



ecotube HOME & GARDEN

INSTALLATION MANUAL

ECwhizz
An evolution for Eco - friendly products

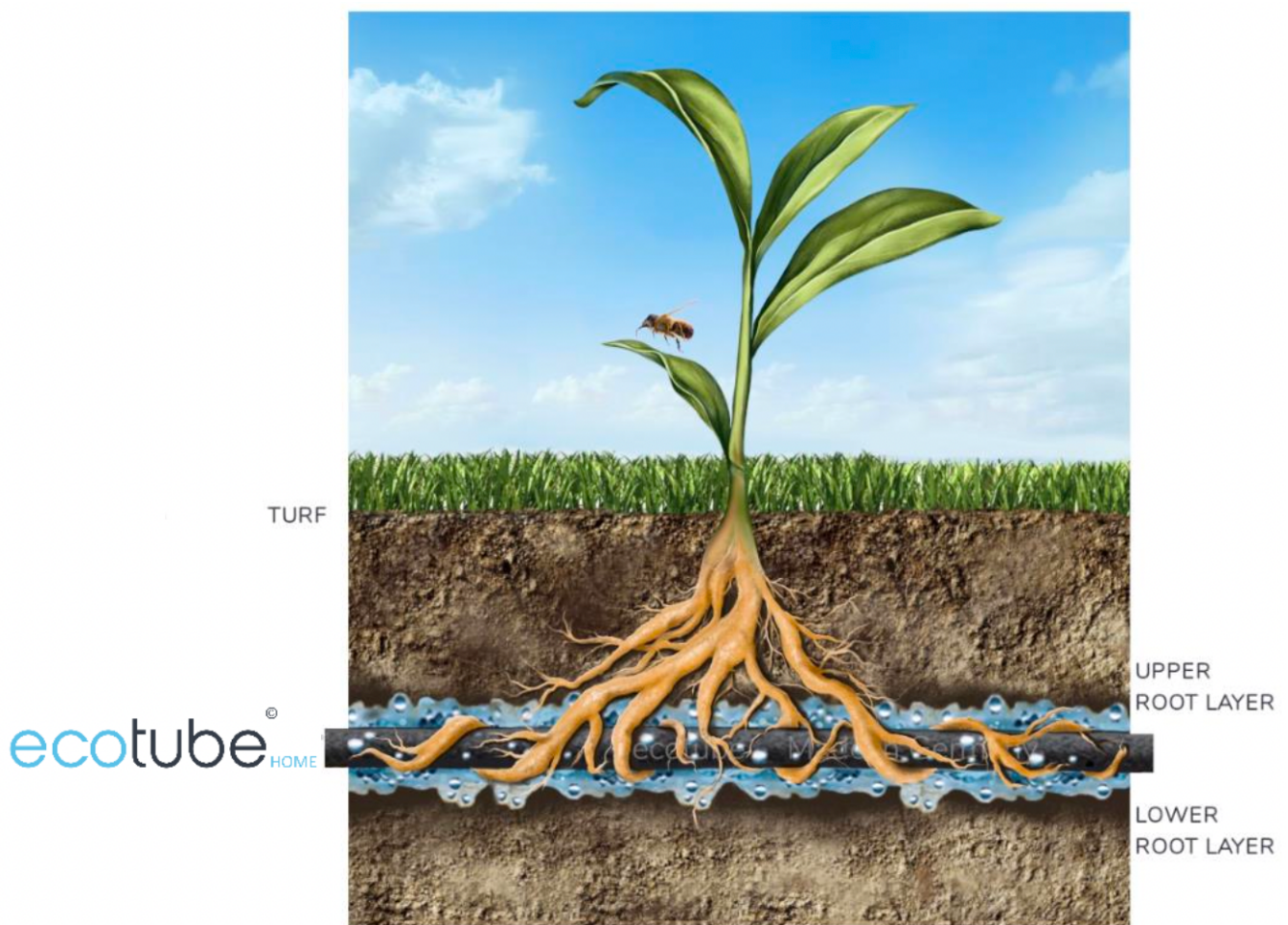


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The ecotube HOME must be installed sub-surface for optimal and beneficial irrigation. In addition, the ecotube is protected against external influences such as solar radiation, animals, or mechanical devices (lawn mower, spade ect).

ecotube irrigation system water the roots of the plants directly underground, with the tested ecotube spacing between plants to ensure the roots of the plants grow towards the pipe. The homogenous delivery of water reduces the stress to which the plant is exposed, therefore promoting growth. After the irrigation the ecotube Home empties itself due to the capillarity* of the soil.

*Capillarity: a phenomenon associated with surface tension and resulting in the elevation or depression of liquids.



ecotube HOME cross section



The ecotube HOME complete set consists of the following components:

| Complete Set | Quantity |
|----------------------------|----------|
| ecotube HOME (50 or 100m) | 1 |
| Connector Garden Hose | 2 |
| Pressure Reducer | 1 |
| Connector Pressure Reducer | 2 |
| T-Connector | 1 |
| 90° Connector | 1 |
| Stopper | 10 |



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In addition, the following standard parts are recommended and the filter is mandatory should you not be using clean municipal water.

| Additional Parts | Remarks |
|------------------------|---|
| Garden Hose (1/2 inch) | From tap to bed |
| Filter | <p>Using grey water, rainwater, borehole water or similar a 120 micron/mesh filter must be installed. Water containing iron or other substances can lead to blockages and will affect your warranty.</p> <p>NOTE: Filter must be installed prior the installation.</p> |
| Water Meter | To check the water flow and detection of problems at an early stage. |
| Automatic Control | An automated irrigation system can be connected to achieve optimal irrigation, we suggest using a professional irrigation expert to install automatic systems if you have no technical experience. |
| Moister meter | Acquire a moister meter to test the grass moister, this will assist with watering correctly as per your soil type and within different seasons. |



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INSTALLATION IN 6 STEPS



1. Preparation of an installation plan. Where should ecotube HOME be installed and where is the water connection?



2. Dig trenches alongside the plants or below new plantings. Make sure to keep the same depth.



3. Put a stopper at the end of line and lay the ecotube HOME inside the trench. Finally cut it with a scissor at the appropriate length.



4. Lay the garden hose from tap to bed. Connect pressure reducer to the fittings. Utilize the repair connector to connect garden hose and ecotube HOME.



5. Open the tap to check if the water spreads equally. Above 30m adhere to the run-in process.



6. Close the trenches. At the beginning, an additional manual irrigation is necessary to allow the roots to grow towards the water.



INSTRUCTIONS

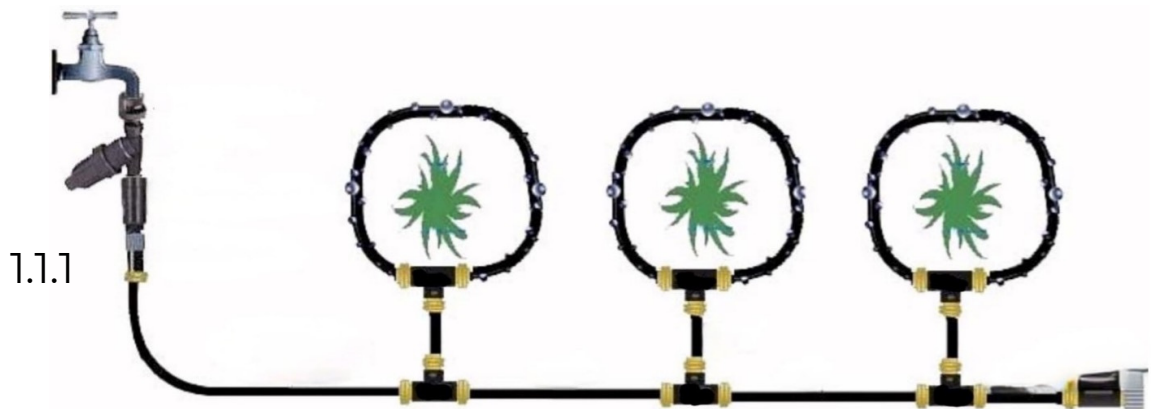
1. Installation

Prepare and plan your installation, for assistance contact info@ecowhizz.co.za, for commercial and agricultural contact us before purchasing, let us assist you to ensure the most cost effective installation.

ecotube must be installed sub-surface at equal depth in parallel.

1.1 Trees/plants with spacing in between

If trees are lined up with spacing between them, you can connect the ecotube to a standard irrigation pipe and run the ecotube around the stems of the trees to save water, there is no need to waste water and irrigate where there are no plants. Or we suggest plant some more greenery in-between your trees and create a lovely flower-bed or planter-bed and keep it green.



1.2 Bushy planter beds

Should you have densified planter beds, with various plants next to each other, you can run the ecotube throughout the planter bed around and in-between the plants. If your planter beds are in different locations, and you don't consist of an automatic irrigation system we advise you to set up your installations points in the various planter beds and make use of one watering hosepipe with the ecotube supplied pressure reducer and fittings.

1.3 Lawn Installation

For smaller lawns we advise digging trenches with curves as per the images below, you will then only require one stopper fitting at the end and your inlet connector. If you have a spacious lawn that require more than a 100meter pipe, we suggest you run of one line and set various points or install an automatic system or manual valve system. Always install on level services.



2. Water Pressure and connection

- Connect the pressure reducer to the fittings.
- Lay Garden hose from tap to the bed and attach to ecotube
- Put the stopper on at the end of the ecotube pipe.

The optimal performance is achieved at 0,6 bar operating pressure. Every ecotube irrigation system must use a pressure reducer supplied by ecotube as the ecotube warranty is only valid with ecotube supplied pressure reducers.

3. Installation Depth

Dig trench alongside the plants/lawn. Make sure to have the same depth.

To achieve optimal installation, the root area must be irrigated as per the below table.

| Plant | Installation Depth | Spacing |
|----------------|--------------------|-----------------|
| Flowers/Bushes | 20 cm | 40 cm |
| Veggies | 15 cm | 30 cm |
| Lawn | 15 cm | 25 cm |
| Trees | 20 cm | Around the stem |



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4. Running-in Phase above 30m

First ensure that all fittings are properly connected, then open the tap to check whether the water is spreading evenly. Above 30 length adhere to run-in process.

Run-in process:

ecotube HOME must be run-in three times after installation as follows:

3x 5min Water On – 15min Off

Once the installation run time is completed and you checked that the fittings are properly connect with no visible leaks, close the trenches and start watering at the beginning to allow the roots to grow towards the water.

5. Water Quantities

Due to its physical properties, the ecotube releases more water at the start of irrigation. The amount of water released can vary depending on the type of plant and soil and will settle at approx.

1,3l/h/m (one point three litres and hour per meter).

Normal irrigation pipes run between 3- 4 l/h/m, hence ecotube saving so much water.



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6. Watering Times

Spacing between the rows depends on the soil, climate and type of plant and varies between 25 to 50cm.

Normally you water the grass every 2 days for 1 hour. Depending on climate conditions (heat, rain) you need to water more.

| Soil Type | Watering Times |
|------------|---------------------------------------|
| Clay | 1L/h (1 litre per hour) |
| Loam | 2,5L/h (2 and a half litres per hour) |
| Sandy Loam | 6,5L/h (6 and a half litres per hour) |

*Loam is a combination of 3 soil types; sand, silt and clay.

*Silt is a solid, dust like sediment that water, ice and wind transports and deposits.

*Sandy loam is a made up of sand along with varying amounts of salt and clay

We always recommend installing Soil Moisture Sensors, which the control unit will monitor (see attached Installation Layout 1.1.1) This solution will give you the water savings against other irrigation systems E.g. dripper, sprinkler.



IMPORTANT TIPS :

ecotube HOME must be installed sub-surface.

The minimum installation depth of 10cm must be adhered to otherwise the ecotube will not function optimally and damage could occur.

ecotube must be installed with ecotube supplied pressure reducer and fittings.

At starting irrigation small splashes could occur. As soon as the pipe has run in these will close by themselves, see run in time to follow.

The ecotube Home must not be stretched or bended excessively and must be laid without tension.

Do not install sharp curves it could bend the pipe.

Installations on gradient terrain are to be avoided. It could lead to no water arriving at the end due to low pressure, ecotube operates on a maximum gradient of 35.

Do not squeeze the ecotube HOME before installation and ensure that bigger stones have been removed.

Always use clean clear treated water (municipal or filtered). Water containing iron and other substances could lead to blockages. No other substances are to be put into the pipe.

A 120 micron filter is recommended.

Running-in time is mandatory for distances bigger than 30m to guarantee the functionality of the pipe.

After successful new installation (for example lawn) the plants must be watered from the surface for a short period of time to ensure roots grow and strengthen to reach the installation depth. We also suggest running the eco-tube in addition, as roots grow towards water.





All ecoTube SA products are covered by a limited warranty to be free of defects in material and workmanship under normal use and services provided. The warranty is only valid for the ecotube irrigation pipe and excludes the fittings and pressure reducer.

Please see table below for the respective product warranty from the date of delivery or purchase.

| Warranty Period (Years) | %warranty /years | %warranty /years | %warranty /years | %warranty /years |
|-------------------------|------------------|------------------|------------------|------------------|
| 8 | 100% | 60% | 30% | 15% |
| | 1 and 2 | 3 and 4 | 5 and 6 | 7 and 8 |

This warranty will not apply if:

1. The product has not been installed and operated according to ecotube SA specifications and the installation manual.
2. The warranty does not extend to products that are misused, tampered, altered, neglected, and incorrectly maintained.
3. Products operated out of specifications and if the irrigation water used has not been filtered to the correct specifications the warranty will not apply.
4. If the product fails due to damage by insects, rodents, or any other animals. Where damage due to fire, lightning, freezing, power failure, power surges, flooding, water damage or mechanical damage is present.

ecotube SA will identify the product and problem during the warranty period before any warranty can be issued. ecotube SA will repair or replace, at its sole option the product or defective part. Proof of purchase date and full payment is to be presented.

