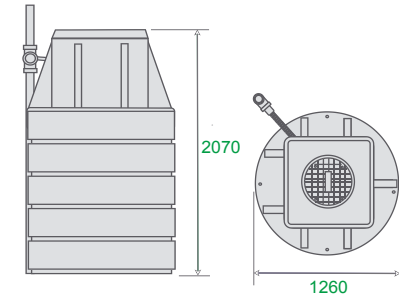
GardenHandy

Product Reference **AGH4**
Max.Storage (litres) **350**



GardenHandy & Pro

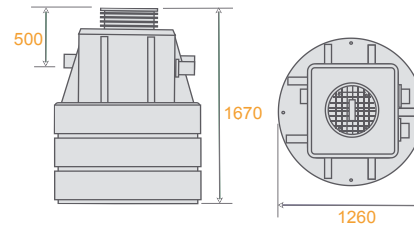
Product Reference **AGH/AGP12A**
Max.Storage (litres) **1275**



GardenHandy & Pro

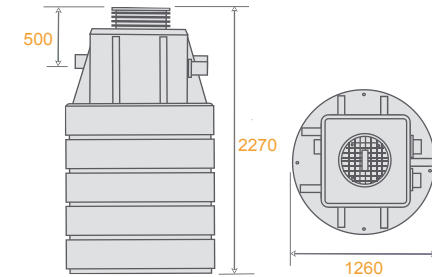
Product Reference **AGH/AGP20A**
Max.Storage (litres) **2000**

Below Ground Systems



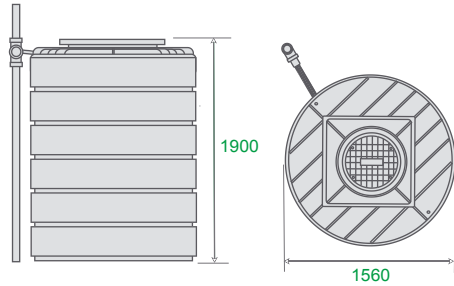
GardenPro

Product Reference **AGP12B**
Max.Storage (litres) **1275**



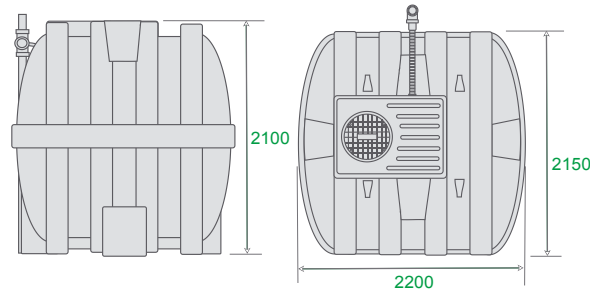
GardenPro & Home

Product Reference **AGP20B/AHZF&AHVF 2000**
Max.Storage (litres) **2100**



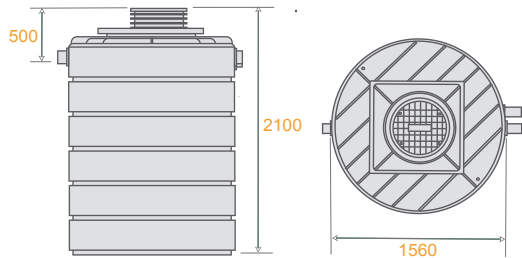
GardenHandy & Pro

Product Reference **AGH/AGP30A**
 Max.Storage (litres) **3300**



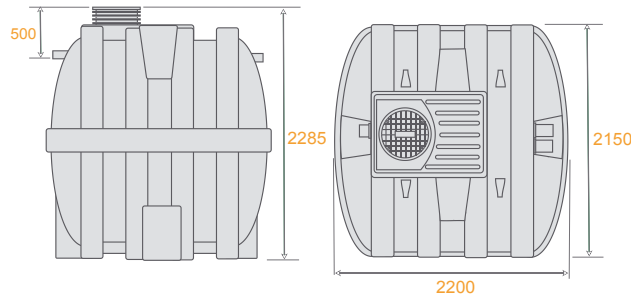
GardenHandy & Pro

Product Reference **AGH/AGP60A**
 Max.Storage (litres) **6000**



GardenPro & Home

Product Reference **AGP30B/AHZF&AHVF 3000**
 Max.Storage (litres) **3000**



GardenPro & Home

Product Reference **AGP60B/AHZF&AHVF 6000**
 Max.Storage (litres) **6000**

ancillaries



Surface Tap Kit

Product Reference's **AGPSTK**
 For below ground Aquarius Systems.



Watering post

Product Reference **AGWP**
 Colours : Marble Grey & Stone



Heavy Duty Pump

Product Reference **AHDP**
 Stainless Steel
 Can be used for heavy duty integral or external applications
 Replacement for Garden Pro and Home ZF and VF



Gutter Cleaner

Product Reference **AGC**
 Sizes : One
 Can be used effectively to clean out gutters without the use of ladders. Extends to 2.4m



Regal Control System

Product Reference **ARCS3000**
 Sizes : 1200 X 1000
 Can be retrofitted to control flow
 From pre installed below ground storage systems



Forto Duo Pump

Product Reference **AFDP**
 Sizes : One
 Can be used outside of water butts and tanks for garden watering



Non return Valve

Product Reference **ANR110/160**
 Sizes : 110 & 160mm



Down pipe Filter

Product Reference **AFC 68/75**
 Sizes : Fits up to 75mm sq section downpipe
 Colours : Standard Grey. To order Black, Brown & White

