You will need...

- Drill
- Crescent wrench
- Fasteners specific to your mounting style (e.g. heavy duty screws, drywall anchors, masonry anchors)
- Marine-grade sealant
- Scissors (to trim zip ties)
COMPONENTS LIST

GUTTERS: EIGHT TOWER

Top Gutter

Bottom Gutter

GUTTERS: FOUR TOWER

Top Gutter

Bottom Gutter

GUTTERS: TWO TOWER

Top Gutter

Bottom Gutter
GUTTER COMPONENTS

<table>
<thead>
<tr>
<th>Wall Channel</th>
<th>PVC Bow Tie Supports</th>
<th>1” Diameter PVC Tube (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Tower (2)</td>
<td>4-Tower (2)</td>
<td>(cut to length)</td>
</tr>
<tr>
<td>8-Tower (4)</td>
<td>8-Tower (4)</td>
<td></td>
</tr>
<tr>
<td>Top Gutter End Caps (2)</td>
<td>Bottom Gutter End Caps (2)</td>
<td>1/2” Diameter 90° Elbow Joint (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aqua Active Pump (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hex Bolts Lock Washers Nuts (14 each)</td>
<td>Rubber Stopper 4-Tower (1) 8-Tower (2)</td>
<td>1/2” Diameter Black Poly Tubing (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drip Emitters 4-Tower (4) 8-Tower (8) (pre-installed in poly tubing)</td>
</tr>
</tbody>
</table>

Farm Wall Specifications

<table>
<thead>
<tr>
<th></th>
<th>5-Foot Farms Walls</th>
<th>8-Foot Farm Walls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2-Towers</td>
<td>4-Towers</td>
</tr>
<tr>
<td>Approx. Dimensions</td>
<td>23”(w) x 67”(h)</td>
<td>42”(w) x 67”(h)</td>
</tr>
<tr>
<td>Area Required (ft²)</td>
<td>10.7</td>
<td>19.05</td>
</tr>
<tr>
<td>Approx. Bottom Gutter Capacity (Gallons)</td>
<td>1.7</td>
<td>3.02</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>5-Foot Tank</th>
<th>8-Foot Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Off Tank Capacity (Gallons)</td>
<td>3.25</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Warning: ZipGrow Farm Walls can weigh up to 230+lbs depending on how many towers, crop maturity, and number of Top-off Tanks. Because the Farm Wall can become very heavy it is critical that each wall channel is properly fastened securely to brick or studs within the wall. If you have not mounted similar equipment before, please consult a professional.

Mount the wall channels so each gutter clip rests entirely on each channel.

The distance between the top and bottom gutter wall channels is 98" for 8’ Farm Walls.

The distance between the top and bottom gutter wall channels is 62" for 5’ Farm Walls.
**WALL CHANNEL MOUNTING**

4 Tower Farm Wall

Mount the wall channels so each gutter clip rests entirely on each channel.

![Wall channel configurations for 8 foot 4-tower Farm Wall](image)

The distance between the top and bottom gutter wall channels is **98”** for **8’ Farm Walls**.

![Wall channel configurations for 5 foot 4-tower Farm Walls](image)

The distance between the top and bottom gutter wall channels is **62”** for **5’ Farm Walls**.

**INSTALLING THE RUBBER STOPPER**

After installing the wall mount brackets, be sure to install the included rubber spacer (1 for a 4-tower wall, 2 for an 8-tower wall) slightly below the wall mount brackets. For the 4-tower wall the spacer should be fairly centered behind the bottom gutter. For the 8-tower wall the spacers should be placed approximately 1.5 feet in from each end of the gutter. The purpose of these spacers is to provide support for the weight of the bottom gutter and towers.
WALL CHANNEL MOUNTING

2 Tower Farm Wall

Wall channel configurations for 8 foot 2-tower Farm Wall

Wall channel configurations for 5 foot 2-tower Farm Walls

The distance between the top and bottom gutter wall channels is 98" for 8' Farm Walls.

The distance between the top and bottom gutter wall channels is 62" for 5' Farm Walls.

Check out this tutorial video on mounting a 4 or 2-tower Farm Wall.
STRUCTURAL ASSEMBLY

Note: We highly recommend using gloves when installing the gutter clips, bow ties, and PVC pipe to avoid any potential cuts.

1. Gutter Clip Installation
Fasten two gutter clips to the back of both the top and bottom gutters. Use three bolts, lock washers, and nuts to secure each clip - place the lock washers and nuts on the inside of each gutter. The clips should be oriented with the holes up and flush against the gutter. When placed properly the top half of the clip (the half with the holes) will lay flat against the gutter while the bottom half bends away creating space for the wall channel.

Note: The top gutter of a 4-Tower Farm Wall is drilled with an extra hole on the back. Fasten one bolt, washer, and nut through this hole. The top gutter will have to slide onto the wall channel for mounting.

2. Bow Tie Installation
4-Tower Farm Walls include two bow ties. 8-Tower Farm Walls include four bow ties. Bow ties must be oriented correctly inside the bottom gutter to ensure proper function of your ZipGrow Farm Wall. The diagram below shows the correct position of each bow tie inside each gutter. Follow the arrows to find the correct placement for the 4-Tower Farm Wall (left) and 8-Tower Farm Wall (right).

Correctly oriented  
Incorrectly oriented

(within gutter)

3. PVC Pipe Installation
When all bow ties have been correctly placed within the bottom gutter, slide the 1" PVC Pipe through the hole of each bow tie.
1. Seal the end caps onto the bottom gutter using a Marine-Grade Sealant or Boat Bond. To prevent leaking, fill the groove of the end caps with an adequate amount of sealant (at least 1/2 full around the entire groove). Secure the end caps to the bottom gutter so the edges of each gutter rests inside the groove of each end cap. Let sealant dry completely before use or further installation.

2. Place the pump in the bottom gutter using the pump hole located on the left side of the gutter. Orient the pump so the intake faces into the gutter (see illustration below).

3. Identify the black poly tubing with the 90º elbow joint and drippers attached. Orient the tubing in the top gutter so the elbow joint is on the same side of the system as the pump. Make sure the drippers and elbow are facing down (toward the bottom gutter) and each dripper is centered over each tower hole. Zip-tie the poly tubing to the top gutter using the pre-drilled holes on the top gutter.

4. Place the top and bottom gutters on corresponding wall channels.

5. Attach the second piece poly tubing between the pump and elbow.

6. To finish assembly simply push the end caps into place on the top gutter (no sealant required).

Note: When plants grow, they lose water (transpire) as they let O2 out and allow CO2 in. Therefore, it is important to regularly monitor the water level of the ZipGrow Farm Wall. If the water level falls below the cover of the Aqua Active pump, the pump will burn up and fail. How much water your Farm Wall uses varies depending on the type of crop, crop maturity, and the temperature of your growing area. Top-Off Tanks can be used to reduce the frequency of monitoring.
PLANTING ZIPGROW TOWERS

Now that your ZipGrow Farm Wall is completely assembled

It’s time to **plant your ZipGrow towers** and start growing!

1. Place your empty open Matrix Media on the planting bench with your felt wicking starter strips placed evenly against it.
2. Place your seedlings 6-8 inches apart (depending on the crop) so that the top of the root ball is on the edge of the Matrix Media.
3. Fold the Matrix Media over so that the seedlings are sandwiched in place and pull it into the ZipGrow tower using the pulling hook.

Matrix Media

1.2 Media Inserts can fit inside a 5" tower

Starter strips

Seedlings should be sandwiched in place

6-8"

Pulling Hook

ready to grow!
FARM WALL PLACEMENT

When installing the ZipGrow Farm Wall there are three major considerations:

**Lighting**
Place your Farm Wall in a location that receives the correct amount of light for the crops that you are growing. If growing in the northern hemisphere, a south-facing wall is ideal to access the maximum amount of sunlight.

**Accessibility to water**
It is recommended to place a Farm Wall near a spigot or sink to make the process of adding water easier. Modular Farms cannot replace pumps that burn up due to insufficient water levels!

**Structural support**
When mounting the ZipGrow Farm Wall onto a wall, be sure to anchor the mounting channel into a structurally sound surface. *Only attach the mounting channel to studs, brick, or cement.*

*Drywall alone will not support a ZipGrow Farm Wall*
Fill bottom gutter to the top of the PVC tube with water and nutrient solution. When filled to the top of the PVC tube, a 4-Tower Farm Wall will hold approximately 2.4 gallons and an 8-Tower Farm Wall will hold approximately 4.8 gallons of solution. We recommend Canna Start 2-1-2 nutrient solution, which calls for 1-2 tsp. per gallon of water, but always be sure to follow the dosing and mixing instructions of the fertilizer you choose to use. Depending on crop size, intensity of lighting, and outside temperature, the Farm Wall may need to be refilled several times per week.

Liquid or dry nutrients can be added to system. If you are running a small system (less than 8 towers), liquid nutrients will be more convenient.

ZipGrow Farm Walls come with an 500ml bottle of Canna Start 2-1-2.

Be sure to read and follow the directions of the fertilizer. For additional information on choosing a nutrient mix, read this blog post on the topic.
USING TOWER TOP-OFF TANKS

Tower Top-off Tank

It’s recommended to keep a Tower Top-off Tank or a stock of mixed solution on hand to make refilling a quick and easy process. Tower Top-off Tanks decrease the frequency of refilling the Farm Wall(s). The height of the Tower Top-off Tank determines the volume of solution the tank can hold.

<table>
<thead>
<tr>
<th>Tower Top-off Tank size (ft)</th>
<th>Volume (gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5’</td>
<td>3.25 gal</td>
</tr>
<tr>
<td>8’</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Tower Top-Off Tank Instructions

1. Remove rubber stopper from top of Tower Top-off Tank
2. Fill Tank Top-off Tank with water
3. Add appropriate amount of nutrient solution and give it a quick shake
4. Replace rubber stopper (be sure it seals or the tower will not operate correctly) (Fig. A)
5. Place Tower Top-off Tank into ZipGrow Farm Wall
Dealing with nutrient deficiencies
If plants begin to show signs of deficiency (yellowing or browning on the leaves are the two most common symptoms), it is likely that the plants are not receiving the proper nutrient dosage. Re-read the fertilizer instructions and refill ZipGrow Farm Wall with the proper concentration.

If a deficiency persists more than three weeks, use the Nutrient Deficiency Key to identify the deficiency and treat it as recommended this blog post.

Dealing with pests
The occurrence of pests will vary depending on the placement of the ZipGrow Farm Wall, climate, other plants in the area, and many additional factors.

You can read more about the most common insect pests in this blog post.

Watch out for “soft water”
We DO NOT recommend using softened water in ZipGrow Farm Walls.

Water softeners add sodium, which will kill plants and clog up the irrigation of your Farm Wall.

If you have trouble finding any information, email us at sales@zipgrow.ca.