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VersiWall® GP Installation Guidelines

VersiWall® GP is a versatile, easy-to-install living wall system for residential and light commercial applications.

The VersiWall® GP Trays (VGP-01) may be hung on purpose made VersiWall® GP Mounting Panel (VGP-1636), commercially-available 75 x 75mm (3" x 3") welded mesh or wire, or along rods, or stainless steel rope.

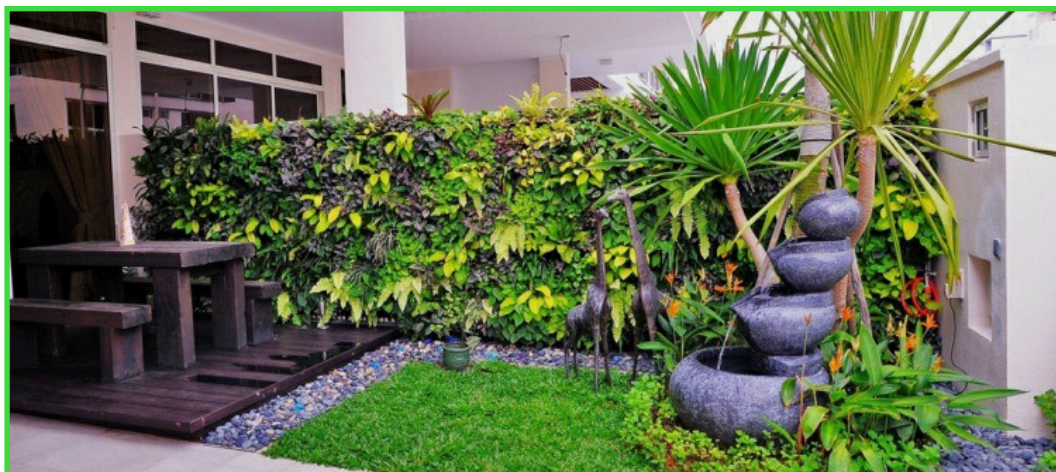
Trays can be hung in close or open vertical and horizontal intervals, depending on the plant size and the project budget.

Tools Required

Tools required will be determined by the mounting hardware for the mounting panel (if used) and selected irrigation materials. Consult the landscape architect, structural engineer, or project planner for additional details on the installation and irrigation.

Preparation

Your new VGP system typically consists of two major parts, the mounting frame and the tray.



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Component Parts of VersiWall® GP Tray

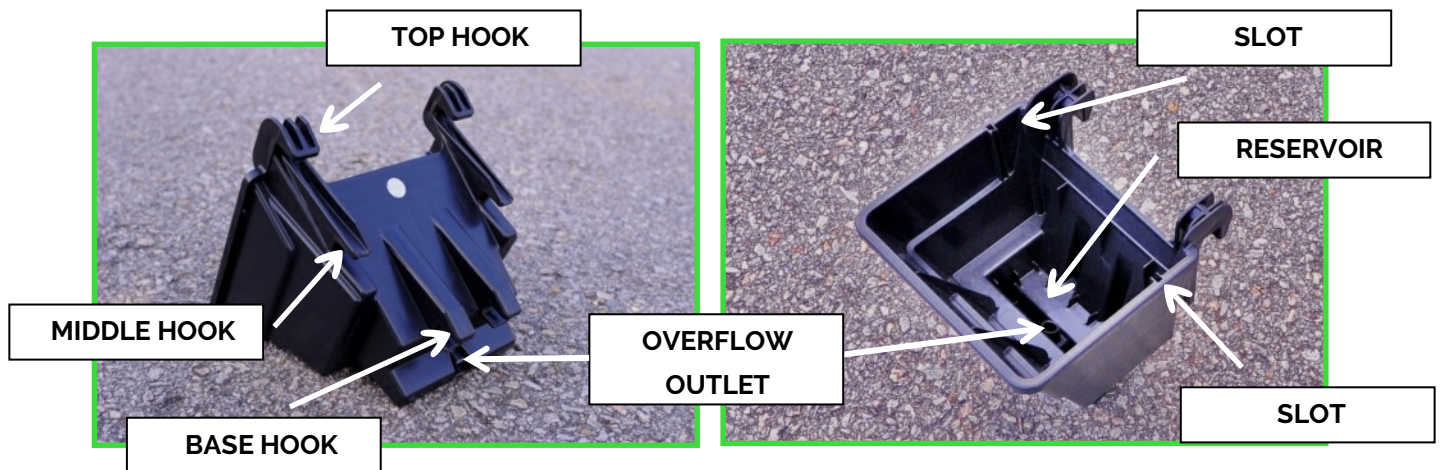
Tray Features

Three pairs of hooks at back of tray (top middle and bottom)

Overflow outlet at base

Reservoir in base

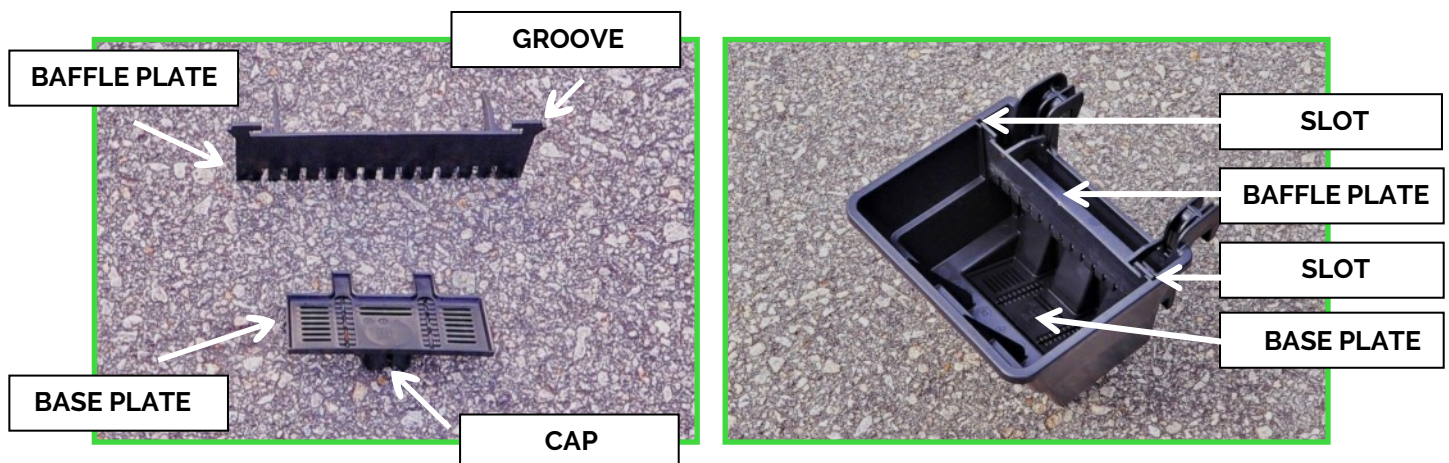
Side slots for baffle plate



Removable Tray Parts

Baffle Plate - distributes irrigation water over planting media surface

Base Plate - prevents planting media from entering reservoir and overflow outlet

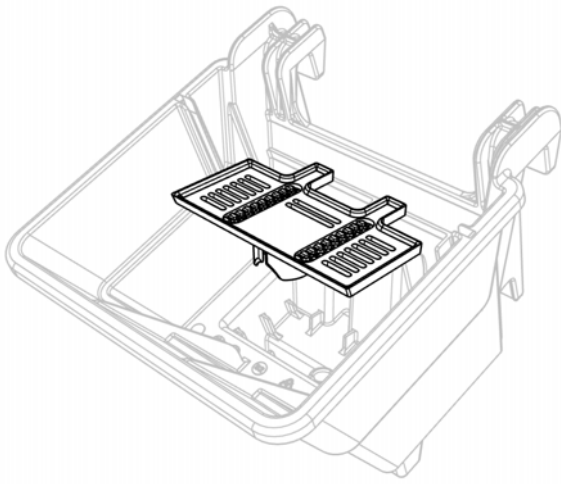


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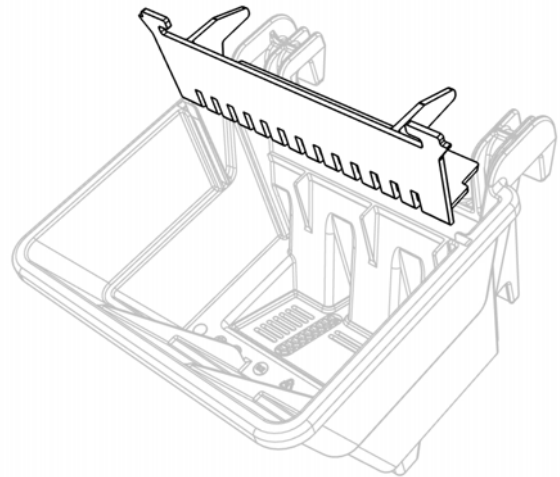
Tray Assembly

The tray will require some assembly to make it ready for planting (for immediate fullness upon installation, plants should be pre-grown in the trays).

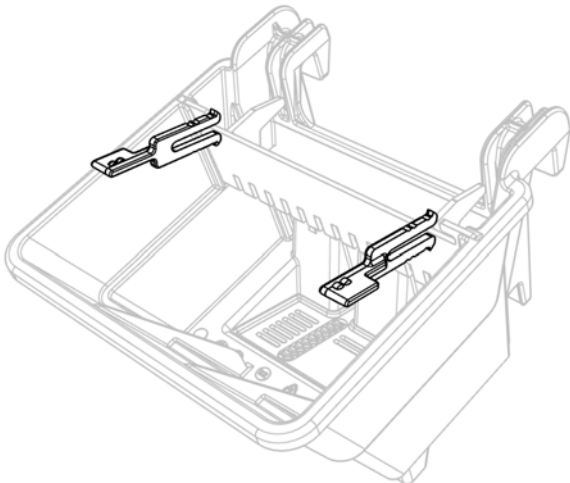
Step 1: Insert base plate



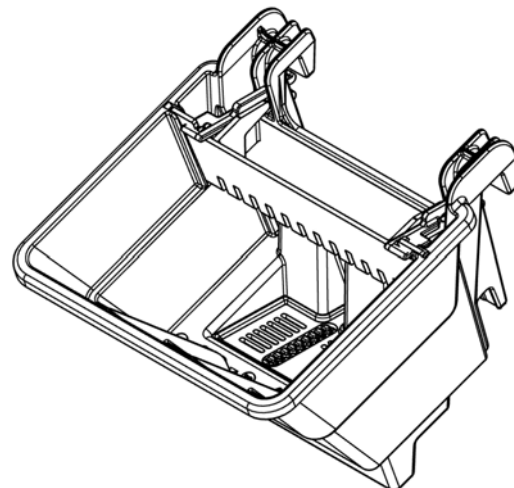
Step 2: Slide baffle



Step 3: Slide anti-lift arm into both sides (do not fully engage to hang tray)



Step 4: Full tray



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System Installation

These instructions will address the installation of the VersiWall® GP system as a whole. Your installation may not utilize the mounting panel or weld mesh and instead may require other means of hanging the tray assembly. Consult your project manager when working with these options.

Installation Planning

Review the surface to which the mounting panels will be attached for size, stability, and the ability to hold fasteners appropriate for the weight of the planted VersiWall system (mounting panels require ¼" mounting hardware).

Also measure the surface to determine the appropriate layout of the panels (keeping in mind that for the VersiWall® GP Mounting Panel they will always be in the vertical/portrait format).

Prepare Wall or Mounting Frame/Stand

- Prime wall and/or construct framework (including waterproofing, painting, welding, etc) based on mounting option selected and according to project requirements
- or
- Construct free-standing mounting frame/stand based on mounting option selected and according to project requirements



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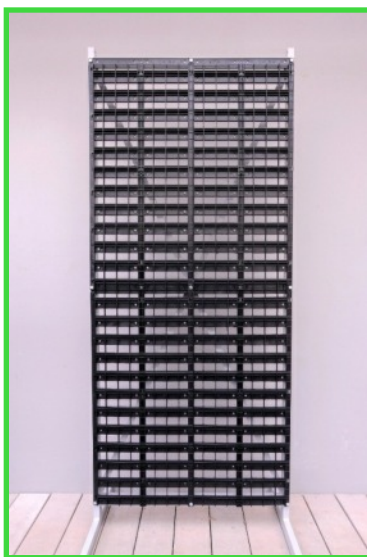
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Mounting Options

The illustrations below show the three mounting options available for the VersiWall® GP Trays.

- VersiWall® GP Mounting Panel - Configured to precisely match the mounting hooks of the trays and provide secure anchorage at all 6 hook points
or
- Welded Mesh - Horizontal and vertical bars 75mm apart. Curved walls can also be created.
or
- Rods - Horizontal bars 75mm apart for a more minimalist design.



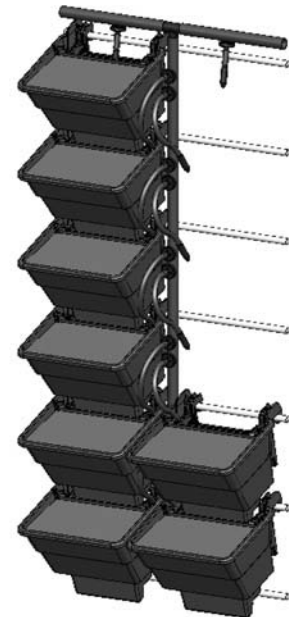
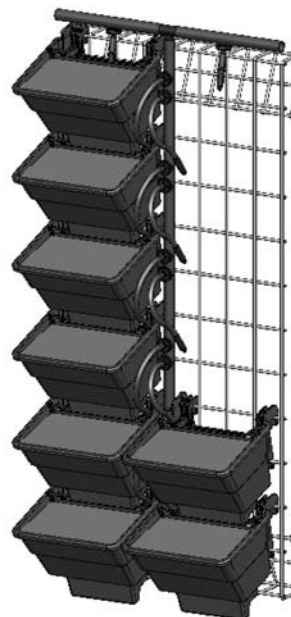
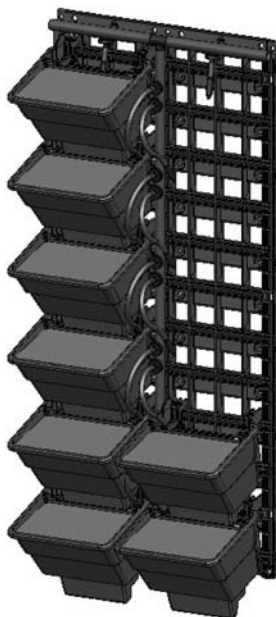
VGP Mounting Panel



Welded Mesh



Steel Rod or Rope



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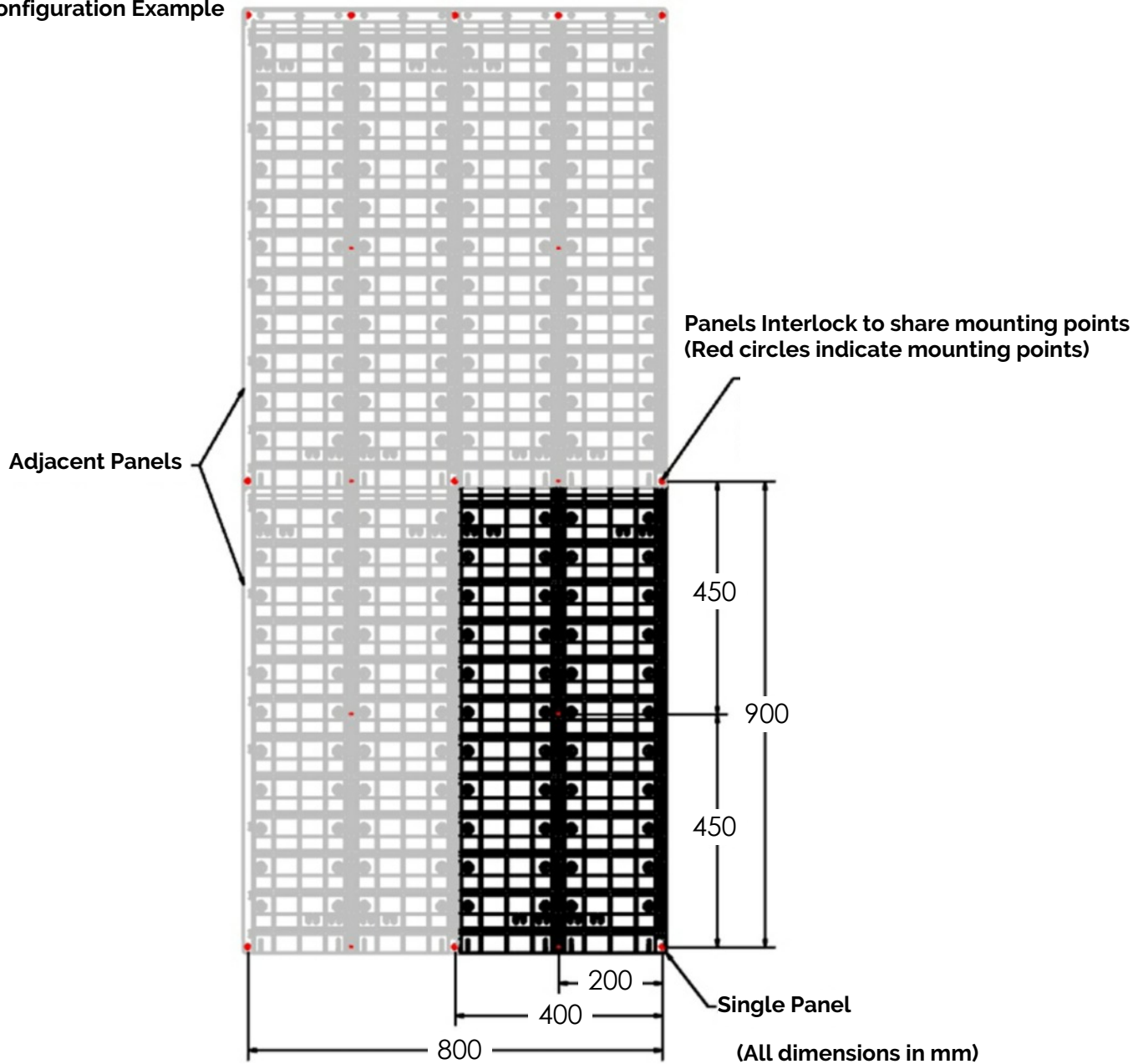
VersiWall® GP Mounting Panel

Once the number of panels and layout is determined, mark out the area where the living wall will be placed and mark each mounting point of the panels on the mounting surface. Each panel allows seven mounting points.

Some of these will be shared with adjacent panels, so check your layout first to determine those shared mounting points as these mounting points may not need marked until the panels are placed and the shared mounting points are aligned. Begin panel installation starting at the bottom and work right-to-left before placing the next row above.

Kindly note:: The minimum recommended mounting points is 4 per panel. The amount needed will be determined by the substrate (wall surface), type of anchors, and the weight of the finished assembly. Consult a structural engineer for the required number for your installation.

4-Panel Configuration Example



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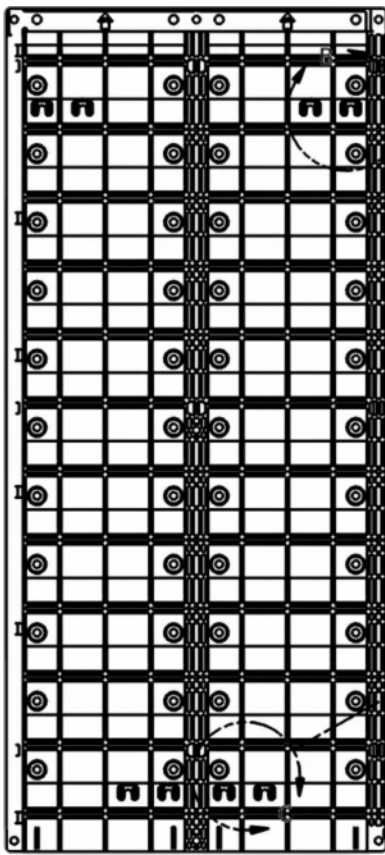
VersiWall® GP Mounting Panel Wall Spacers

Depending on whether or not there are adjacent panels, various mounting points may require additional support between them and the mounting surface. The mounting panels contain spacers that can be used in these instances.

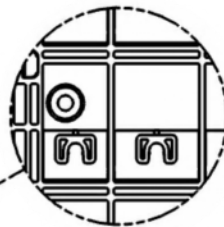
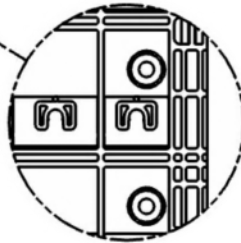
Simple pluck out the C-Washer found at either end of Mounting Panel and insert where adjacent panels overlap to prevent the corner of top overlapping panel from collapsing downwards.

Note: The spacers should be used to allow fasteners to tightly grip the panels firmly to the mounting surface for a more secure attachment and to prevent bending the corners of the panel when bolt is tightened.

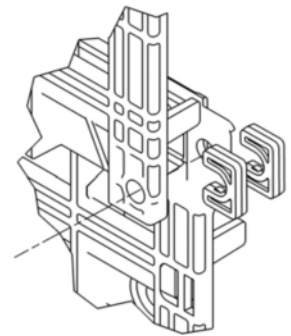
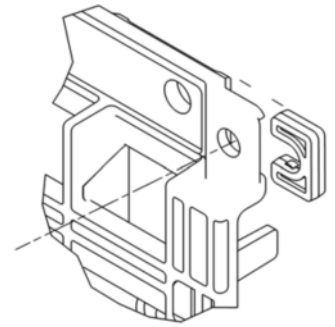
Mounting Panel with Spacers



Remove spacers from frame/panel as required for mounting.



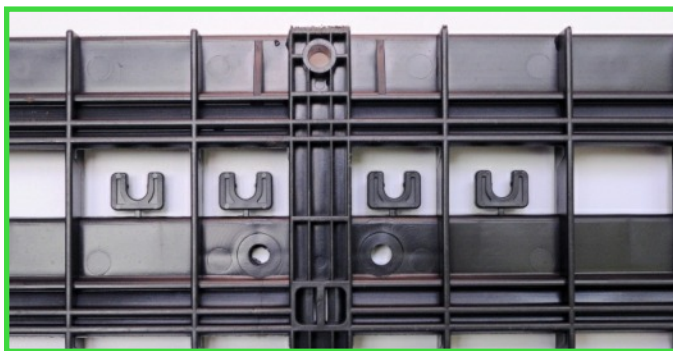
Likely Spacer Locations



C-WASHER BETWEEN OVERLAPPING PANELS



TOP OVERLAPPING PANEL COLLAPSES DOWNWARD WITHOUT C-WASHER



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Welded Mesh

VersiWall® GP Mesh Bracket

Use purpose designed GP Mesh Brackets or leave a minimum gap of 30mm between the mesh and wall surface

GP Mesh Brackets are robust stainless steel brackets designed to anchor welded mesh onto vertical surfaces for installing VersiWall® GP green wall.

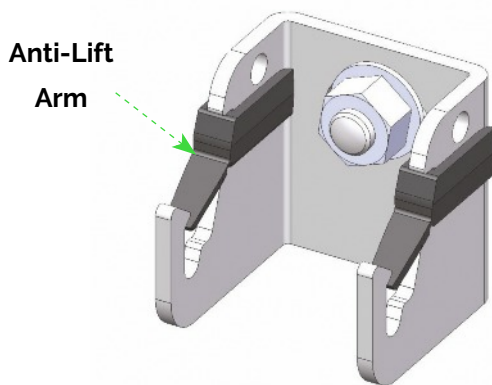
GP Mesh Brackets can be adjusted horizontally and vertically for easy alignment of individual welded mesh panels and to avoid obstacles like re-bars embedded in the wall.

This enables the quick positioning and installation of the mesh panels on the wall.

GP Mesh Brackets are engineered to facilitate the use of fewer anchor points compared to conventional fastening systems using bolts of similar size with sleeves. The position of the brackets on the welded mesh does not interfere with installation of the GP trays.

GP Mesh Brackets provides a constant 30mm gap between the mesh and wall for ventilation and allows services like irrigation lines to be conveniently secured at the back of the mesh away from view.

GP Mesh Brackets have integrated flexible Anti-Lift Arms on each of its side wings to prevent the mesh from inadvertent dislodgement.



Advantages

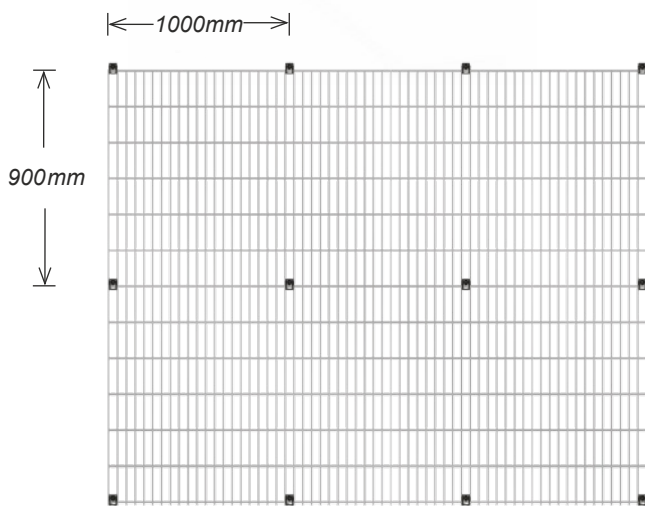
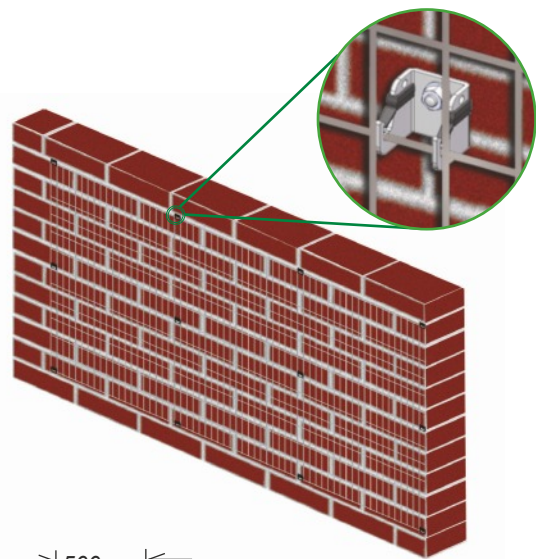
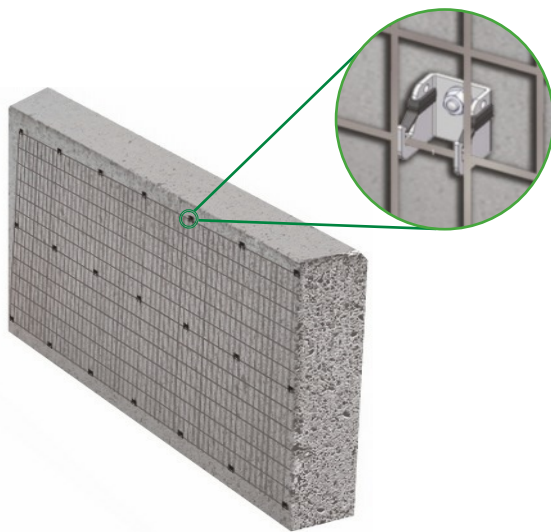
- Durable stainless steel
- Creates 30mm gap between mesh and wall
- Integrated Anti-lift Arm prevents dislodgement
- Easy minor horizontal and vertical adjustments
- Less wall fastening points required
- Allows attachment of accessories
- Simple and easy installation



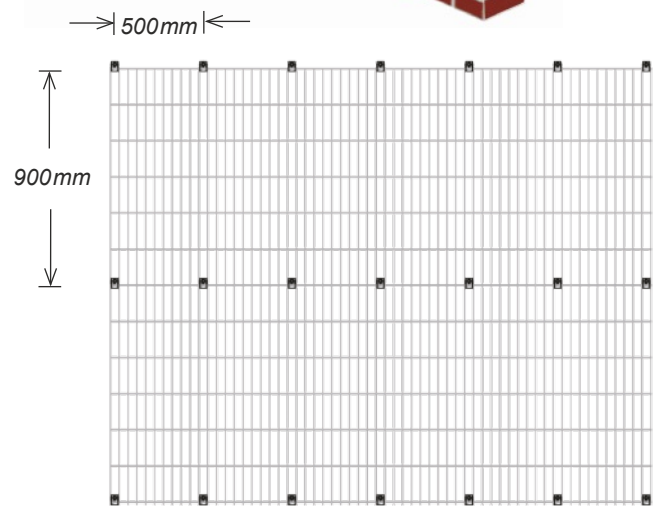
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GP Mesh Bracket Minimum Suggested Requirements (subject to wall condition)

	Concrete Wall	Brick Wall
Anchor Bolt Spacing:	900(H) x 1000(W) mm	900(H) x 500(W) mm
Anchor Bolt Type:	Hilti HSA-R M8x75 or equivalent	Hilti HIT-HY 70 with HAS-E-R M10x90 or equivalent
Bracket Shear Strength:	117 N/mm ²	
Welded Mesh:	75(H) x 50(W) x 5Ø mm or 75(H) x 75(W) x 5Ø mm	
Support Brackets:	3 mm stainless steel (Grade 304/316)	
Design Load:	110 kg/m ²	



Mounting on Concrete Wall



Mounting on Brick Wall

Alternatively, and for other wall types, a unistrut framework can be attached to the wall surface and the weld mesh brackets bolted to this.

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Irrigation Installation

With the panels or weld mesh in place, drip irrigation can be installed, where required.

First install the main line then the emitters followed by the short supply tube. Finally route the supply tube to baffle plate once the trays have been mounted.

Irrigation lines can be run vertically between the trays and attached to the mounting panel (or the wire mesh if that is the chosen hanging method).

For tray open spacing, alternatively the main irrigation line can be installed vertically with horizontal branch irrigation lines run above each row.

Individual drip lines run from an emitter on the main line to the back of each tray.

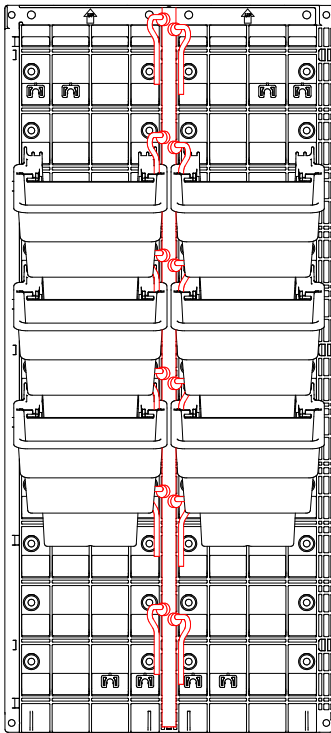
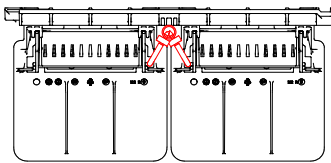
Secure the irrigation tubes with cable ties to the holes provided on the panels or weld mesh.

Position the tube connected to emitters at centre of baffle plate so the water will be evenly distributed throughout the planting media surface

The bottom of the tray serves as a sub-irrigation reservoir. Overflow from the reservoir drains to the baffle plate of the tray below. Alternately, drain plugs are available if required.

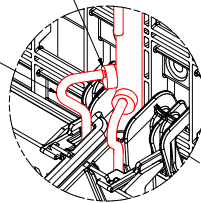
Install a controller for automated irrigation water and fertilizer release as required.

Irrigation Line Centred Between Trays (per single panel)

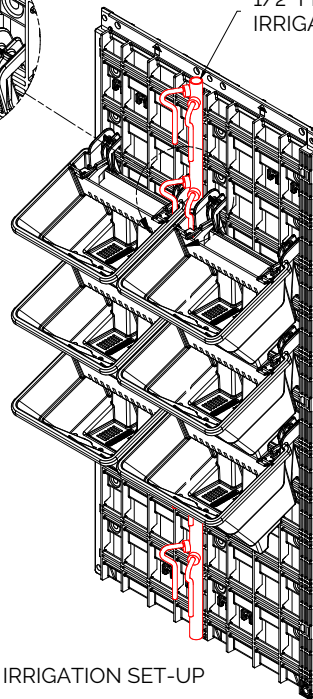


1/4" IRRIGATION TUBE (ONE PER PLANTER)

EMITTER



1/2" FLEXIBLE IRRIGATION TUBE



SAMPLE IRRIGATION SET-UP



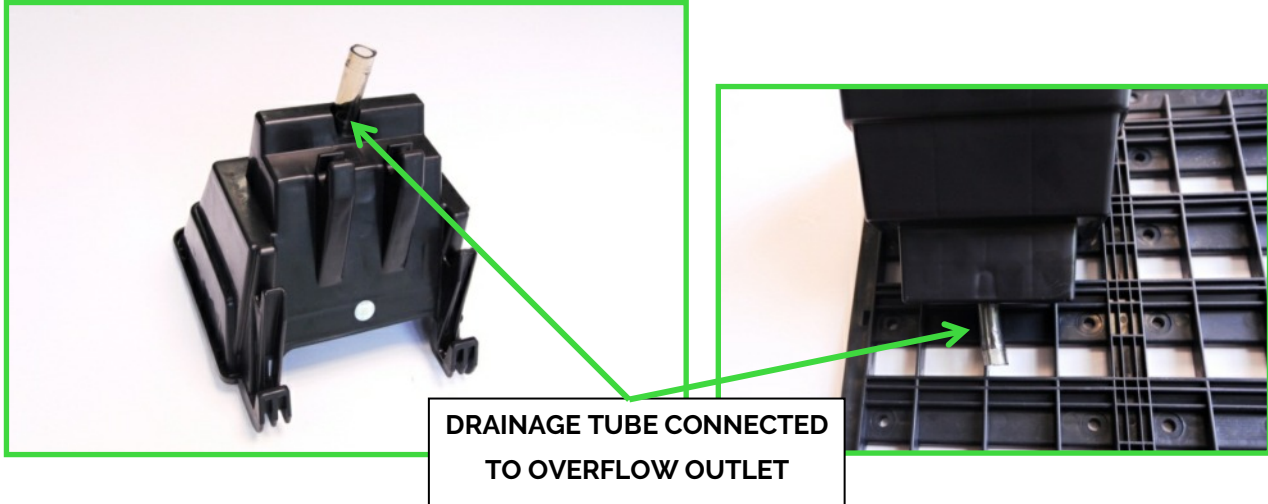
Alternative Irrigation Line Horizontal Between Trays for Spaced Tray Layout

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Drainage Tube (If required)

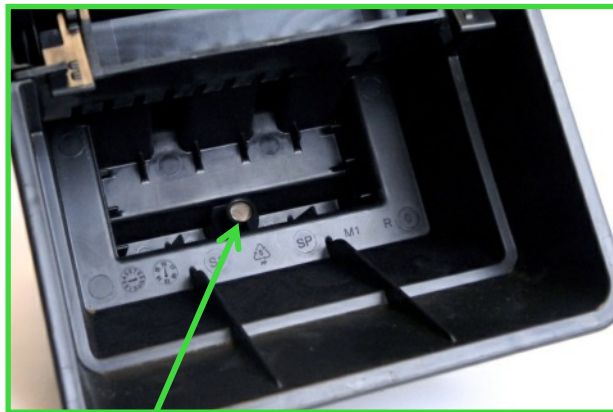
Connect the drainage tube to the overflow outlet at the base of the lowest row of trays to channel excess water for discharge or reuse according to project requirements.

A short length of tubing may also be connected to the overflow outlets to prevent excess water exiting the outlet of upper trays from splashing when it strikes the Baffle Plate of the lower trays in open planting.



Plug Overflow Outlet (if required)

Plug overflow outlet at base of tray to retain water in reservoir according to project requirements

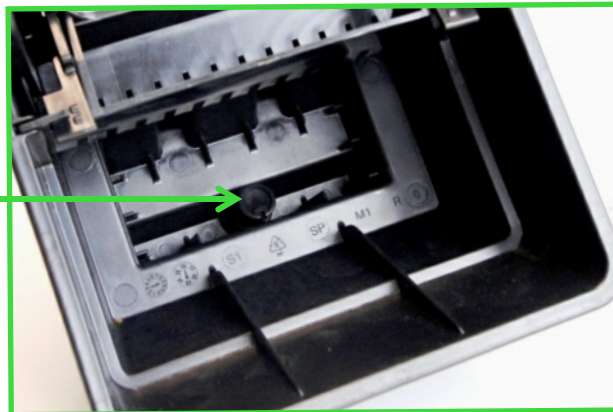


OVERFLOW OUTLET



PLUG

PLUG INSERTED



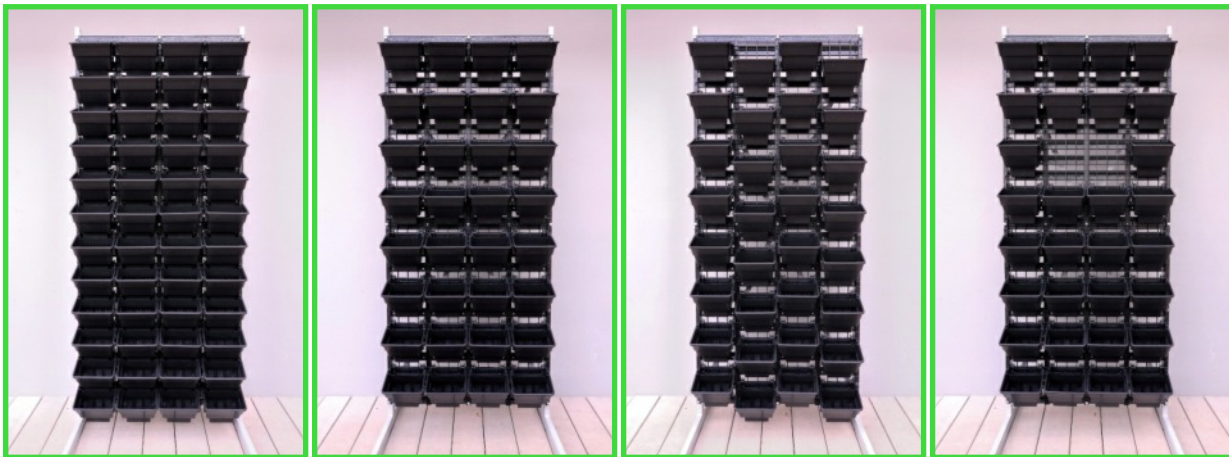
Application Categories: Living Walls

Tray Mounting

With the panels in place and any irrigation installed, the VGP trays (ideally pre-planted) can now be placed. Plants may be plugs, flats, or up to 1.5 litre material. To achieve an immediate lush, full wall, plants will need to be pre-grown in the trays.

Installation can be configured for close planting, open or a staggered layout according to design and project requirements.

Leave space for any signage, poster or advertisement if required according to design and project requirements.



The protruding base of tray sits into Baffle Plate of tray immediately below when close planting

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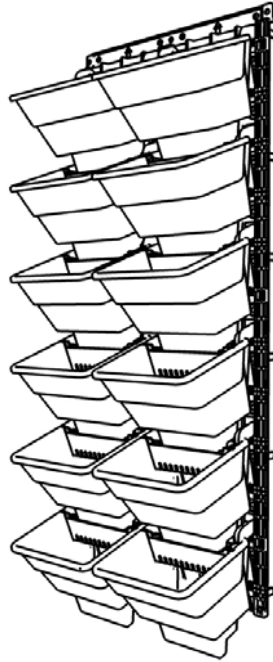
VersiWall® GP Mounting Panel

The VGP mounting panels allow for up to 12 trays, but depending on desired look or plants being used, to reduce overall system costs, open spacing (8 trays) can be utilized.

Depending on the plants selected, the wall may appear less full.

All 3 pairs of tray hooks anchor and sit into their assigned slots on panel

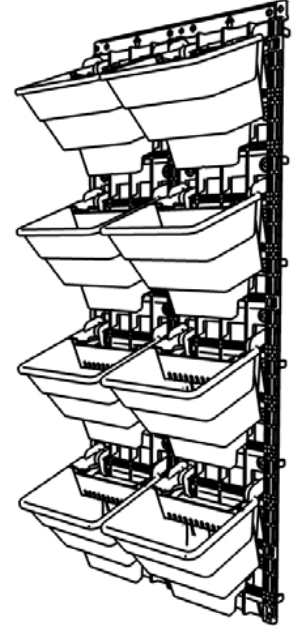
12-Up Panel (close spacing)



Close Spacing

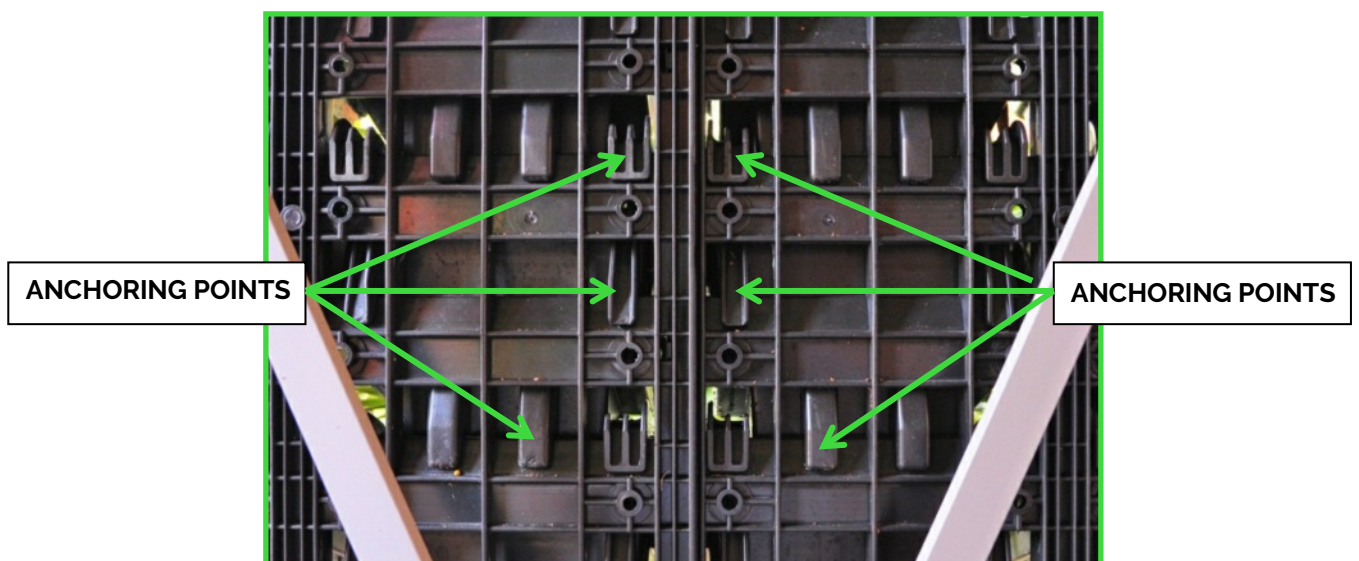
Vertical: 150mm centres
Horizontal: 200mm centres
Coverage: approx 33 trays/m²

8-Up Panel (open vertical spacing)



Open Vertical Spacing

Vertical: 225mm centres
Horizontal: 200mm centres
Coverage: approx 22 trays/m²



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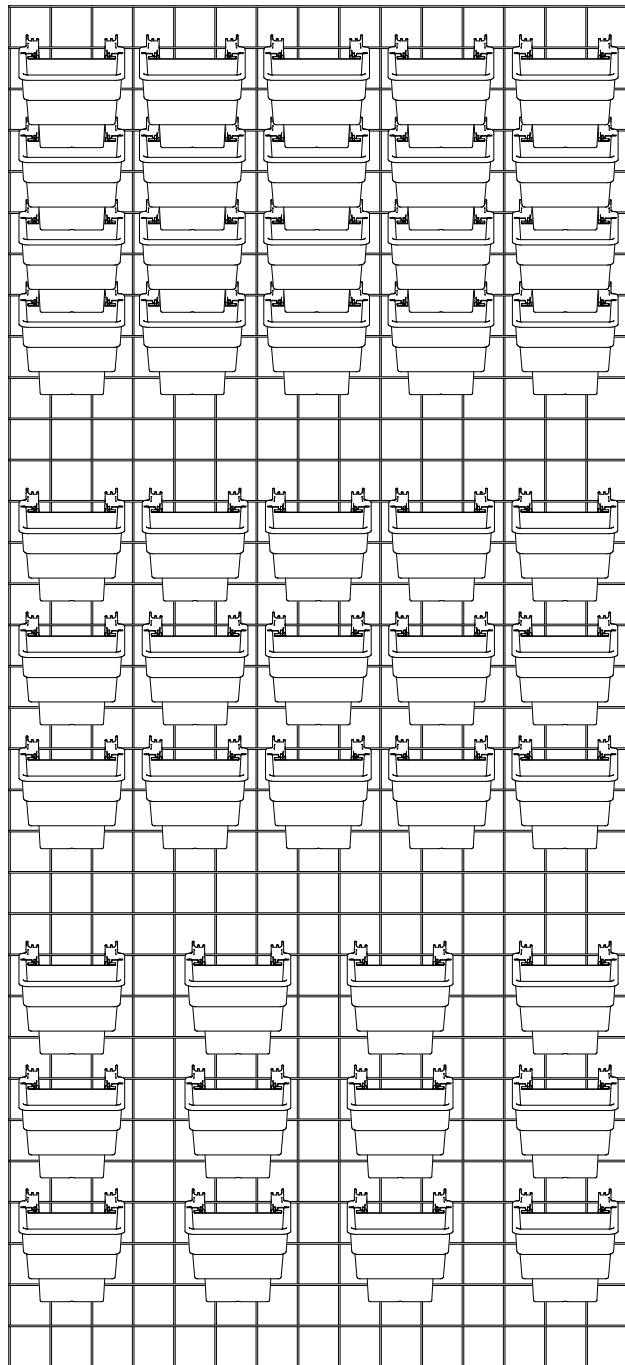
Standard Welded Mesh

Horizontal bars 75mm apart. All 3 pairs of tray hooks will anchor to the mesh.

Vertical bars 75mm apart.

Bar diameter 4.7mm (6 gauge).

Tray spacing open or close in both directions.



Close Spacing

Horizontal: 225mm centres

Vertical: 150mm centres

Coverage: approx 30 trays/m²



Open Vertical Spacing

Horizontal: 225mm centres

Vertical: 225mm centres

Coverage: approx 20 trays/m²



Full Open Spacing

Horizontal: 300mm centres

Vertical: 225mm centres

Coverage: approx 15 trays/m²



All 3 pairs of tray hooks fully supported

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Rods

All 3 pairs of tray hooks anchor with horizontal rods 75mm apart.



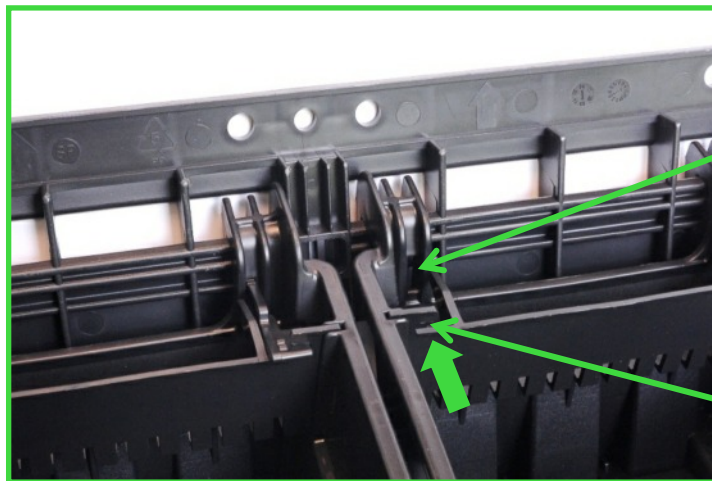
RODS 75MM APART

ALL 3 PAIRS OF HOOKS ANCHOR

Anti-Lift Arm

Insert Anti-Lift Arm into the slot at each of the top hooks to secure tray to the anchoring bar and prevent accidental dislodgement of trays from their mounting points

Tuck finger-grip of Anti-Lift Arm into groove at Baffle Plate.

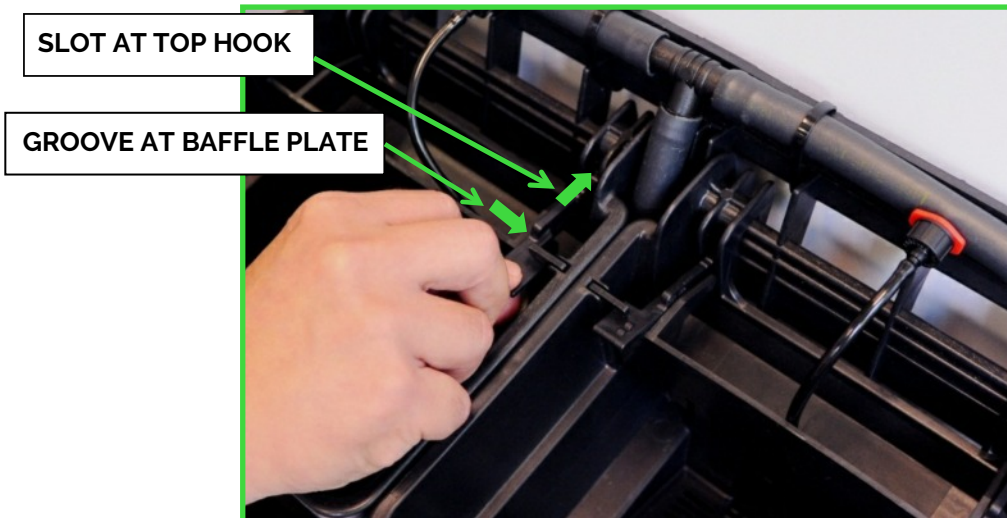


INSERT ANTI-LIFT ARM INTO SLOT AT TOP HOOK



ANTI-LIFT ARM

GROOVE AT BAFFLE PLATE



SLOT AT TOP HOOK

GROOVE AT BAFFLE PLATE

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Planting

Hydroponic or growing substrate can be used. For growing substrate use free draining planting soil with vermiculite and perlite light aggregates added.

Select appropriate indoor or outdoor plants according to design and project requirements (see separate guidelines).

Planting may be done in-situ or off-site. Use basket/carton box or rack system if trays are planted off-site to facilitate easy transportation to site.

Inspection & Maintenance

Follow a routine inspection and maintenance regime including the following:

Maintenance

Objective Task

Maintain planting design

Plant replacement, infill plantings, if necessary.

Maintain plant growth

Remove waste plant material (leaf litter, prunings, weeds), inspect for signs of pests or disease and treat as needed, make seasonal adjustments to irrigation volume and frequency as needed, ensure adequate nutrition levels for plants; inspect after severe weather events (e.g. wind or heat) to look for signs of stress.

Minimise weeds

Remove unwanted invasive vegetation.

Maintain plants

Annual or biannual pruning to maintain density and cover and to remove growth from fixtures (windows, drains). Rejuvenate to renovate habit and renew stem growth if necessary.

Monitor plant performance

Maintain records of plant health, vigour and coverage, pest and disease impact.

Maintain substrate

Top-up of growing substrate may be required due to wind, rain or animal activity (check the depth of the growing substrate before any additions are made to ensure weight loadings are not exceeded).

Maintain irrigation systems

Manually test and inspect the irrigation system regularly and monitor any automated systems (check volume of irrigation delivered, its frequency, substrate moisture content, and, for hydroponic green walls, nutrient levels in the water supply). Check tray drainage holes are free of debris.

Monitor plant nutrition

Maintain a log of fertiliser additions and records of pH and electrical conductivity values before and after addition of fertiliser.

Maintain drainage

Ensure drains are clear and functioning, remove dirt, litter and other deposits from drain inspection chambers, check plumbing hardware, check condition of filter sheet.

Maintain non-vegetated zones

Remove vegetation from perimeter zones and around other equipment and fixtures.

Maintain safety systems

Check safety anchor points, check electrical safety of power points, lighting and irrigation control system.

Maintain waterproofing

Inspect flashings over waterproofing membrane terminations, inspect wall fabric for any damage from water, fertiliser or plants.

Maintain other hardscapes

Inspect green wall support systems for any loose attachments or fittings.

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Completed VersiWall® GP Green Wall with Butterfly Decorations

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