

User Manual

# DRIP IRRIGATION SYSTEM



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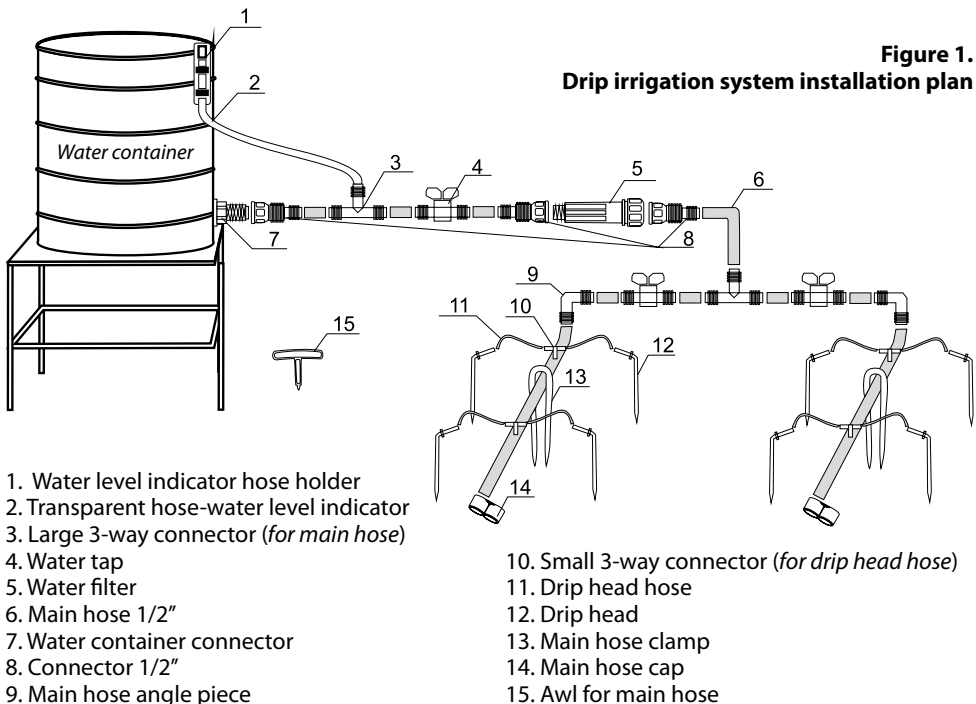
## 1. Purpose of use equipment

The drip irrigation system is designed to deliver a measured dose of water to plant roots. The system can be used for plants growing in greenhouses as well as outdoors.

### Notable advantages of drip irrigation system:

- **no more need for daily watering by hand.** All you need to do is turn on the tap and your plants will be watered without you needing to lift a finger. You can say goodbye to heavy watering cans, buckets and hoses;
- **every plant will be sufficiently watered**, which will significantly increase yields;
- **water will go straight to the roots** so that there is no danger of plant sunburn or overwatering and plants are less likely to catch diseases;
- **if you water supply is irregular it will suffice to fill up a water container/barrel.**

The set does not include the water container necessary for installing the system. Place the water container 1-2 metre above the ground. Make a hole in the wall of the container (5cm from the bottom) and install a male thread connector (size 1/2", included). For further instructions see **Figure 1**.



## 2. Technical information

The system requires 0.1-0.2 bars of pressure to work (this can be achieved by placing the water container 1-2 metres above the ground). Water usage per plant is around 4 litres/hour.

### Purpose of use accessories:

- **Water level indicator hose holder (1)** - used to vertically attach the transparent water level indicator hose (attached to the water container with a hook).

# Drip Irrigation System



- **Transparent hose-water level indicator (2)** - used to measure the water level in the container (barrel) so that you can refill it when necessary. Attached vertically to the water container using a special holder.
- **Large 3-way connector (for main hose) (3)** - used to split the main hose and connect the transparent hose.
- **Water tap (4)** - used to turn the main hose water supply on and off.
- **Water filter (5)** - used to clean the water to prevent drip heads from becoming blocked. When installing the filter, pay attention to the arrow on the filter (the water should flow in the same direction as indicated by the arrow).
- **Main hose 1/2" (6)** - used to combine all of the part of the drip irrigation system and to provide plants with water.
- **Water container connector (7)** - used to connect the water container to the drip system.
- **Connector 1/2" (8)** - used to connect the main hose to the water container and the water filter.
- **Main hose angle piece (9)** - in the case of a 90° turn, it is recommended to use an angle piece so as not to break the hose.
- **Small 3-way connector (for drip head hose) (10)** - used to guide water from the main hose to the drip head hose. The 3-way connectors should be installed on the main hose and spaced according to the distance between adjacent plants.
- **Drip head hose (11)** - used to guide water from the main hose to the drip head.
- **Drip head (12)** - installed close to the plants roots.
- **Main hose clamp (13)** - used to lock the main hose in place on the flower bed.
- **Main hose cap (14)** - installed at the end of the main hose to stop water from flowing out.
- **Awl for main hose (15)** - used to punch holes into the main hose to connect the small 3-way connectors.

## 3. Drip irrigation system supplies

The list and amount of supplies for every set can be found on the packaging. The 'Eco-drop' drip irrigation system is made in two sets:

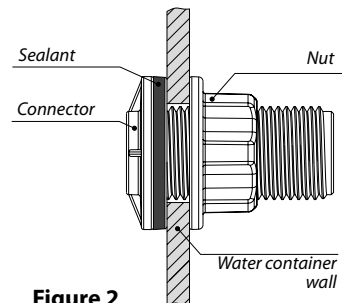
- **60 PLANTS** is designed for watering 60 plants over 18 m<sup>2</sup> or in a 3x6 metre standard greenhouse (four rows of plants).
- **30 PLANTS** is designed for watering 30 plans over 6 m<sup>2</sup> or for one 6x1 metre flower bed (two rows of plants).

**NB: The sizes and areas mentioned are approximate; the position of the main hose in the greenhouse or on the flower bed will vary. If necessary, you can purchase a drip irrigation system extension set (for 20 plants) or an additional main hose.**

## 4. Preparation

Unroll the main hose to lay it on the flower beds and leave it to straighten out for a few hours. Mark a spot on the water container about 50-70mm from the bottom for installing the connector. You will need to drill an opening which is 22±1mm in diameter. Unscrew the connector nut. Place the connector in the drilled hole from the inside of the container using a sealant. The thread must be on the outside. Screw the nut back on as indicated in **Figure 2**. Connect the hose to the water container following the instructions in **Figure 1**.

Use the awl to punch holes in the main hose in order to install the 3-way connectors. The 3-way connectors should be placed according to the distances between the plants. Connect the drip head hoses to the drip heads and 3-way connector. It is recommended to keep the tips of the drip head hoses in hot water (60-70°C) for a short while and to connect the drip head and 3-way connectors to the hose after taking them out of the



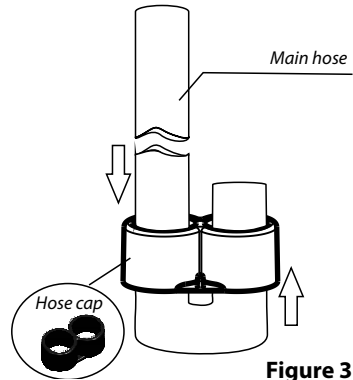
**Figure 2**

water in order to make the process faster and easier. Insert the drip heads straight into the ground close to the plants roots. Make sure that the hoses are not split or excessively bent.

The end of main hose should be closed with hose cap, see **Figure 3**.

## 5. Operation

Fill the water container with water. It is recommended to cover the water container to avoid blockages. Turn on the water tap and adjust the water flow. Make sure that there is water dripping from every drip head. If the water fails to reach the drip heads, there may be air trapped in the system. It is recommended to open the main hose caps and wait until all air is gone from the system. The water filter must be cleaned from time to time: open the filter and clean it.



**Figure 3**

## 6. System's maintenance and winter conservation

System is not designed for winter usage. Pipes and blocks should be emptied of water and, if possible, cleaned by air and de-installed in the season end. The watering system should be held in the dry place with temperature, level above +3° C.

**Note:** for system usage in the next season, it's advised to plant the seeds in the same order. In case of additional plants, it's always possible to order the extra watering system set or separately pipes for the system.

## 7. Possible defects and how to rectify them

Defect	Reason	How to rectify this problem
Water does not reach all plants	No pressure in system	Make sure that: <ul style="list-style-type: none"> <li>• there is water in the water butt</li> <li>• the tap has been turned on</li> <li>• the connections are waterproof</li> </ul>
	Blocked water filter	Dismantle the water filter and clean it
	Air in water hose	Let air out of the hose by removing the cap until water starts flowing
Water does not reach a particular plant	Drip head is blocked	Take the drip head out of the ground and clean it
Water does not reach 1/3 of plants.	3-way connector is blocked	Dismantle 3-way conector and clean it