

The Aquapore System: design

Aquapore watering systems can be simple or sophisticated according to the situation.

The most basic installation consists of simply laying a length of Aquapore onto the soil surface and connecting it to a hose. Covering the Aquapore with mulch or burying in a shallow trench is optional. This approach would be suitable for a new hedge, vegetable garden row, long narrow garden bed, etc.

For more elaborate installations there are a few important considerations.

Above or Below Ground

Aquapore works well above and below ground. Above ground installation is easier and can be moved simply, for example when cultivating and planting vegetable garden rows. Aquapore should always be in contact with the soil surface - avoid installing on top of mulch or loose compost.

Below ground installation maximises the benefits of Aquapore. It's out of the way, virtually eliminates evaporation and delivers the water right to the roots.

How Deep

Keep trenches shallow for fast draining sandy soils, from 5cm to 7cm. Bury up to 15cm deep for slow draining clay soils. Always install Aquapore as level as possible, running trenches across rather than up and down sloping ground.

How far Apart

A single Aquapore pipe waters a strip from 30cm to 90cm wide depending on soil type (see table).

Soil type	Suggested spacing (metres)
Sand	0.30 - 0.45
Loam	0.45 - 0.60
Clay	0.60 - 0.90

Regulators and Filters

The little maintenance required can be almost completely eliminated by installing a 200 mesh filter. Combine a pressure or flow regulator with multi-zone systems to ensure accurate and even watering under all conditions.

Run Length

12mm diameter Aquapore will water evenly along continuous lengths up to 30 metres (45 metres for

16mm diameter). Multiple 30 metre lengths can be fed from a single supply point in a given zone by using a split T layout (see over). A single household water supply with average water pressure can water up to 165 square metres through 180 metres of Aquapore in 6 lengths. Use only a pressure regulator, not a flow regulator, when using multiple lengths in a single zone.

Pressure

The optimum water pressure for an Aquapore system is 70kpa/10psi (Aquapore will operate satisfactorily around this pressure). This is a low pressure compared to most domestic supplies and, especially for multi-zone, automatically controlled systems, can be achieved using a suitable pressure reducing valve. In simpler systems a satisfactory solution to high supply pressures is to only turn on the tap slightly (say a 1/4 turn) or use a flow disk to reduce flow. While this does not reduce static pressure, it effectively reduces pressure along the Aquapore pipe as the reduced flow is adequately disposed of by the weep holes in the pipe avoiding pressure build up.

Watering Duration

The total amount of water required for a garden depends on many factors including climate, soil and plant types. It is up to each gardener to decide how long to water based on the information in the table below.

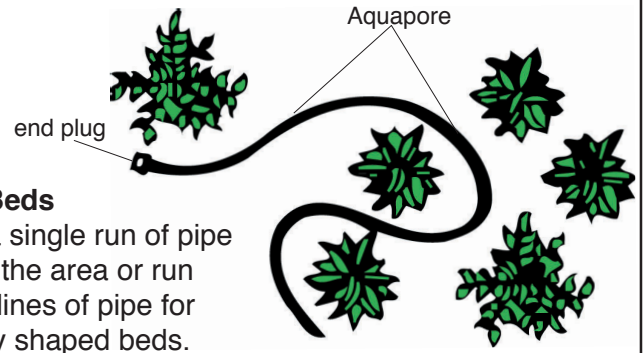
The table gives the equivalent rainfall supplied by an Aquapore system running for different times. These have been calculated using Aquapore's recommended application rate of 2 litres per 15 metre length of Aquapore per minute (at optimum pressure of 70kpa/10psi). Flow rate can be checked by disconnecting the Aquapore pipe and measuring flow into a bucket of known volume as it comes through any pressure or flow regulator. Adjust flow rate up or down to suit the length of pipe installed.

Equivalent Rainfall	System Run Time
6mm	50 minutes/week
12mm	100 "
18mm	150 "
24mm	200 "

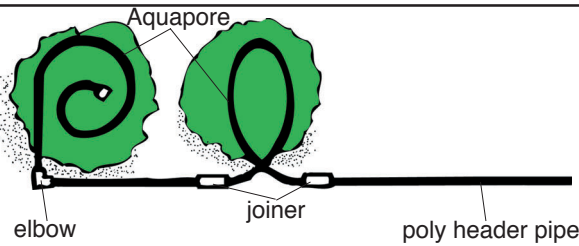
System Maintenance

Flush system once per year. Disconnect pressure regulator and increase pressure in the system by turning tap on full for one minute, then off for one minute. Repeat this three times, then unscrew the end cap and flush the system at full pressure for 5 minutes.

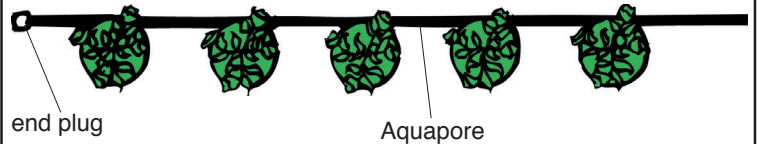
Typical Aquapore layouts



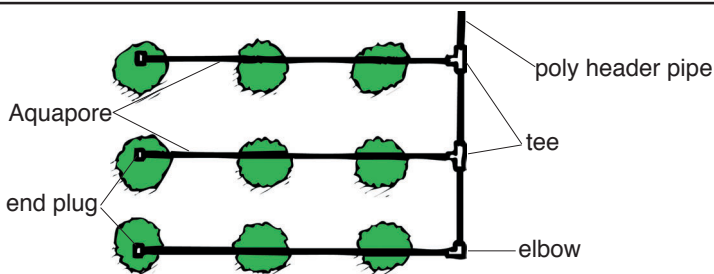
Wider Beds
Snake a single run of pipe through the area or run parallel lines of pipe for regularly shaped beds.



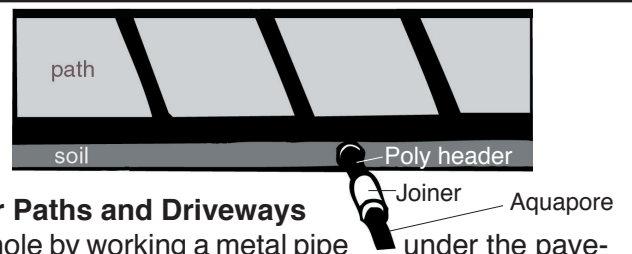
Orchards and Specimen Trees
Loop pipe around trees and join loops with poly header pipe.



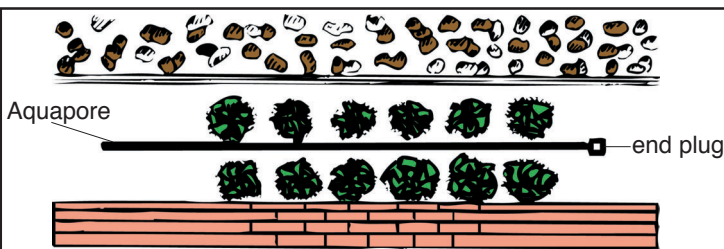
Narrow Shrub Border
Run a single line 15 to 20cm behind plants.



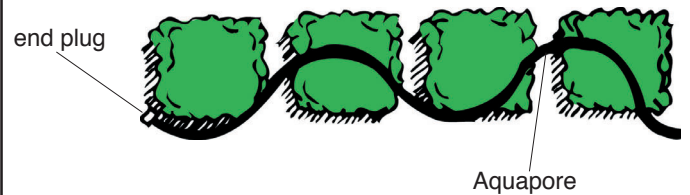
Split Tee Layout
For rows such as vegetable gardens use a split tee layout.



Under Paths and Driveways
Bore hole by working a metal pipe under the pavement using a water jet to loosen soil. When complete insert poly header pipe in the metal pipe, then withdraw metal pipe leaving header pipe in position.



Narrow Beds
A single run of Aquapore will water a strip between 0.3 and 0.9 metres wide.



Hedges
Wind a single line in and out around hedge plants.