



WaterMate

Greenhouse installation

This is a guide to installing the WaterMate irrigation system into your greenhouse. Every greenhouse is different, so you will need to adapt the guide for your own situation. The guide assumes you have an aluminium framed greenhouse with slotted channel, to take M6 cropped head bolts.

Tools needed

Secateurs for cutting pipe

10mm spanner

Kettle to warm water for softening pipe ends

If you have any difficulty or questions while setting up, please call us on **0333 090 5440** (Mon-Fri 9am - 5pm) or email **hello@harvst.co.uk**

See more online at **www.harvst.co.uk/setup**

Concept

WaterMate supports two separate irrigation zones. This allows a versatile setup which can adapt to your greenhouse crops throughout the seasons. An auxiliary output can also run an extra pump if you want to add a third zone, or transfer water from a separate tank to your main greenhouse tank.

Different plant types

Some plants will want more water than others. WaterMate lets you run different schedules for the two different zones.

Different emitter types

Soak hose and misters require high pressure, yet drippers and sprayers will be lower pressure. Two zones allows you to run both from the same irrigation system without needing to manually change connectors or taps.

Double your capacity

You can also use the two separate zones to double the number of emitters you can power with the same pump. One zone will pump first, and then the second.

Changing your setup through the seasons

When plants develop, their watering needs can change. You may also be rotating crops, and doing multiple sowings of different crops in a season. Consider how you might want to change the setup as time goes by. This can be done by fitting taps to the main 13mm irrigation line, or to the 4mm take-off lines. Or, you can remove 4mm take-off lines and replace them with sprayers, or vice versa. Plastic “goof plugs” can be used to plug redundant holes in LDPE pipe. Adjustable drippers can be shut down completely and left inline.

Sprayers

Spray nozzles (90, 180 or 360 degree) can be pushed directly into the LDPE pipe, after a hole is made with a punch. The sprayer reach is around 1 metre from the pipe at 1 metre above the ground. We recommend sprayers at around 35cm intervals.

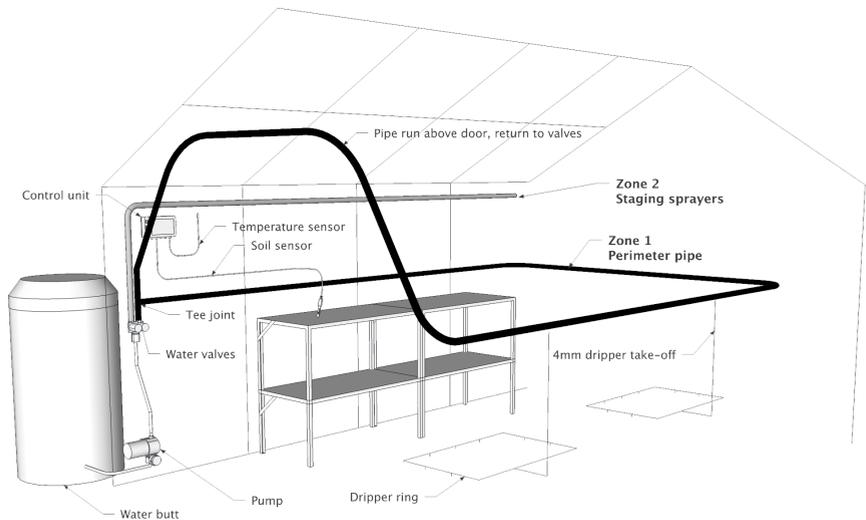
Drippers, “shrubblers” and other ground level emitters

Adjustable emitters are fitted to 4mm micro irrigation hose, in a daisy chain format. For even water distribution, we suggest a ring of emitters which are then connected to the main perimeter pipe using a take-off line. A maximum of 8 emitters per take-off line is recommended.

Water is distributed around the perimeter of the greenhouse using a 13mm LDPE (semi rigid) pipe which is fixed to the frame at least 1m above the ground. Into this pipe, you can connect sprayers directly, or 4mm take-off hoses for drippers or other 4mm emitters.

Example 1 One perimeter pipe & one staging sprayer

Seedlings, small pots and trays need more regular watering than plants in deep soil. Run zone 1 as a perimeter pipe around the greenhouse with drippers or sprayers for a once-a-day (or less) soaking of the larger plants, and have zone 2 spraying or misting your seed trays and pots on the greenhouse staging / shelves on a more regular basis, perhaps controlled by a soil moisture sensor.



Example 2 Two perimeter pipes

Having two perimeter pipes lets you use water from either irrigation zone anywhere in the greenhouse.

Example 3 One perimeter & one ground level

Use zone 1 with a perimeter pipe to provide water for general sprayers and drippers around the greenhouse, where the plants need it. Use zone 2 with a ground level soaker hose for watering efficiently in rows without wasting water.

Installation

Start by choosing where you will feed the inlet pipe into the greenhouse or polytunnel. Many greenhouses are well sealed and you may need to drill a hole in the aluminium at the ridge, or through the base.

For the WaterMate Pro, mount the pump securely near where the inlet pipe comes into the greenhouse. The WaterMate Mini pump is placed *into* the water tank which should be within 4m of the water valves.

Plan where you will run your perimeter pipe(s), and mark on your greenhouse frame where you will need pipe clips. Approximately 1m above the ground is a good start. A full ring around the greenhouse is best, coming back to a tee joint to connect to the water valves. A ring helps get water to all emitters sooner.

Mount the water valves in a suitable location, so that at least one of the outlets can feed into your perimeter pipe. The angle bracket on the valves bolts to the inside of the greenhouse frame using an M6 cropped head bolt and nut. The head of the bolt is in the greenhouse frame.



Fix a cropped head bolt with a nut into the slot of the greenhouse frame at each mark, leaving the bolt thread exposed; you'll fix the P-clips to these. Some greenhouses have slightly larger slots, which do not lock the cropped head bolt, but you will still be able to tighten the nut up with care.



Place the 13mm semi-rigid pipe around the greenhouse and secure it to the bolts with the P-clips. It's intentionally a tight fit. If you're struggling to close the clips, you can remove the rubber lining - it's not strictly necessary but prevents the pipe from moving and flexing.

Link the two ends of the perimeter pipe with a tee joint.

Attach a length of black braided hose to the centre of the tee piece, and then to the water valves. The one with the yellow wire is zone 1, and the one with the black wire is zone 2. Secure it with a jubilee clip over the raised part of the barb.

Run a second pipe in a similar fashion for zone 2, or get creative and use it another way!