
BREATHE™ LIVING WALL

SOLUTION GUIDE

build better™
DIRTT

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OVERVIEW



Features

- A sustainable, modular and flexible way to introduce living plants into interiors.
- Plant pots are different sizes and are easily added, moved and removed.
- Self-contained hoses and troughs use gravity to send water through the system making watering plants a simple task.

Breathe™ is a way to introduce living plants into environments to take advantage of the beauty, clean air attributes and kick of extra oxygen plants provide, all without using up precious real estate.

Breathe is designed to initially, or retroactively, attach to DIRT Walls or conventional walls. Plant pot modules come in different sizes and cantilever into the patented DIRT support extrusions. The self-contained hoses and troughs use gravity to send water through the system, to make watering simple.

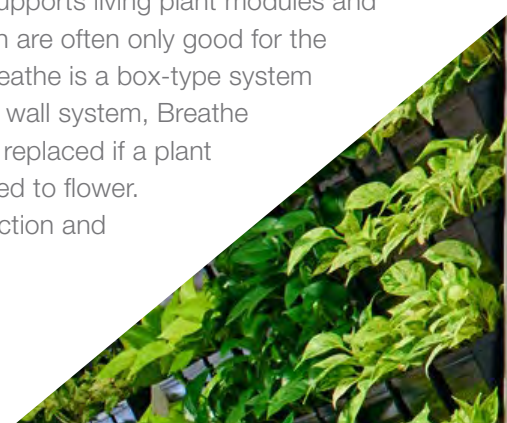
BREATHE LIVING WALL

Breathe Living Walls create scalable interior plantscapes. It's a low-tech, but effective system unique to DIRTТ that lets you mix plant types. Plants grow in their own containers.

Breathe is a simple system for incorporating plants into DIRTТ Walls. It mounts to the tile layer of the wall, can be retrofitted on existing DIRTТ walls with tiles, or can be mounted to any flat, vertical building surface. It is scalable and easily expanded from one panel to a monolithic wall of plants. Any space can incorporate Breathe Living Walls to bring nature indoors and detoxify interior spaces.

Sustainable

Breathe shares the same notion of modularity as the rest of the DIRTТ system. It supports living plant modules and an independent water delivery system. Unlike hydroponic living wall systems, which are often only good for the life of a wall (the roots are literally embedded in the wall's material composition), Breathe is a box-type system which adapts well to changes in an interior environment. Just like DIRTТ's modular wall system, Breathe plant pots and the support structure can be moved around. Individual pots can be replaced if a plant becomes sick or if freshly flowering plants are substituted for those that have ceased to flower. This flexibility is unique to Breathe, making it a living wall of choice for new construction and retrofitting of interiors.



This isn't your **typical** living wall.

Environmental

Most buildings condition air through an HVAC system to render the air fit for human use. Conditioning air requires energy, further contributing to greenhouse gas production and the cost of building operations. Plant landscapes can lighten the load of the HVAC system by removing many of these toxins, resulting in less energy use in buildings. Studies confirm certain types of indoor plants reliably reduce total volatile organic compound loads by 75%, to below 100 ppb (parts per billion), and also remove CO₂. In fact, Breathe can provide a benefit to indoor air quality that no HVAC system can supply.

Performance Booster

The positive impacts of plants in workplace interiors are well documented. People perform better in environments with plants, which seem to have a stress-reducing effect and can prevent fatigue during attention-demanding work. For a small investment, organizations can improve cognitive performance and drive better business results by including plants in the design of interior spaces.



Figure 1

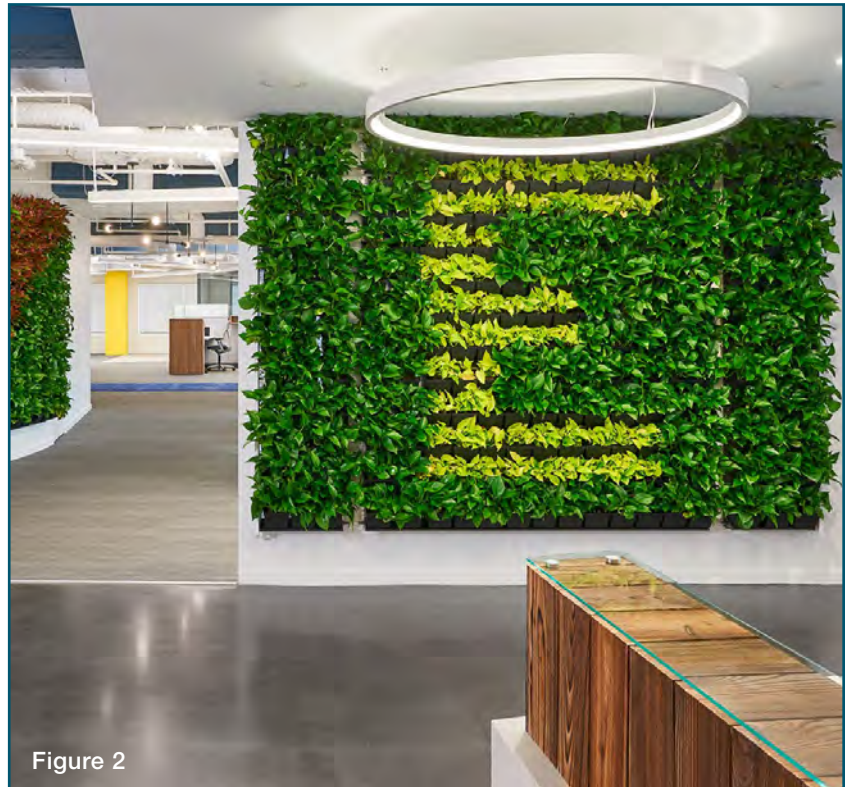


Figure 2

HOW TO ORDER BREATHE

1. Size Guidelines

- Minimum order: 10 sq. ft.
- Slats are 7" (178mm) high. Plan wall height in 7" (178mm) increments.
- Maximum length for Breathe Trough is 10'-0" (3.04m), but 6'-0" (1.82m) increments are recommended.
 - Longer spans can be accomplished using multiple troughs connected by inline connectors.
 - Plan minimum 3 ¼" (82mm) between troughs to accommodate watering.
- Minimum length for Breathe Trough is 7 ½" (190mm).
 - Slatwalls are always 1 ½" (38mm) longer than their troughs (meaning the trough on a minimum Breathe wall (7 ½") is 6" (152mm) long.
 - Because the standard Breathe pot is 6" (152mm), it requires a minimum 6" (152mm) trough to connect into.

NOTE: Think about the height of the plants when planning the size and placement of a Breathe wall. This will help to ensure there is enough room for the plants to sit and grow comfortably.

Refer to the installed Breathe wall (see Figure 3) for further explanation.



2. Breathe Pricing

- Download and enter your Breathe order into the [Breathe Pricing](#) spreadsheet, following the instructions outlined in the [Using the Breathe Pricing Spreadsheet](#) document.

3. Need help with a tricky wall?

- Have your DIRT Rep submit pricing assistance request to Team Breathe.
- Indicate whether the proposed Breathe wall will be applied to a DIRT wall or to drywall.
- Provide an AutoCAD file (in .dxf format) or ICE file:
 - Show the proposed Breathe wall with surrounding walls and surfaces.
 - Indicate where the Breathe wall will be placed on the wall.
- Provide exact measurements for the following:
 - Dimensions of entire wall that Breathe will be applied to.
 - Dimensions of entire Breathe installation on wall.

NOTE: ALL required components must be included in ALL pricing requests or request will not be processed.

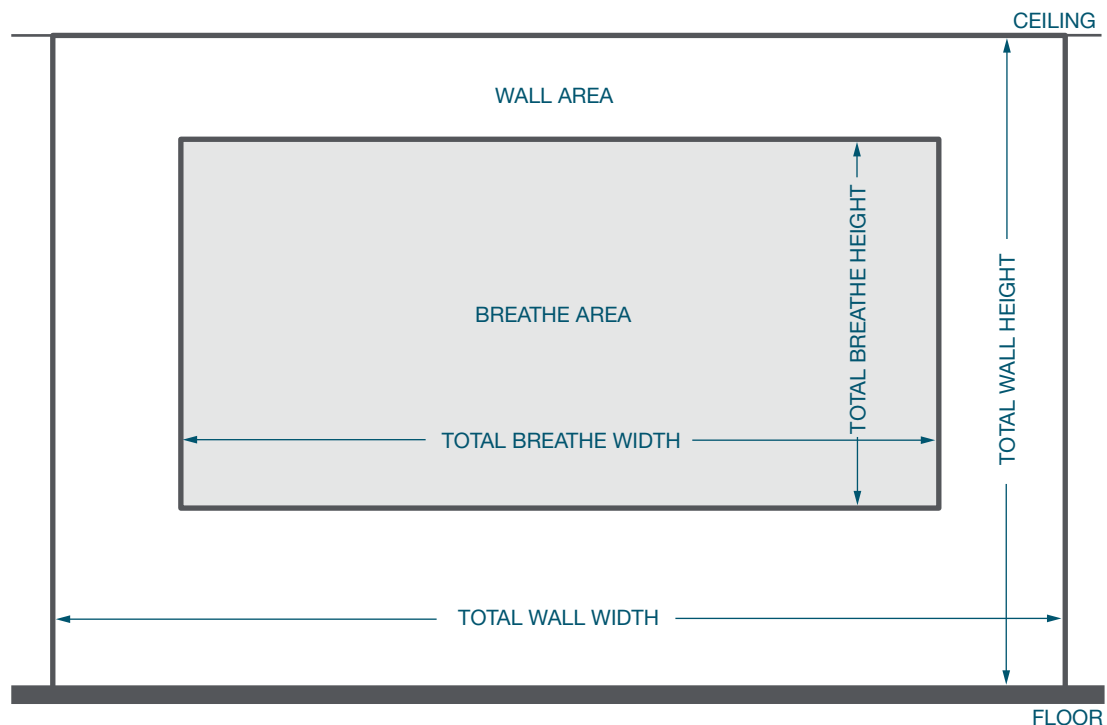


Figure 4

4. Source a Freight Quote from DIRTТ Freight Pricing

Email dirttfreightpricing@dirtt.com and include the following:

- The destination address.
- The preferred FedEx account to use (DIRTT's or Your's).
- The [Breathe Pricing Spreadsheet](#), complete with your order details.

5. Place Order through Order Entry

Submit the following information to OrderEntry@dirtt.com:

- The purchase order (PO) number.
- The [Breathe Pricing Spreadsheet](#), complete with your order details.
- An AutoCAD file (in .dxf format) or ICE file:
 - Show the proposed Breathe wall with surrounding walls and surfaces.
 - Indicate where the Breathe will be placed on the wall.
- Exact measurements for the following:
 - Dimensions of entire wall that Breathe will be applied to.
 - Dimensions of entire Breathe installation on wall.
- The freight quote from DIRTТ Freight Pricing.

6. Source the Customers Own Material (COM)

- DIRTТ does not provide planting advice, plants, growing materials or maintenance. Breathe is simple enough that an occupant could plant and care for a small living wall plantscape. Larger installations in commercial and institutional settings require plant professionals for purchasing, planting and maintenance. Please consult a horticulturalist in your area.
- For any size installation that is not using a fixed plumbing solution, please consider sourcing a portable watering unit such as The WaterBoy (www.thewaterboy.net).
 - Additional information on The WaterBoy is also available in the [Portable Watering Units](#) document.

INSTALLATION INSTRUCTIONS

This section includes information on design intent, technical tips, hardware & parts, installation step and rules, and expected outcomes.

All installation questions should be directed to your DIRTТ project manager (PM) or a DIRTТ field technician. Send email inquiries to info@dirtt.com.

PART	DESCRIPTION	DETAILS
11318	Breathe Slat Wall Aluminum Extrusion	
11850 / 11851	Breathe Trough End Cap (Left/Right)	
	Breathe Pots	
11852	6" Large	6" x 6" box
11853	3" Large	3" x 6" box
11854	3" Small	3" x 3" box
11856	Breathe Wall Plant Wick	
11857	Breathe 90° Elbow Connector	
11859	Breathe ½" Clear Hose	
16859	Breathe Trough	
16860	Breathe Intermediate Trough Support	
11855	Breathe Water Supply Connector Kit	
11847	Breathe Water Supply Connector Kit Gardena	
11858	Breathe Inline Connector	
11860	Breathe Trough Plug	
11866	Breathe Gable Clip	
11900	Breathe Gable Extrusion Aluminum	
STOCK	#8 - ¾" Pan Head Wood Screw (PHWS)*	
STOCK	#10 - 1 ½" Self Tapping Screw	
STOCK	#8-32 x ¼" Set Screw	

* PHWS are provided on DIRTТ Wall applications or gable ends ONLY. Drywall orders do not receive these screws.

NOTE: Plants, potting mix and planting blocks are supplied "By Others".

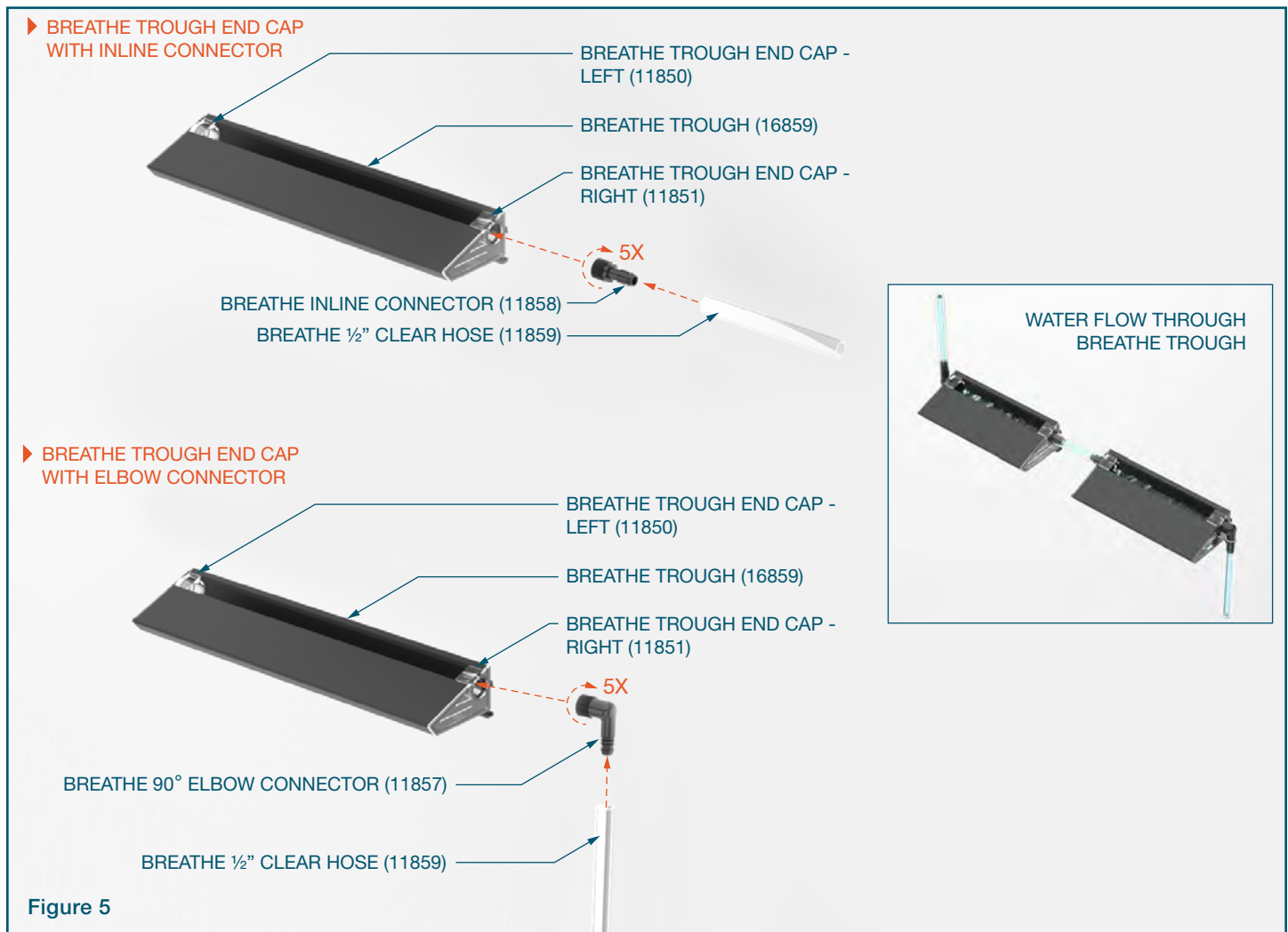
1. Breathe Trough Assembly

Breathe Troughs are shipped factory assembled with end caps, the connectors are assembled on-site. If they ship unassembled complete the following steps.

- 01** Trim Breathe Trough (16859) to size and attach Breathe Trough End Caps - Left (11850) and Right (11851) to Breathe Trough using ABS solvent weld and test for water leakage.
- 02** Thread either the Breathe 90° Elbow Connector (11857) or Breathe Inline Connector (11858) into Breathe Trough End Cap (see Figure 5).

IMPORTANT: The Breathe Inline Connectors (11858), Breathe 90° Elbow Connectors (11857) or Breathe Trough Plug (11860) require **ONLY 5 TURNS** for installation to the Breathe Troughs (16859). There is still a half turn allowance to align the connector in the correct position after the 5 turns. Do not use any tools to insert or turn these components.

- 03** Friction fit Breathe ½" Clear Hose (11859) to connectors (see Figure 5).
NOTE: Heating hose in a hot water bath will aid insertion.



2. Insert Breathe Trough Supports

Breathe Intermediate Trough Supports (16860) are installed in trough measurements of 24" (601mm) or larger. At 24" (601mm) the support is positioned at the center, at approximately 12" (305mm). Maximum spacing between supports is 18" (457mm) on center (OC).

NOTE: Breathe Intermediate Trough Supports are shipped factory assembled.

04 Apply ABS solvent weld to bottom of Breathe Intermediate Trough Support (see Figure 6).

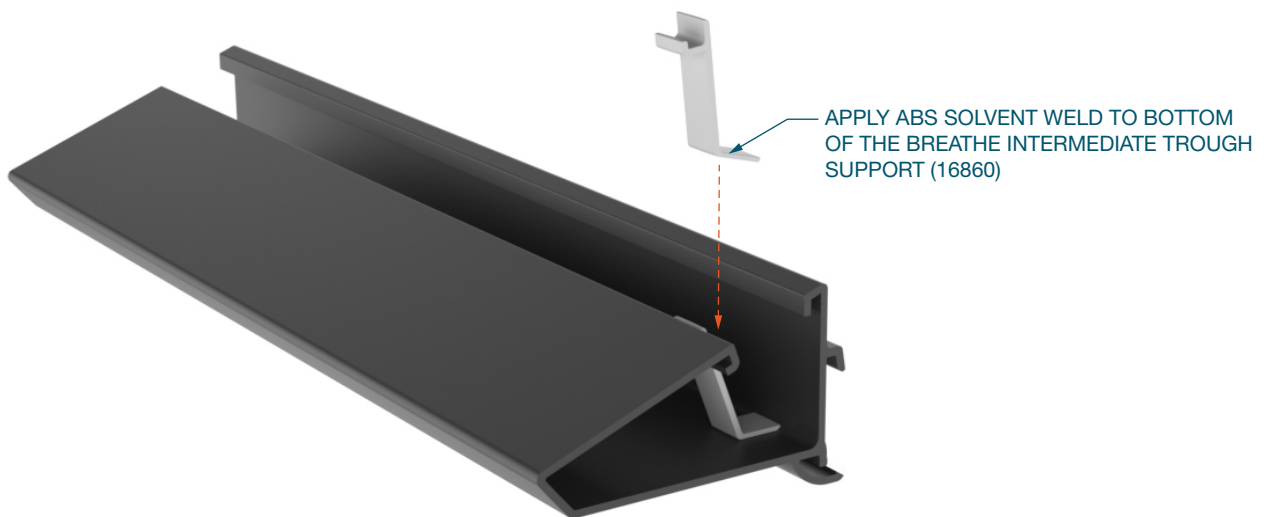


Figure 6

05 Insert Breathe Intermediate Trough Support into Breathe Trough. Press bottom of support into base of trough while snapping top of support into upper edge of trough (see Figure 7).

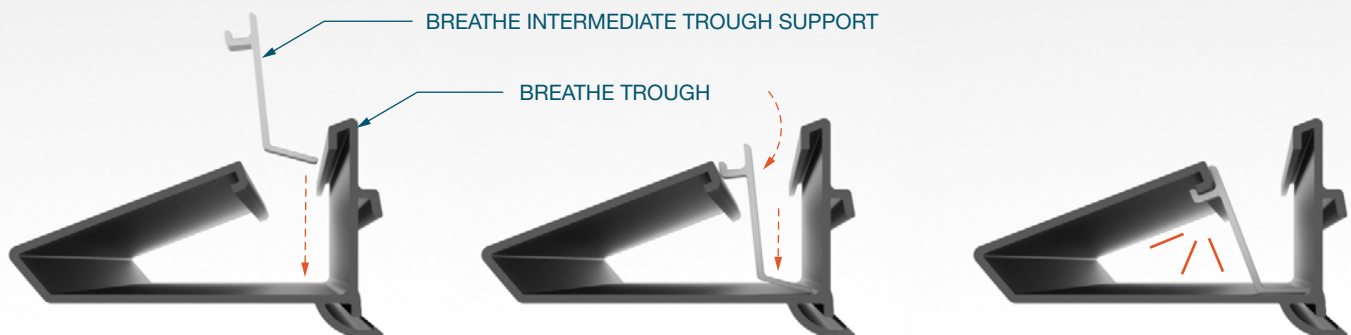
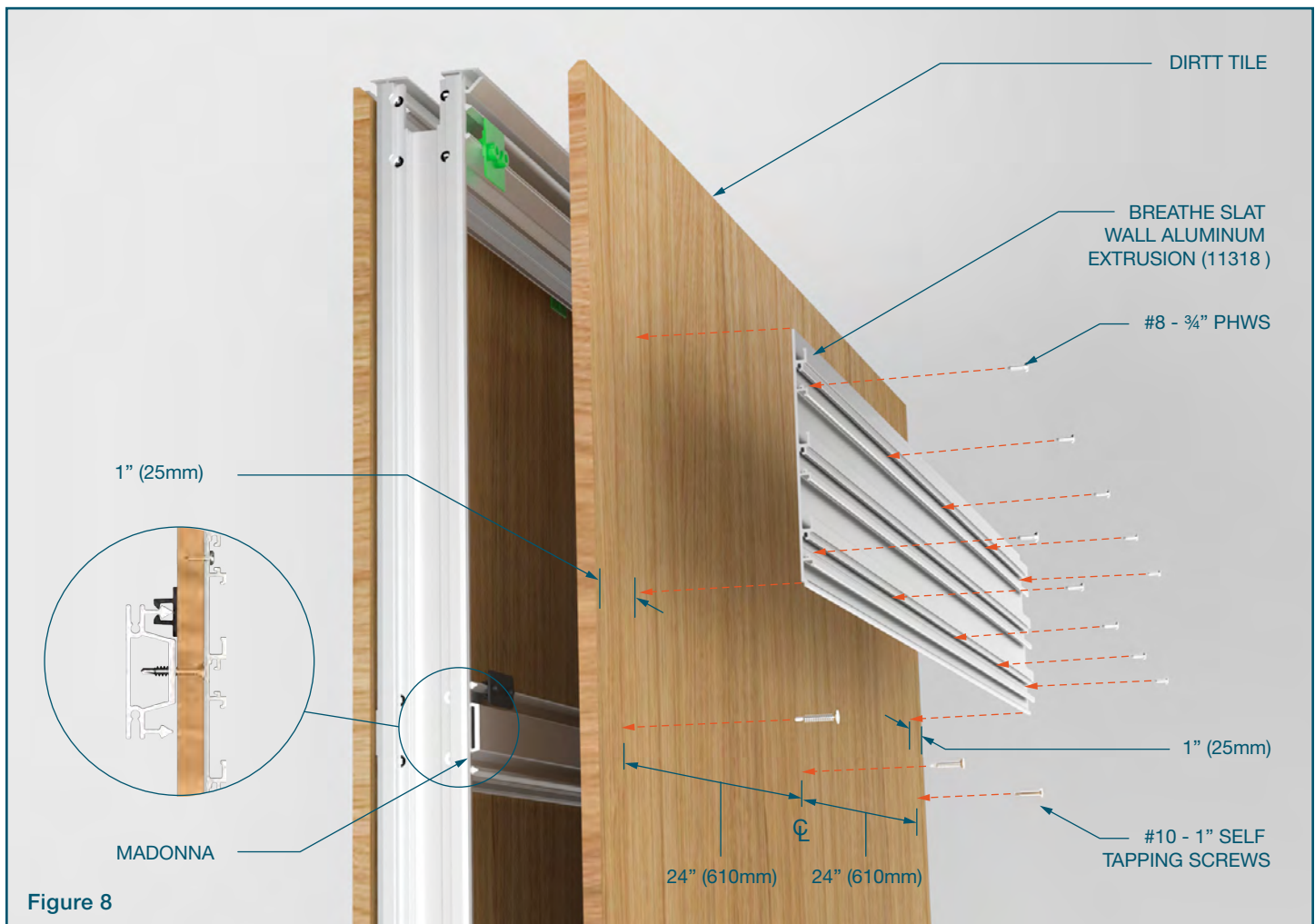


Figure 7

3. Breathe Slat Wall Assembly

06 Fasten Breathe Slat Wall Aluminum Extrusion (11318) to DIRT tile using #8 - 3/4" PHWS (see Figure 8). The Breathe Slat Wall Aluminum Extrusion (slat wall) must be attached with at least 1" (25mm) of space between it and the edge of the tile, and less than 12" (305mm) OC horizontally. Slat wall must be leveled and can be flush with top of tile or spaced as required.

NOTE: The wall must have additional Madonnas to support the Breathe Wall. Use #10 - 1 1/2" Self Tapping Screws to attach the slat wall to the Madonna in the DIRT wall. It is recommended that thermofoil finishes are specified for Breathe Wall tiles to manage moisture that may contact the surface. The slats can also be attached to base building structures. Fastener type and location will be determined based on the job requirements.



07 Ensure the joints on the slats overlap (see Figure 9) and that they are level.

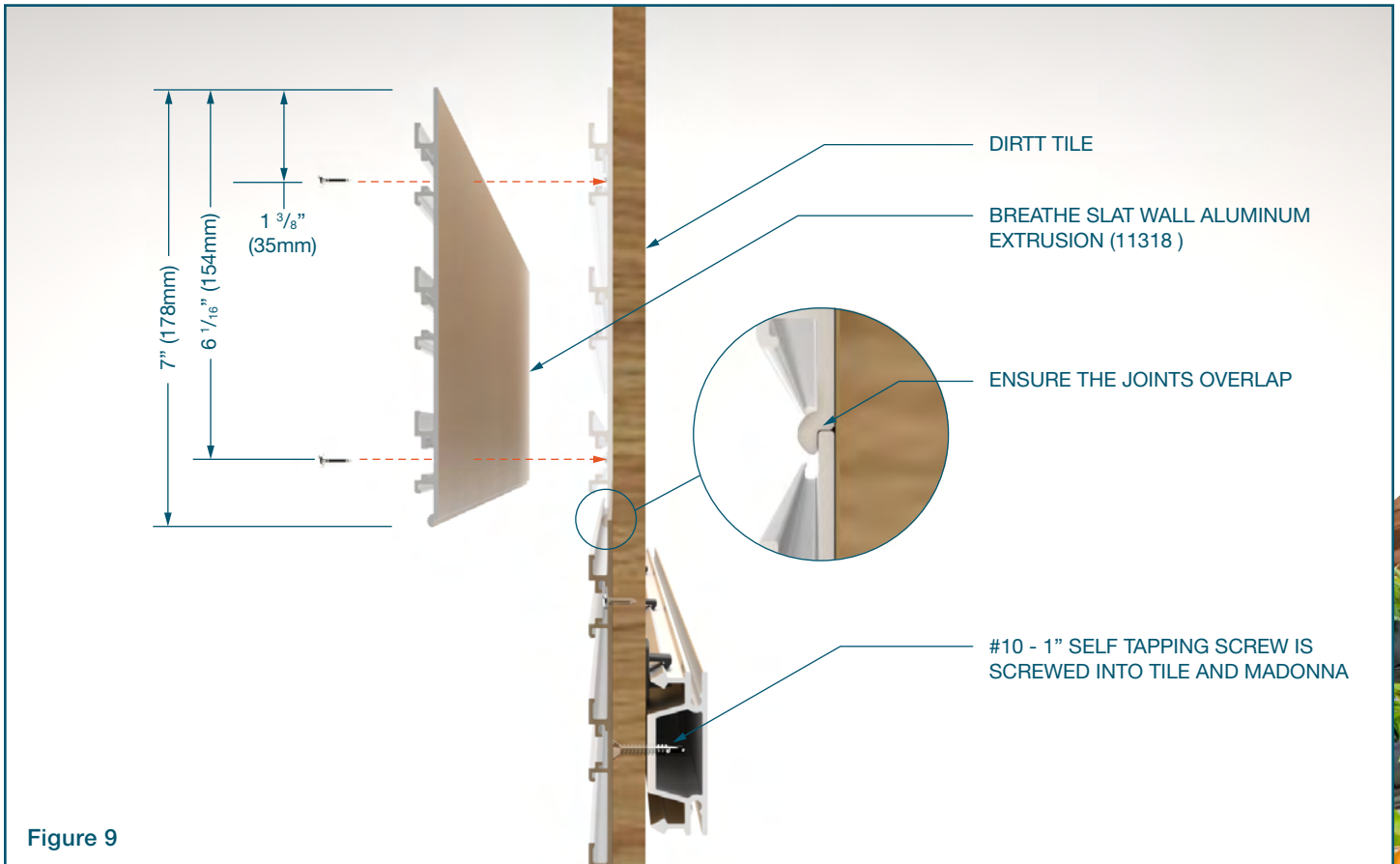
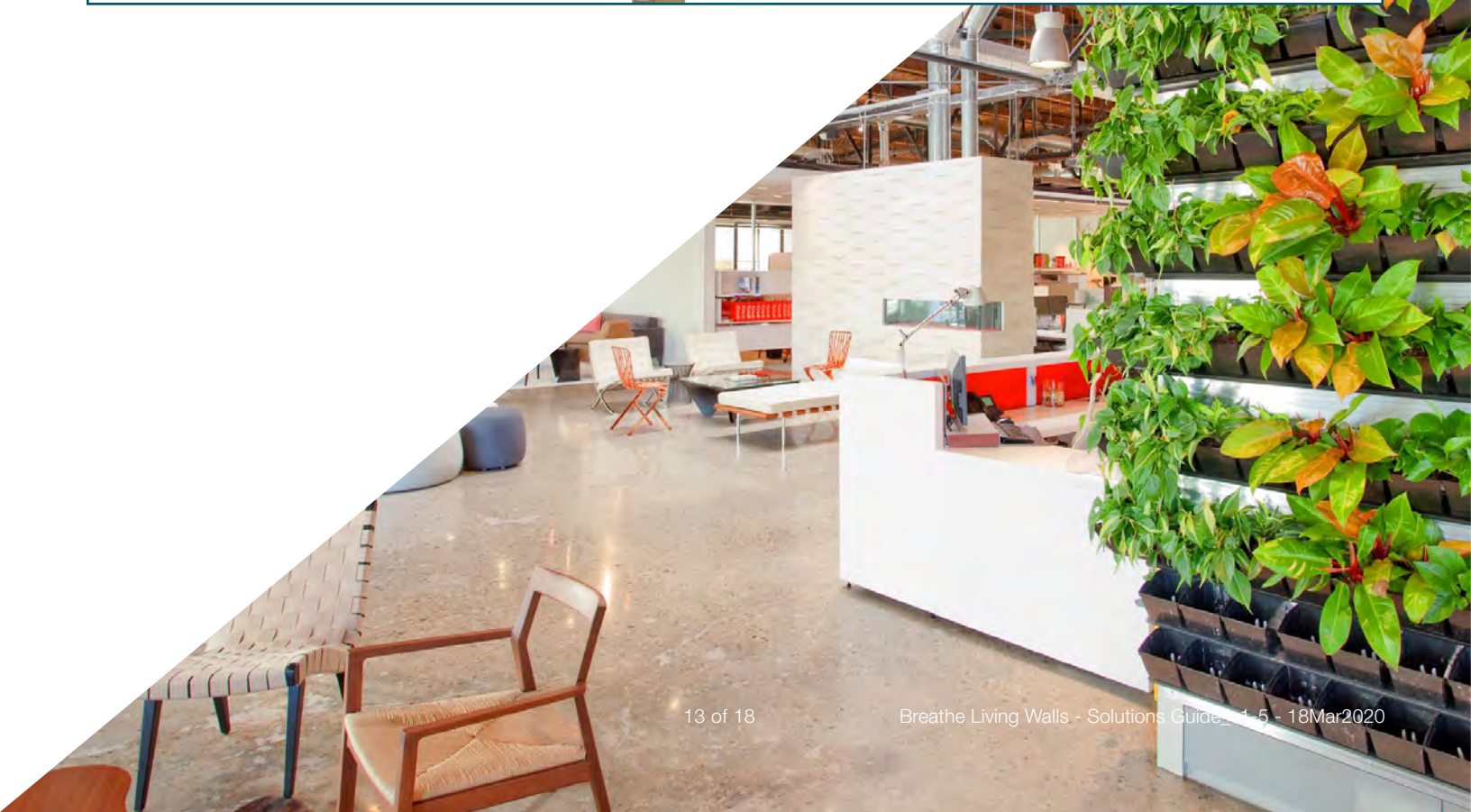


Figure 9



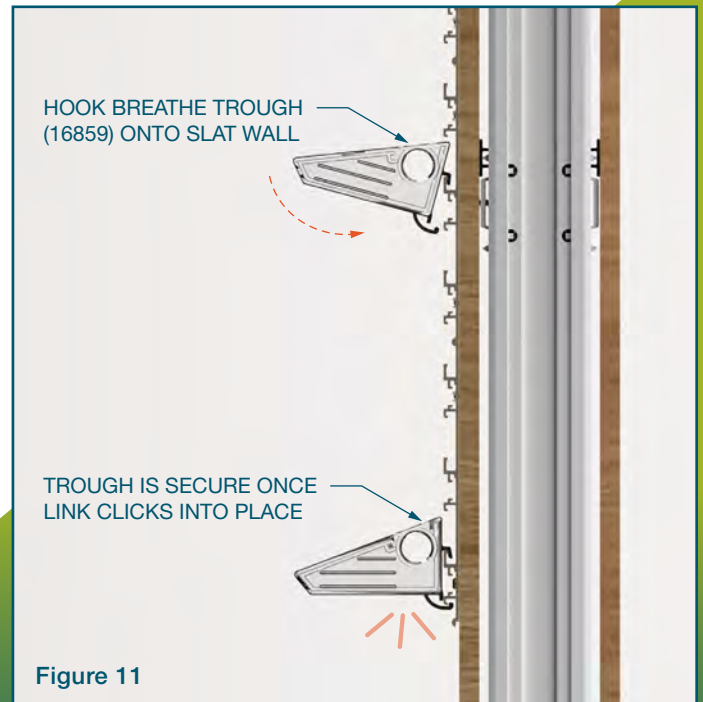
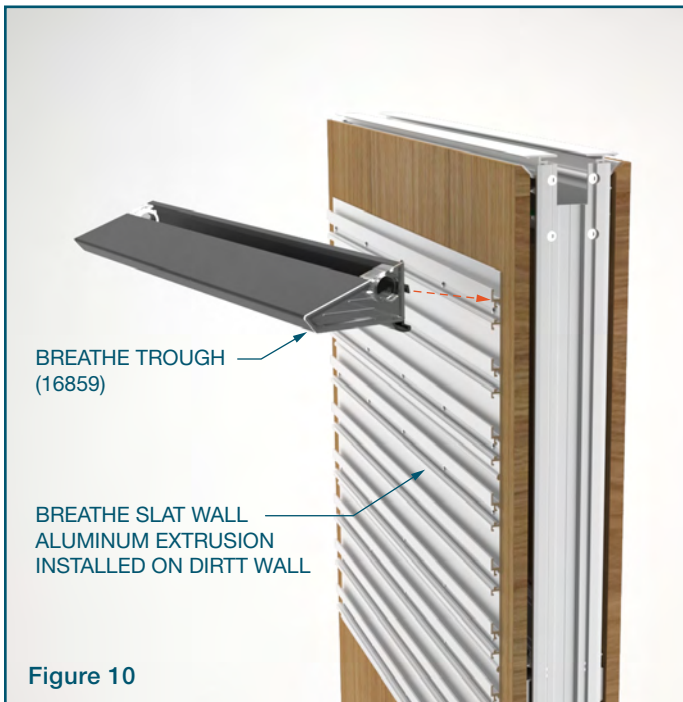
4. Breathe Trough Assembly on Breathe Slat Wall

08 Choose one end of the Breath Trough and insert upper clip of trough into the slat wall. Continue to hook top part of trough until all parts are hooked onto the slat wall (see Figure 10).

NOTE: It is difficult to engage the trough on a slat if pressure is applied to more than one location while attempting to click the trough in place.

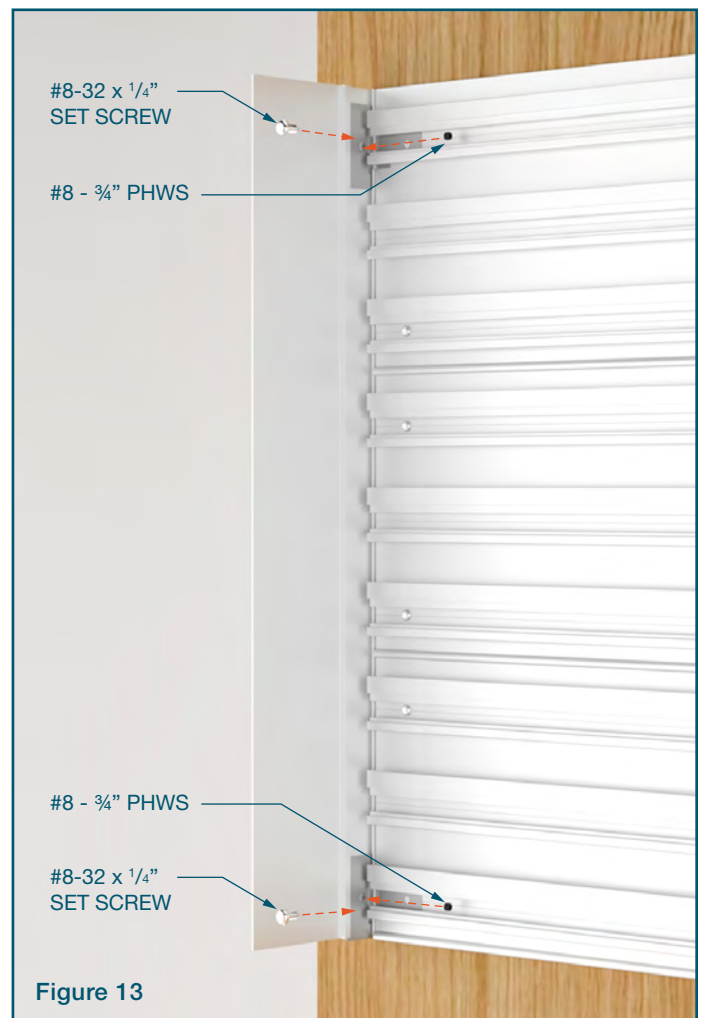
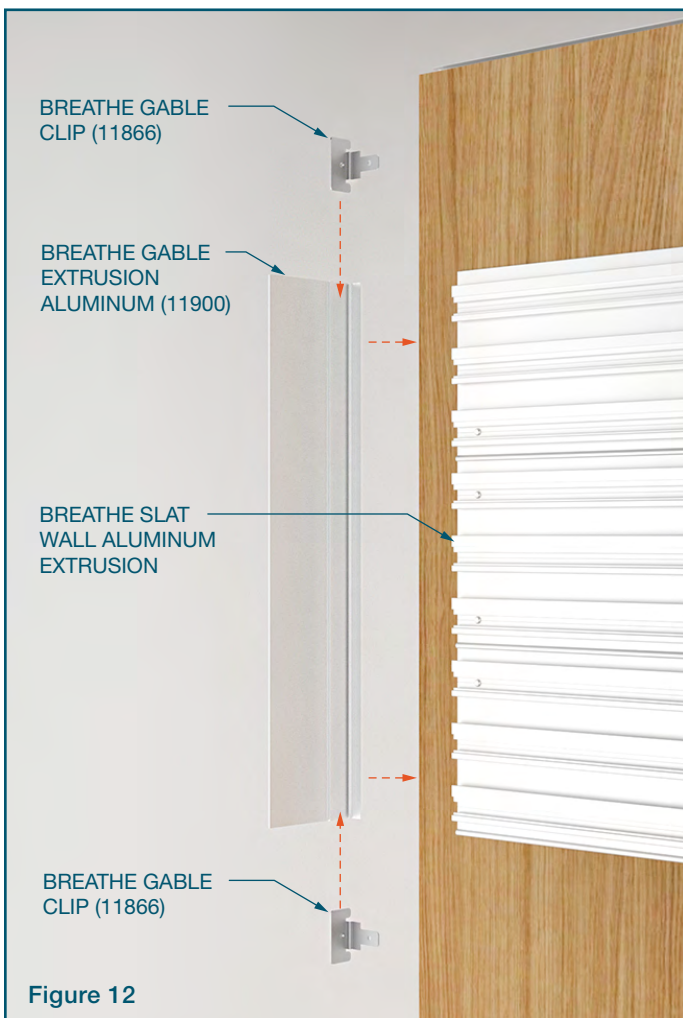
09 Continue applying pressure along bottom part of the trough's extrusion to fasten it securely onto the slat wall (see Figure 11). The Breathe Troughs will snap easily into place if installed correctly.

NOTE: Always start with the TOP of the trough and then the BOTTOM and continue either RIGHT to LEFT or LEFT to RIGHT along the slat wall. Refrain from using excessive force. Rough handling of the troughs may cause the end cap seams to crack and/or split, resulting in leaks post installation.



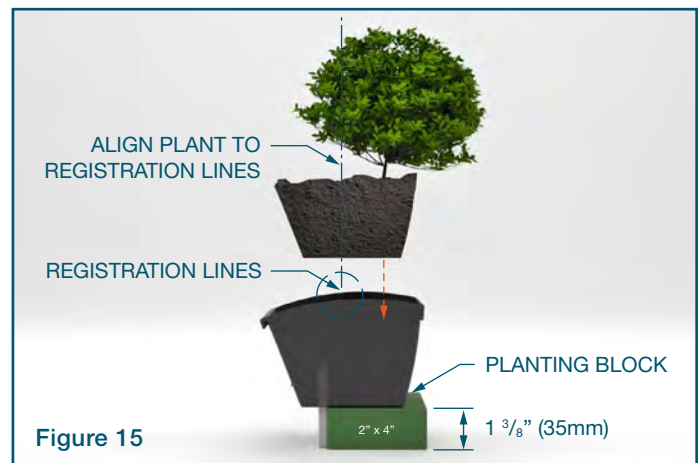
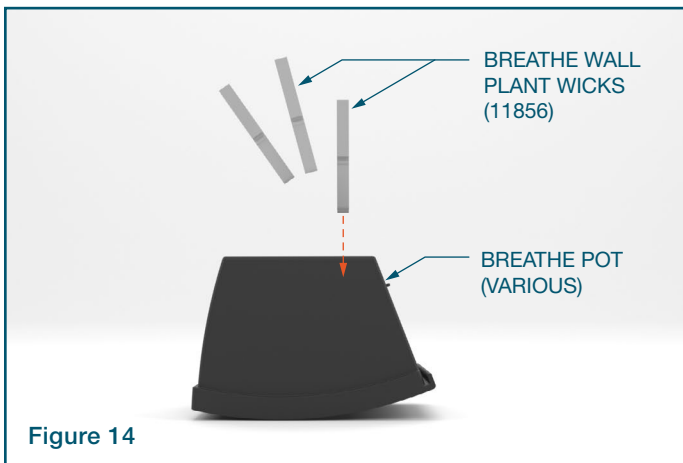
5. Breathe Gable End Assembly

- 10** Insert Breathe Gable Clip (11866) into the Breathe Gable Extrusion Aluminum (11900) and then insert assembly into slat wall (see Figure 12).
NOTE: Gable Clips are installed in slat walls positioned at maximum 21" (533mm) vertical spacing with a minimum of Gable Clips - QTY 2 per gable.
- 11** Attach the gable clip to the gable extrusion using #8-32 x 1/4" Set Screw - QTY 1 to hold in place. Fasten loosely so that vertical adjustments can be made (see Figure 13).
- 12** Fasten gable clip into slat wall using #8 - 3/4" PHWS - QTY 1. Vertically adjust the gable end if required and tighten set screw into gable clip (see Figure 13).
- 13** Repeat all steps at opposite end of Breathe Wall, as required.

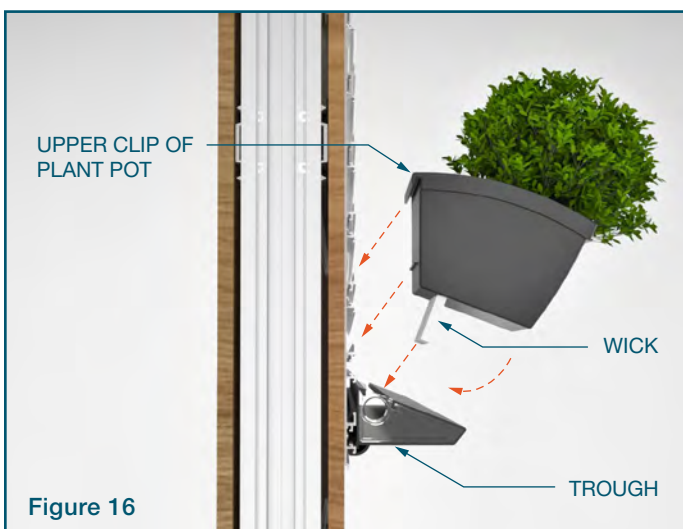


6. Plant Pot Assembly

- 14** Insert Breathe Wall Plant Wicks - QTY 2 (11856) into bottom of Breathe Pot (VARIOUS) (see Figure 14).
NOTE: Plant Wicks - QTY 2 per pot is recommended. The amount of plant wicks required will vary dependent on each plant's water requirements. The plant wick extends through pot, into water trough, providing moisture to soil and roots.
- 15** Place planting blocks under pot to position wicks in a vertical position. Insert growing medium and use registration lines on pot to position plants (supplied 'By Others') toward front of pot (see Figure 15).
NOTE: Breathe grows best with a professional, general purpose potting mix, not dirt. Use a soil-less horticultural potting mix specific for your plants, combined with a biofungicide to prevent root disease.



- 16** Align wicks with trough opening and insert upper clip of the Breathe Pot into slat wall (see Figure 16). Rotate the pot downward to position horizontal support rib. This prevents the pot from being dislodged accidentally.

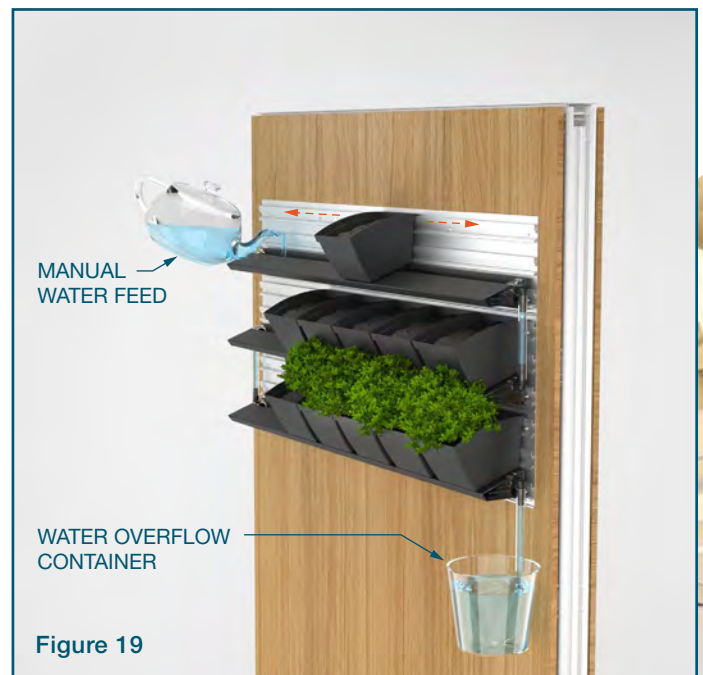


7. Assembled Breathe Living Walls - Manual Water

Plants can be watered using a pressurized watering system or from the top trough with a watering can. To water manually use the following steps:

17 Replace 90° connector elbow and ½" clear hose at top left position on wall with a Trough Plug (11860) (see Figure 18).

18 Slowly pour water into top trough and check the gravity feed to all troughs below (see Figure 19).
NOTE: Before adding water, ensure the troughs are level.



8. Assembled Breathe Living Wall - Pressurized Watering System

