



AQUATHERMAT

ROOT ZONE HEATING & IRRIGATION SYSTEM

AQUATHERMAT : Root zone low temperature heating and irrigation mat

SPECIFICATIONS FOR INSTALLATION

Temperature intake (max.)	140 °F (60 °C)	
Pressure (max.)	15 psi	
Flow rate	0.006 GPM/ft ² (0.017 LPM/m ²)	
Heating tubes (EPDM) (ø int./ext.)	0.170 / 0.290 in (4.3 mm / 7.35 mm)	
Energy consumption to heat pot substrate 1° over ambient air	4.5 BTU/hr/ft ² /°F 8 BTU/hr/ft ² /°C 90 BTU/h/m ² /°C	Ratings are for bottom insulated mats (R-5)

Mat widths Roll lengths 5-100 in (1.5-30 m)	# of heating tubes (in & out)	# of drip tapes
3 in (0.91 m) / 4 in (1.22 m)	8 / 12	2 / 2
5 in (1.52 m) / 6 in (1.83 m)	14 / 18	3 / 3
7 in (2.13 m) / 8 in (2.44 m)	20 / 24	4 / 4
11 in (3.35 m)	32	6

General requirement on heating system

- One recirculation pump controlled by thermostat and soil probe per growing zone, with one 15 psi pressure regulator.
- One exchange heat radiator is suggested to log on boiler or heating system and creating 2 closed systems for better protection and to lower temperature as required.
- An electric, gas or oil heating tank can be used for small project.

INSTALLATION GUIDE

- Open roll packaging and unroll Aquathermat on flattened and bottom insulated growing area. Bottom insulation provides 40 % energy saving.



- Ensure all components are into packaging, like 2 manifolds 3/4 in (2 cm) inserted into roll core, tooling bag including extra fitting barb for heating tube and drip lock connectors for drip tape.

- All loops connecting intake to return water tubing at end of mat have been made at the plant.



- Place the 2 manifolds at the ether end opposite of loops and anchor with tie wrap on bench or U shape pin on ground. All 90° angle fitting barbs already installed must face the mat. End cap have been installed on manifolds at the plant.



- Connect the intake manifold with even number tubes (2-4, 6-8, etc.) and exhaust one odd number tubes (1-3, 5-7, etc.), to the fitting barbs on manifold. You may need to trim extra tube before to plug them.

- Plug the intake and exhaust manifolds to supply and return hot water pipes of heating unit, always connect both manifolds with valves to control each mat separately.



- Always run water test for leakage into heating tubing before putting crop on mat. In order to bleed air from the mat, unplug last tube or unscrew end cap on exhaust manifold. Consequently bleed hot water pipeline up to heating system by using special valves installed on highest point of pipeline.

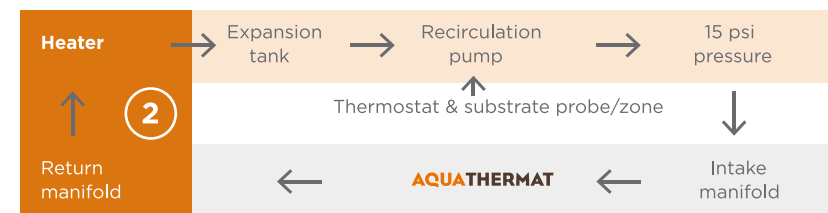
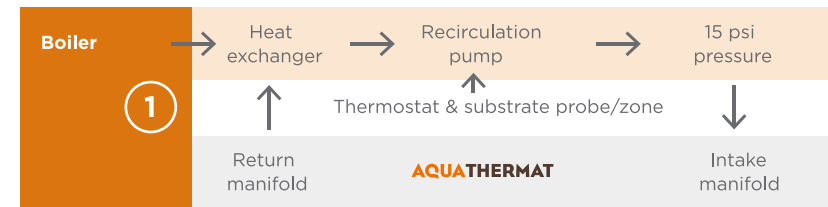


- We recommend installing a pressure meter and thermometer on intake line to double check recommended specs and adjusting if required.



- Plug the water supply line to drip tape barb connectors included in the roll.

Connexion suggestion 1 and 2



AQUATHERMAT
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