These guidelines are designed to cover the installation of Ecosure low dig underground water tanks.

***Please note**: responsibility for the tank passes to the buyer once unloading commences; it is therefore important that the buyer accepts the condition of the tank on arrival before attempting to move it.*

Ecosure underground water tanks are designed to be lifted and manoeuvred only when empty. Under no circumstances should they be lifted or manoeuvred when containing water.

It is recommended that these tanks be unloaded, moved around site and lowered into by use of lifting straps around the whole tank. However, some initial swing should be anticipated. This must be stabilised before the tank is moved further. To stabilise the tank when moving around the site, guide-ropes should be attached to the chains, enabling operatives to control the load from a safe distance.

IMPORTANT INFORMATION – ADDITIONAL PRECAUTIONS

Ecosure underground water tanks are designed to be installed in accordance with these guidelines, taking additional precautions in the special circumstances identified in the following table:

SPECIAL CIRCUMSTANCES	ADDITIONAL PRECAUTIONS REQUIRED
Clay soil	Strap and secure to a suitable concrete base
High water table	Strap and secure to a suitable concrete base
Traffic bearing	Approved[1] arrangements
Adjacent foundations	Approved[1] arrangements
Non-standard install depth	Approved[1] arrangements

[1] Designed and signed off by a structural engineer

If site personnel are faced with any of the conditions noted in the table above, they must seek supervisory advice before commencing tank installation.

Please note:

- The tank is designed to take pedestrian traffic only.
- The top of the tank must not finish any more than 500mm below ground level.
- The tank must not be located where root matter can disturb it.
- Pipe-falls should be a minimum of 2:100 in the direction of water-flow, i.e. rainwater pipe and service duct towards the tank and the overflow away from the tank.

BEFORE DELIVERY

Please ensure that

- suitable access and parking arrangements have been made for the delivery vehicle
- plant is available to unload the tank
- a clear route has been designated between the delivery vehicle and the installation site
- a risk assessment and method statement for unloading and manoeuvring have been prepared and signed off
- the installation site is level and clear of obstacles and site debris

Ideally:

- the water ingress pipework should be complete and ready for connection
- the water overflow pipework should be complete, ready for connection and itself connected to the surface water management system (soak-away, storm drain or attenuation as appropriate)
- the service duct is ready for connection

Before starting the installation, confirm no added precautions (see table above) apply and there is no requirement to:

- Install in a high water table (in which case, ensure tank is strapped down to a concrete base)
- Carry the weight of vehicular traffic (in which case, a structural engineer's design is required)
- Locate closer than 4 meters to adjacent foundations (in which case, a structural engineer's design is required)
- Install adjacent to an earth bank or raised patio (in which case, a structural engineer's design is required)

INSTALLATION GUIDELINES

The following guidelines apply when no added precautions are required (see table above).

EXTERNAL WORKS

The installation of the Ecosure rainwater storage tank and its connection to the water supply, water overflow and service duct pipes should be undertaken at the same time as the overall underground works for the project.

The tank should be sited to provide the straightest possible service duct run between the tank and the dwelling as other pipe-work and cabling etc. need to be fed through this duct at a later stage.

Excavation

- Allow 100-150mm all-round the tank.
- The top of the tank must be no more than 500mm below ground level.
- Use suitable planking and strutting as necessary
- Dig out trenches for pipe work and inline filters.

Once installed, the position of the tank is to be clearly marked and driving vehicles within a meter of a tank edge is strictly forbidden.

The Base

The following guidelines apply when no added precautions are required (see table above).

- The tank must be installed on a firm, smooth, level base built in accordance with good building standards and engineering principles. Concrete is recommended, although a mix of sand and hardcore will suit.
- **The depth of concrete used must be appropriate to the size of the tank and soil conditions.**

Installing the Tank

- Once the base is complete, lower the tank into the hole. Make sure that the tank is sitting flat and true before filling it with any water.
- If you have been supplied with a neck ring, this should be cut to length to finish flush with the ground. If the neck ring is loose, position it and apply a good bead of silicon seal around the joint. ***Please note that the tank lid is designed to withstand foot traffic only.***
- Backfill with free draining material such as pea shingle, especially in the baffles of the tank.
- Once the concrete has set, backfill any remaining space with pea shingle and surround materials, bringing connectors and pipework into final alignment.
- Under no circumstances
  - Tamp-down the infill with machinery
  - Tamp-down finished ground level with machinery
  - Drive vehicles over tanks installed as above
- Connect all pipework
- Mark out an exclusion zone 1 metre outside the original excavation footprint. Superimposed loads must NOT be allowed within the protection area. If this is not possible, a reinforced concrete slab must be designed and installed by a qualified civil or structural engineer so that no loads are transmitted directly on to the tank.

WARNING

Exceptional Conditions/Added Precautions

When exceptional conditions are experienced (see table above), tanks must be installed in accordance with the design and instructions of a qualified structural engineer who takes responsibility for the integrity of the installed tank.

When the tank has to be encased in concrete:

- Fill the tank with approximately 300mm of water before starting the concrete back fill.
- Back fill evenly around the tank with concrete in 150 mm layers. Do not use vibrating pokers to consolidate the concrete and do not discharge concrete directly onto the tank.
- Progressively fill the tank with water, ensuring that the level of the water in the tank is approximately 300mm above the level of the concrete backfill

Installation Tip

Installation of the tank and effecting connections with the inlet pipework, the outlet pipework, and the service duct, will normally be undertaken by ground-workers as part of the underground drainage works; this work should include:

- Leaving in place a draw cord in the service duct for subsequent use by the plumber and or electrician
- Feeding the supply pipe through the service duct, section by section as the service duct is installed

Aftercare

Most underground water tanks do not need aftercare immediately. If the water is undisturbed for a period of time, it may become stagnant. Over years of use the tank may require cleaning, which can be done using a mop.

Filter Box Installation

- The filter box can be installed anywhere along the inlet pipe *between the tank and the down pipe*. Ensure you can gain access to the filter for cleaning. *Please note that the filter box lid is designed to withstand foot traffic only.*
- Run your pipe work, ensuring that the inlet from the filter has an adequate drop to ensure water flow. A fall of 2:100 is recommended.
- Ensure the inlet pipe from the down pipe, is fitted to the 4” connector on the filter box with the 90° elbow on it.
- Back fill the area around the filter box with pea shingle.
- More detailed instructions are available on a separate sheet.

Fitting a Pipe to a Low Dig Underground Water Tanks – 1100 - 2800 litres

- Ecosure recommend the use of Adaptaflex rubber tank connectors
- Drill a hole in the tank, deburr rough edge.
- Insert tank fitting
- Chamfer the edge of the pipe, lubricate and push through so that it fully penetrates the tank.

For Information

The following example risk assessments are available at www.water-tanks.net in the technical information section:

Example risk assessment	–	tank unloading and on-site movements
Example method statement	–	tank unloading and on-site movements
Example risk assessment	–	tank installation
Example method statement	–	tank installation

WARNING

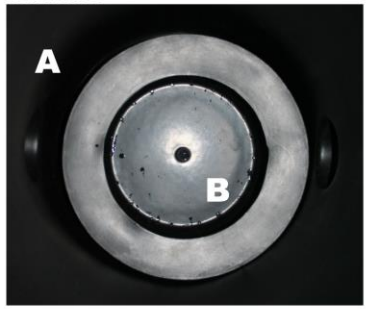
The risk assessments are examples only, and need to be adapted by a capable person to reflect actual site conditions

UNDERGROUND FILTER - SET-UP

1x A : Filter chamber
1x B : Filter Basket
1x C : 90° elbow calmed inlet
1x D : Mini filter basket
1x E : Lid

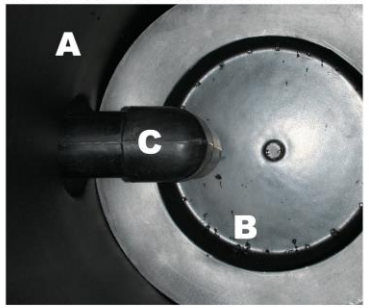
Step 1

Lower the basket filter into the chamber



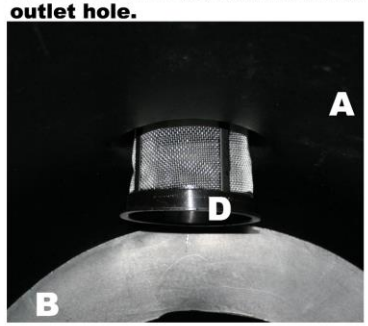
Step 2

Insert the calmed inlet elbow in to the smaller of the two holes.



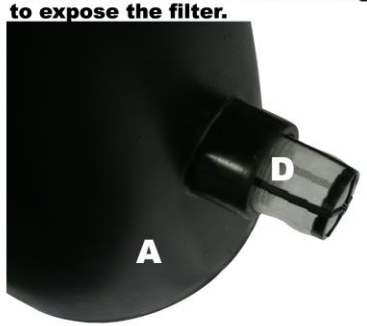
Step 3

Insert the mini basket filter into outlet hole.



Step 4

Pull the mini basket filter through to expose the filter.



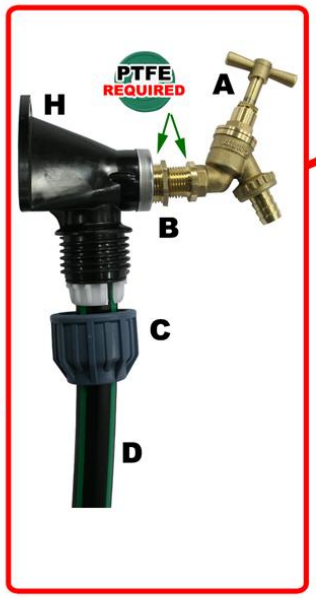
Once all the steps above are complete, place the lid (E) on the filter chamber.

ECOSURE

EASY HYDRO PUMP KIT - SET-UP

1x A : Brass tap
1x B : Brass reducer
2x C : Pipe connector
1x D : Rainwater pipe
2x E : Submersible pump
1x F : Inline filter
1x G : 90°elbow connector & suction filter
1x H : Wall mountable hose/tap connector

PTFE Tape Required
(Please use PTFE Tape on Threads Shown)



This must be plugged into the nearest electrical point

ECOSURE