The Secret's in the Panels

People who love plants love Solexx!

HINTS FOR SOLEXX™ ROLL & PANEL APPLICATION

Solexx™ is very strong yet flexible, making it easy to work with and cost effective to ship. Due to it's translucent characteristics it diffuses light exceptionally well. Creating an environment with no shaded areas nor hot spots and with an "R" value of 2.1 for 3.5mm paneling (2.3 for the 5mm paneling), it makes an ideal covering for greenhouses, end walls, light panels, car ports, etc.....the possibilities are endless. Remember that this product may have slight imperfections, or blemishes, but they are only cosmetic and will not affect the quality nor performance of the product.

The Following are a few tips on how to handle this revolutionary material:

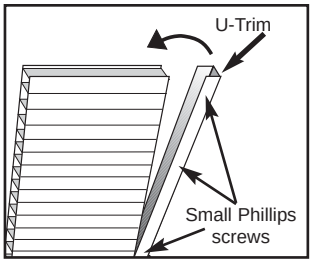
1. If the precut panel or length off of the roll is too curved for easy installation, try straightening it out by laying it out flat in a warm environment. Also, if the roll/panel has been in storage for a period of time, it may have developed a slight "yellow" tint from the UV inhibitor. Exposure to direct sunlight should quickly clear this up.

2. Apply the paneling when the temperature is at the mean (Yearly average) temperature for your area to allow for expansion & contraction.

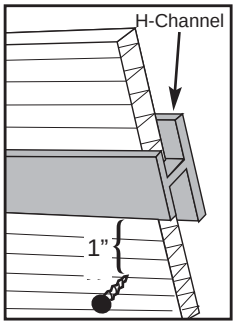
3. We recommend that the framing (trusses) that will support your Solexx™ be placed 16" - 24" on center.

4. Solexx™ paneling can be applied with the flutes running in either direction on your structure. Placing your Solexx™ paneling so that the flutes run perpendicular to the framing adds to the strength of your structure. When attaching the screws to plastic or wood framing , we recommend using our 1" screws with neoprene washers which prevents water from leaking into the flutes. Our 3/4" drill screws are for installing you Solexx™ paneling onto metal framing. We suggest placing the screws about 18" apart on the stringers, and about 6" apart on the perimeter or any overlapped joint. Be careful not to over-torque the screws, or you may crush the paneling. The washers should just make a dimple in the panel.

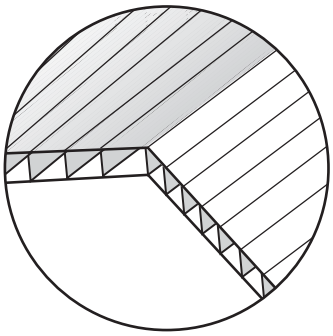
5. **Cutting**: The panel is easily cut using a sharp thin utility knife or saw. It is helpful to attach the panel to your structure first, then use a sharp thin utility knife to follow the frame as a cutting guide. It works well to cut the panel with two passes of the knife. The 1st pass is with light pressure to score the panel and set the path the knife will follow for the 2nd pass. The 2nd pass would be done with more pressure to cut through the panel, while making sure the knife is following the score line of the 1st pass.



6. **U-TRIM:** On all 4' 1" ends of paneling where there are exposed flutes, you need to insert a ¼" bead of *IS800 "clear" Silicone Rubber Adhesive Sealant (*caulking) into the flutes, to prevent water intrusion and to bring the paneling to it's maximum insulation factor by trapping air in the middle of the panel. Then slide a U-trim over the end of the panel for a permanent cap. Secure U-trim with small phillips screws by poking a small starter hole in one side of the U-trim with an ice pick or small nail and screwing through one side of the U-trim and into the Solexx™ paneling. Place each screw approx. one foot apart. Put caulking in all the holes you created to stop water penetration.



7. **H-Channel**: Panels can be joined together using H-Channel, which seams the two panels together and helps to prevent water leakage. Attach one panel to your frame while leaving about ¼" gap in between that panel and the next one you are attaching. This leaves enough space for you to slide the H-channel into place. Keep the screws approx. 1" from each side of the H-Channel. **Do not screw into the H-channel**. ****Do not use H-channel on a roof, unless it is one continuous H-channel running from side-to-side. No H-channel clips on a roof**. If H-channel is difficult to slide on, try spraying the groves of the H-channel and the edges of the panels with a little WD-40, Pam or try rubbing a dry bar of soap on the edges of the panels and tap on the end of the H-channel with a rubber mallet.



8. Do not use the panels to square your structure. Solexx™ rolls may not be perfectly square.

9. It's not necessary to cut Solexx™ when installing over roof peaks or around corners. You can score the panel using a straight edge and a blunt object such as a phillips screw driver or the handle of a butter knife (be careful not to cut the panel) and then fold the panel along the scored line. Solexx™ paneling can be scored in either direction. Either with the flutes or across the flutes.

10. Wipe down Solexx™ with soap and water once a year for maximum efficiency of light transmission.

Please fill out the Warranty Card and send back to us as soon as possible, to make sure we have an accurate record of your purchase.

Any questions or concerns regarding this product, please give Adaptive Plastics, Inc. a call at 1-877-476-5399

Overlap vs. H-channel Installation

***Solexx*™ can be installed vertically or horizontally as pictured below. H-channel is used to connect the panels when they are installed horizontally. It is easier on larger structures to run the material up and over. In that case, you can overlap the material. When you screw through both pieces, it compresses enough to form its own seal.**

These panels are installed vertically with the screws spaced every 5" apart. It fits snugly enough together and overlaps far enough that it doesn't leak. You do NOT seal with Silicone. Silicone will not stick to Solexx, but it will attract a lot of dirt so you end up with a messy glob that serves no purpose.

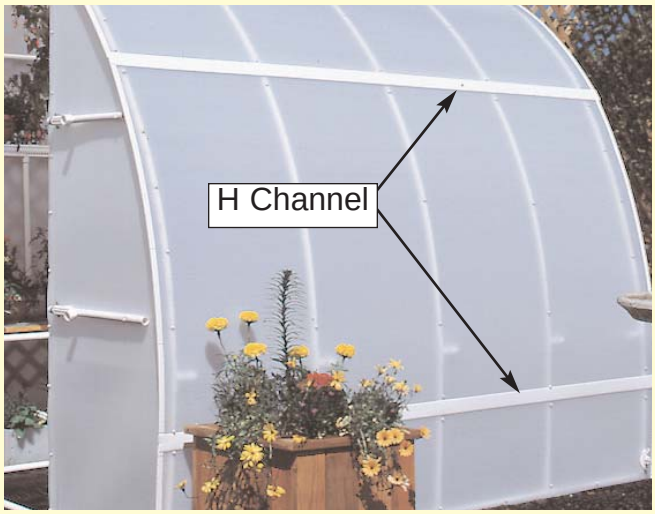


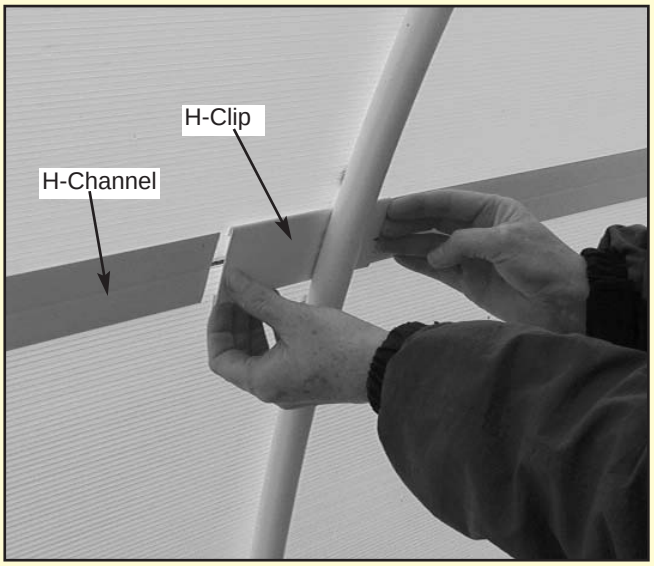
Photo of H-Channel installed.

Panels can be joined together using H-Channel. This locks them into place and can help prevent water leakage. Attach one panel to your framing and leave about a 1/4" gap when you're attaching the second.

Secure panels by placing screws into frame 1" from each side of H-Channel. Be sure to leave enough space for the H-Channel to slide between the panels without running into a screw. If H-Channel is difficult to slide on, try spraying grooves of the H-Channel and the edge of the panel with a little WD-40 or clear silicone spray. Also try taking a dry bar of soap and rubbing it on panels or tapping on ends with a rubber mallet.

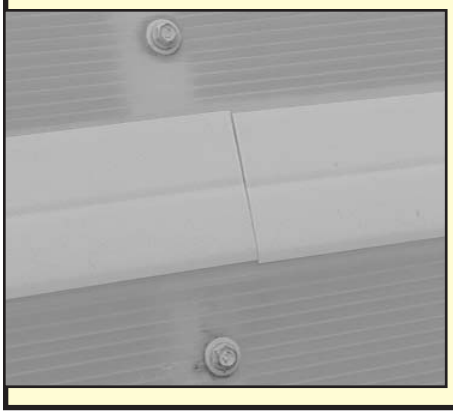
H-channel Clips

When H-channels are shipped alone or with the panels and rolls, we ship them in 4' sections. This cuts shipping costs because they fit inside the roll and reduces the chance of damage during transportation. To create a seemless joint between the 4' pieces, use the H-channel clips as shown in this illustration.



1. Slide the H-Channel between the panels leaving a couple inches between each piece of H-Channel. On the inside of the greenhouse, slide the H-Clip onto each end of the H-Channel pieces.

2. From the outside of the greenhouse, insert about a nickel-size gob of silicone caulking into the area between the H-Channel pieces.



3. Slide the H-Channel pieces in so they butt together.

Solexx™ Greenhouse Benefits

Solexx Greenhouses offer more quality and features than any other greenhouse on the market in a moderate price range!

They out-perform the competition in strength and versatility! Built-in hanging rods are strong enough to hold several hundred pounds of hanging plants. You won't have to drill into your greenhouse frame to install hooks - just hang your basket! No other greenhouse outperforms Solexx when it comes to handling snow and wind!

Efficient use of space for tons of growing room! Our standard bench frames allow room for 32 standard 11" x 21" planting trays with plenty left over for larger pots. Each shelf will support over 500 pounds. Solexx Greenhouses are perfect for all kinds of greenhouse activity from starting seedlings and cuttings to over-wintering large, heavy potted plants.

Optimal diffused light and insulation with twin-walled paneling! No special treatment in the summer is required of this plastic (it might benefit from a quick wash off once or twice a year). With diffused light there are no shadows in the greenhouse, so plants get bathed in the same soft glow no matter where they are in the greenhouse - without burning! Our shade cloths will help you keep your greenhouse cool all summer! Plus, the insulating factor makes winter heating more economical.

The super-strong composite frame protects your plants from the radical temperature swings that can occur in greenhouses with steel or aluminum framing. Our frame does not transfer heat or cold so your plants won't even feel it when Mother Nature changes her mind.

If rocks, baseballs or small branches fall on the greenhouse... NOTHING HAPPENS! There's no glass to pick up and no maintenance! Because the plastic is flexible, rocks and balls just bounce off.

Virtually indestructible! According to our customer from Bellport, NY who says, *"I purchased an 8' x 16' Conservatory Greenhouse a year and a half ago. I remember my neighbor telling me how my greenhouse was going to blow away in the next storm. Well, his metal shed blew away...winds were up to 90 miles per hour.* ***Your product has passed the fury of east coast storms."***

Maximum Flexibility! Purchase the standard kit early in the season and add base vents and ventilation accessories as the season warms and budgets allow. Expansion kits are easily added for most models. As your need grows your greenhouse grows, too!

All Solexx greenhouse kits available in 3.5 and 5mm panel thicknesses.

Greenhouse Frames

Exclusive *Solexx*™ framing outperforms the rest. Though there are many good custom houses out there, none of them can stand up to *Solexx*™ greenhouses. When it comes to strength and added value, our composite-tube frame delivers! **Looks like PVC - but looks are deceiving!**

Solexx™ frames are made from a pultruded, super-strong composite material giving them the strength of steel with none of the disadvantages like corrosion or rust.

Solexx™ white color reflects light inside the greenhouse making 100% of it available for your plants. Wood or metal frames cast shadows keeping some of your plants in the dark. Wood frames can wick water adding moisture, which contributes to disease. Metal frames transfer cold into the greenhouse in the winter creating condensation and robbing vital heat.

Solexx™ is also the only greenhouse kit that comes with built-in bench frames. They form an integral unit of unequalled strength while creating the most efficient workspace of any other greenhouse.

A greenhouse frame should:

- Remain condensation free and keep the warmth where your plants need it.
  Metal frames can't do this
- Be impervious to moisture and disease
  Wood can't do this
- Withstand high temperatures without discoloration or warping
  Resin frames can't do this
- Weather heavy snow and wind
  PVC frames can't do this
- Reflect the light inside back to plants
  Dark frames can't do this

Greenhouse frames pass the test!

Recommended Accessories

Solexx provides many accessory options...

Your customers can expand and adapt their greenhouse as needs change. Working with Solexx is so easy that adding base vents and/or exhaust fans can happen at any time. However, there are some basic recommendations which should be made with every greenhouse sale. Units 8' or less can get by without adding power exhaust fans or intakes depending upon year-round use and climate. Please see your dealer catalog for complete accessory options.

For most greenhouses it is a good idea to always include the following items in your quote:

The tie down kit is essential!

The automatic louver opener is a great upgrade to suggest. Each kit comes with a nice louver for venting. For those who are not home during the day, the automatic opener means the greenhouse will still be properly vented. Just set the desired opening temperature one time and it will take care of itself from then on!

Base vents really help for proper cross ventilation. We recommend one for every eight feet on either side of the greenhouse. These things I think should be suggested with every greenhouse sale.

Each greenhouse includes built-in bench frames. To cover them, we offer wire racks with a UV inhibitor included and custom cut to fit the bench frames properly. These are an optional upgrade, however, and some customers prefer to find another source locally as the wire racks do include an over-size shipping charge.

Other options to consider are shade cloths and flooring. When you get into greenhouses that are 12' or more, it's definitely time to consider the exhaust, circulation and intake fans. Page 4.2 give more details on ventilation recommendations for each model and size. We also have some nice heaters that will work well with our Solexx greenhouses. Quotes are available for "fully kitted" greenhouses, which will include all of the above options as needed.

Louvers and Vent Openers

Manual louver comes standard on all greenhouse models except the Early Bloomer

Automatic louver opener HV-31 for use with Louver

This universal solar opener works with the vent in the Early Bloomer or other non-Solexx vents. (HV-10)

Early Bloomer with Manual Set up

Universal Opener for use with Early Bloomer

Information released by Adaptive Plastics, Inc.
manufacturers of Solexx™ greenhouses
3393 Tempest Dr.
Lake Oswego, OR 97035

Wire Rack Illustration

8’ Oasis - Inside View

Each 4’ wire rack covers one-half of the 8’ bench frame. Benches join in the middle to form one long shelf.

12’ Garden Master Inside View

Inside view of 12’ Garden Master showing how the wire racks meet in the middle length-wise. The back bench frames are 42” wide and the side shelves are 49” wide.

New Wire Rack System

New wire racks we are now using. Note how they meet in the middle widthwise. The new shelves do not require the over-size shipping charge so they are less expensive to ship.

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Solexx™

Strength Test

While an engineer witnessed, we piled 50 lb bags of wood burning pellets. We loaded to failure and achieved 1700 pounds before one fitting snapped at the weld. Once we removed the weight, we replaced the fitting and the greenhouse was good as new!

We have over 3,800 lbs of water-filled milk jugs showing on the bench shelves. Each 8ft section has over 580 pounds. That's over 26 lbs. per square foot on the shelving! We advertise that our shelves will hold up to 500 pounds and here we've passed that up!

Wind Test

We took a Solexx™ Greenhouse and strapped it onto a flat bed trailer. Then we drove on a straight road at 70 mph with no damage! Our Solexx™ greenhouses have stood up strong through hurricanes in Florida as well as the East Coast; Including Rita and Katrina!

Customer Testimonial

"I purchased an 8' x 16' Conservatory greenhouse. I remember me neighbor telling me how my greenhouse was going to blow away in the next storm. Well, his metal shed blew away… winds were up to 90 miles per hour. Your product has passed the fury of East coast storms!" - Stan G., Bellport NY

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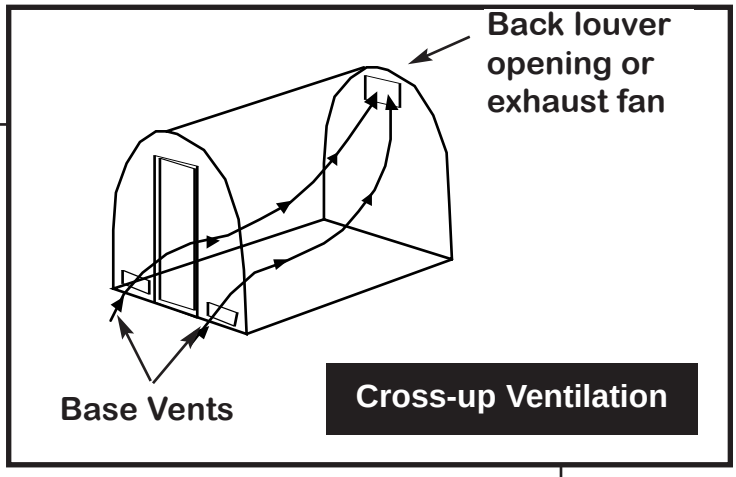
Ventilation is Key



Proper Ventilation is a Key Ingredient to Healthy Plants

Your plants will love the protection and light they get from a greenhouse, but they will miss one thing: fresh air! That's why it is so important to include good ventilation in the greenhouse.

Plants need a fresh supply of carbon dioxide so they can properly photosynthesize and make food. Good ventilation also reduces overheating in the greenhouse and will help to deter pests.

For best results, air should circulate throughout the entire greenhouse. The cross-ventilation is easily achieved by positioning base vents low on the one side of the greenhouse and large vent or exhaust fan high on the opposite side. This will bring in fresh air and pull stale air out of the greenhouse.

In addition, circulation fans placed inside the greenhouse help increase cross-ventilation as well as encourage pollination within the greenhouse.

Find the right size exhaust fan for your greenhouse.

To determine which fan you need, you must calculate the volume of your greenhouse. For a simple estimation (this will slightly overestimate your volume) multiply the length x the width x the height of your greenhouse.

For example, the 8' x 12' x 8' Garden Oasis would need 768 CFM (8 x 12 x 8=760 CFM). The 12" standard exhaust fan would be sufficient at 760 CFM.

The general rule is that your intake CFM should be less than the exhaust.

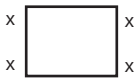
Accessory Recommendations

8’ Garden Master/Oasis

322 sq. ft 302 sq. ft.

- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 4 Base vents placed as shown (HV-20)
- 1 Four-anchor tie down kit (HN-10)
- 1 10’ x 10’ Flooring (HN-29)
- 1 8’ x 12’ Shade Cloth (HV-92)
- 8 29” x 47” Side Shelf (HN-19)
- 2-3 Tubes IS800 Caulking (GS-530)

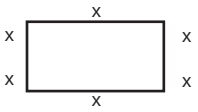
X’s show Base Vent Placement



12’ Garden Master/Oasis

407 sq. ft. 386 sq. ft.

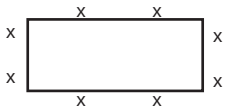
- 1 12” Exhaust Fan in front (HV-50)
- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 6 Base vents as shown (HV-20)
- 1 Four-anchor tie down kit (HN-10)
- 1 Two-anchor tie down kit (HN-11)
- 1 10’ x 12’ Flooring (HN-31)
- 1 12’ x 12’ Shade Cloth (HV-94)
- 8 29” x 47” Side Shelf (HN-19)
- 8 24” x 45” Back Shelf (HN-18)
- 3-4 Tubes IS800 Caulking (GS-530)



16’ Garden Master/Oasis

499 sq. ft. 470 sq. ft.

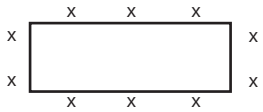
- 1 16” fan (HV-51)
- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 8 Base vents as shown (HV-20)
- 1 Four-anchor tie down kit (HN-10)
- 1 Two-anchor tie down kit (HN-11)
- 1 10’ x 16’ Flooring (HN-32)
- 1 12’ x 16’ Shade Cloth (HV-95)
- 16 29” x 47” Side Shelf (HN-19)
- 4-5 Tubes IS800 Caulking (GS-530)



24’ Garden Master/Oasis

671 sq. ft. 638 sq. ft.

- 1 17” fan (HV-55)
- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 10 Base vents as shown (HV-20)
- 2 Four-anchor tie down kit (HN-10)
- 1 10’ x 24’ Flooring (HN-33)
- 2 12’ x 12’ Shade Cloth (HV-94)
- 24 29” x 47” Side Shelf (HN-19)
- 5-6 Tubes IS800 Caulking (GS-530)



8’ Harvester

301 sq. ft.

- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 4 Base vents placed as shown (HV-20)
- 1 Four-anchor tie down kit (HN-10)
- 1 10’ x 10’ Flooring (HN-29)
- 1 8’ x 10’ Shade Cloth (HV-91)
- 6 29” x 47” Side Shelf (HN-19)
- 2-3 Tubes IS800 Caulking (GS-530)

12’ Harvester

384 sq. ft.

- 1 12” Exhaust Fan in front (HV-50)
- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 6 base vents as shown (HV-20)
- 1 Four-anchor tie down kit (HN-10)
- 1 Two-anchor tie down kit (HN-11)
- 1 10’ x 12’ Flooring (HN-31)
- 1 8’ x 12’ Shade Cloth (HV-92)
- 9 29” x 47” Side Shelf (HN-19)
- 3-4 Tubes IS800 Caulking (GS-530)

16’ Harvester

473 sq. ft.

- 1 16” fan (HV-51)
- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 8 Base vents as shown (HV-20)
- 1 Four-anchor tie down kit (HN-10)
- 1 Two-anchor tie down kit (HN-11)
- 1 10’ x 16’ Flooring (HN-32)
- 1 8’ x 16’ Shade Cloth (HV-93)
- 12 29” x 47” Side Shelf (HN-19)
- 4-5 Tubes IS800 Caulking (GS-530)

24’ Harvester

657 sq. ft.

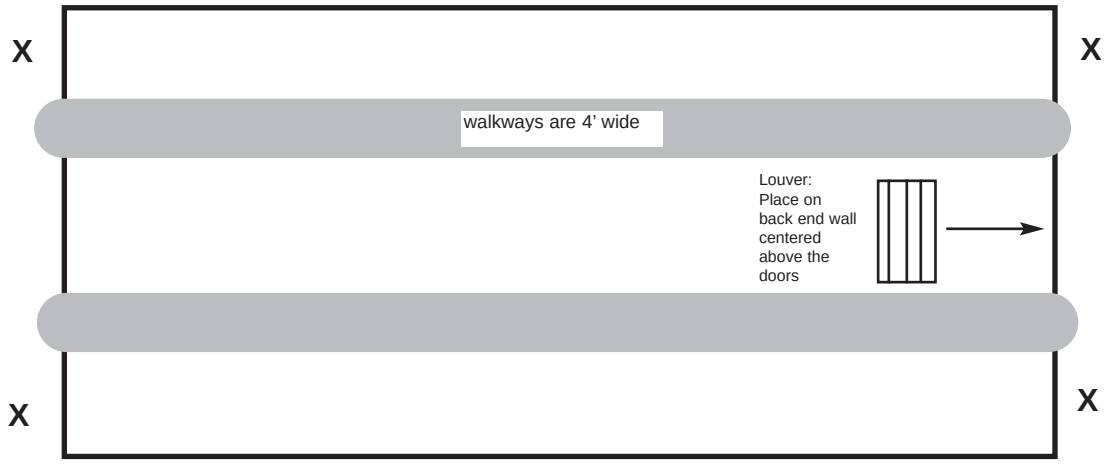
- 1 17” fan (HV-55)
- 1 Louver (included in kit)
- 1 Automatic opener (HV-31)
- 10 Base vents as shown (HV-20)
- 2 Four-anchor tie down kits (HN-10)
- 1 10’ x 24’ Flooring (HN-33)
- 2 8’ x 12’ Shade Cloths (HV-92)
- 18 29” x 47” Side Shelf (HN-19)
- 5-6 Tubes IS800 Caulking (GS-530)

Note: Caulking usage will vary from individual to individual so this is the best approximation we can recommend.

Note: Conservatory Units See individual configuration charts for the Conservatories on the following pages. Larger units available by special request.

8’ x 16’ x 9’6” Conservatory Accessory Chart

X = base vents



Recommended Accessory Items to Include:

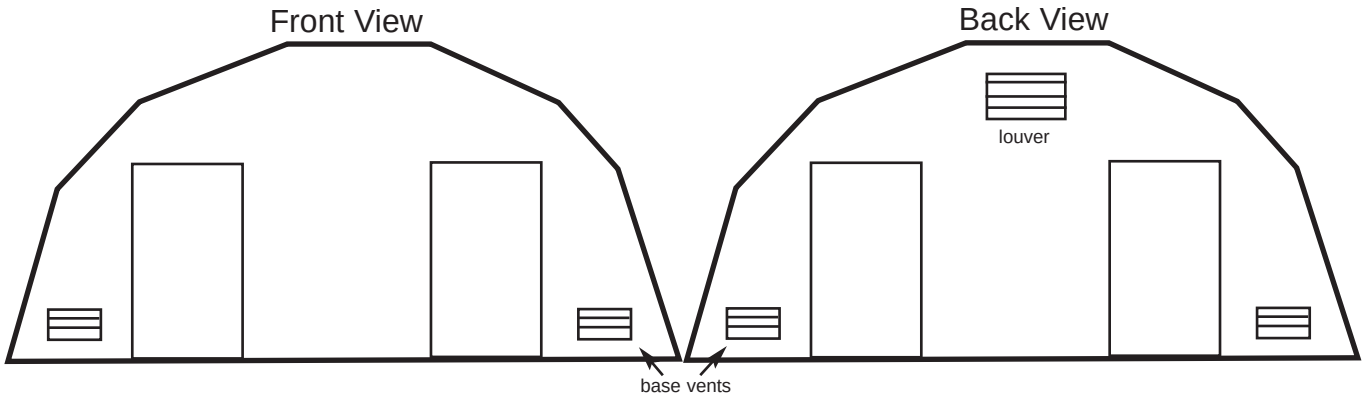
QTY	Description
4	HV-20 Base vents see X’s above. Place six” up from the ground.
1	Louvers - Included with the kit at no extra charge Back end wall: Center above the two doors as shown below
1	HV-31 Auto opener for the louver
12	HN-19 Wire racks for bench frames. This will cover all bench frames that are part of the greenhouse structure. Wire racks are an optional upgrade.
1	HN-10 Tie down kit
1	HV-100 14’ x 8’ Aluminett Custom Shade Cloth
1	HN-32 - 10’ x 16’ Durable black polypropylene flooring

For really hot locations or year-round use also consider:

1	HV-50 12” Exhaust Fan - 760 CFM
1	HV-40 8” Circulation Fan

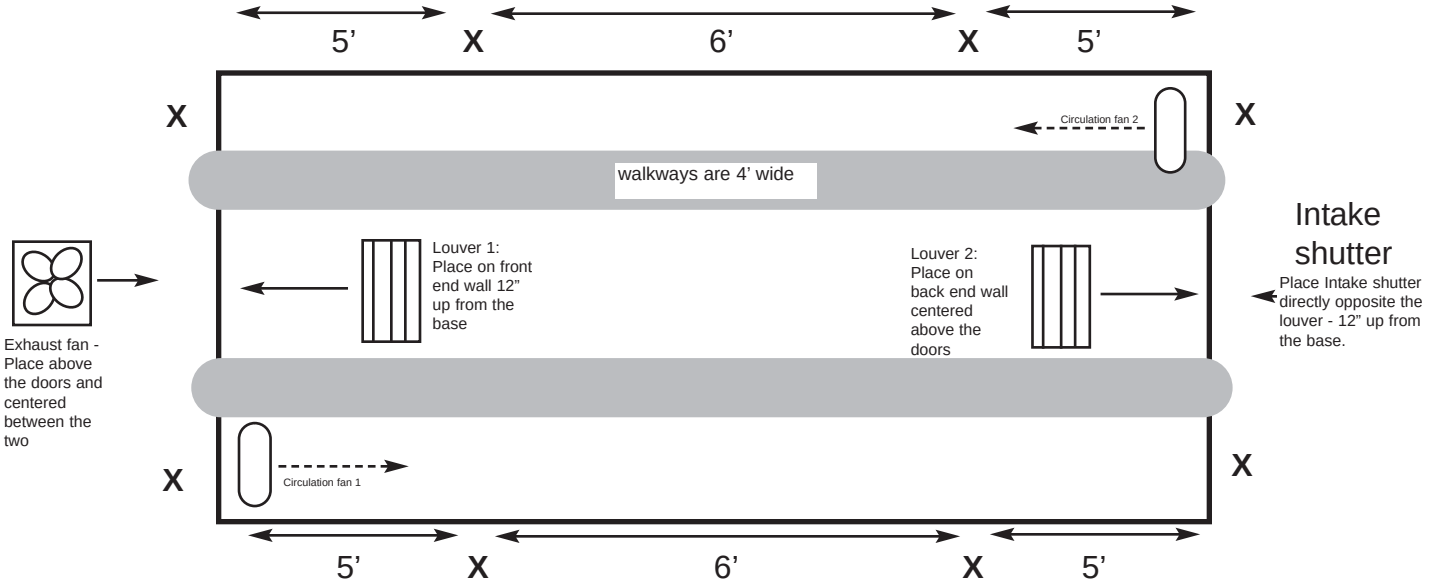
Approximately 3 to 4 tubes of caulking - GS-530

For Heater BTU Calculation: 520 sq. ft. of exposed surface area



16’ x 16’ x 9’6” Conservatory Accessory Chart

X = base vents

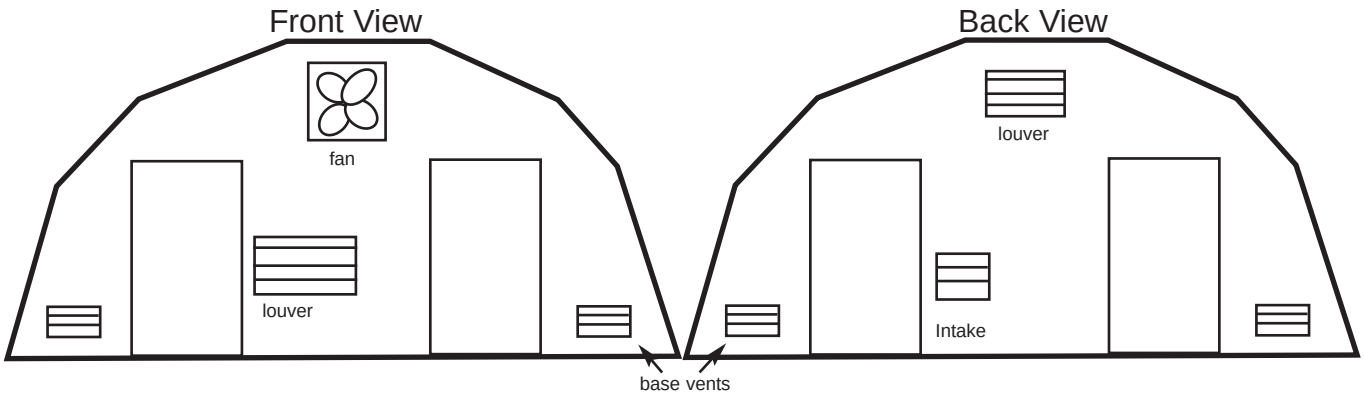


Recommended Accessory Items to Include:

QTY	Description
8	HV-20 Base vents see X’s above. Place six” up from the ground.
1	HV-56 Exhaust Fan - 21” Exhaust Fan 2600 CFM - 1 needed Place high on front end wall centered over front doors
2	Louvers - These are included with the kit at no extra charge Front end wall: place 12” up from base, centered between the two doors Back end wall: Center above the two doors as shown below
2	HV-31 Auto openers for Louvers
24	HN-19 Wire racks for bench frames. This will cover all bench frames that are part of the greenhouse structure. Wire racks are an optional upgrade.
1	HV-62 20” Intake Shutter Mount on the back wall directly opposite from the Louver at least 12” up from the base to keep the squirels out. These are most important in the Winter to keep the heat moving.
1	HV-100 Custom Aluminette Shade Cloth - 14’ x 16’
1	HN-34 16’ x 16’ Black polypropylene flooring
1	HN-10 4-anchor Tie Down Kit
1	HN-11 2-anchor Tie Down Kit

Recommend 4 tubes of caulking - GS-530

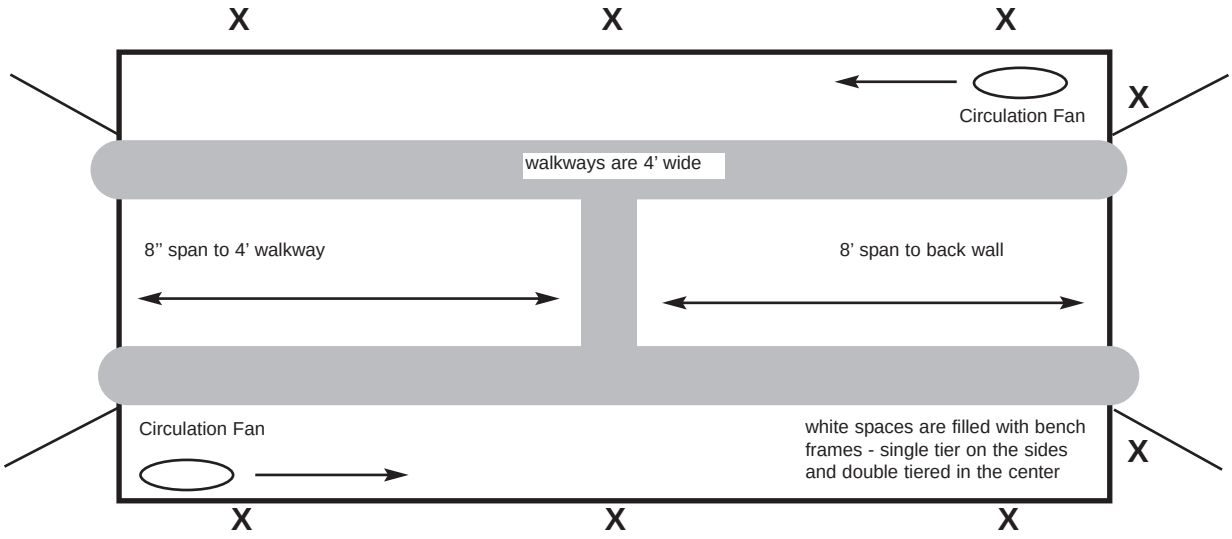
For Heater BTU Calculation: 762 sq. ft. of exposed surface area



20’ x 16’ x 9’6” Conservatory Accessory Chart

X = base vents

20’ x 16’ x 9’6” Greenhouse



Note: This is for optimal performance for year-round growing. Adding circulation underneath the bench frames either with professional greenhouse circulation fans or Stanley Blowers placed on the floor should also be considered.

8 Base vents: (HV-20)

see X’s above. Place six” up from the ground.

Tie Down Anchors:

HN-12 (30” anchors - 2 Sets) Place on each outside corner, then remaining spaced evenly every in between.

Louvers: Two are included with each kit

HV-31 (Two) - Automatic Louver openers to be installed on the louvers

See illustration below. If no exhaust fan is ordered, then exchange the louvers so back is high and front is installed between the two front doors.

Wire Racks for Bench frames:

HN-19 - 26 wire racks to cover every bench frame. (Bench frames cover all white spaces shown above)

Shade Cloth

HV-100 Custom 14’ x 20’ Aluminett Shade Cloth

Flooring

HN-35 16 x 20 Black Polypropylene Flooring

For best performance, also consider adding an Exhaust Fan:

HV-56 One - 21” Exhaust Fan 2600 CFM

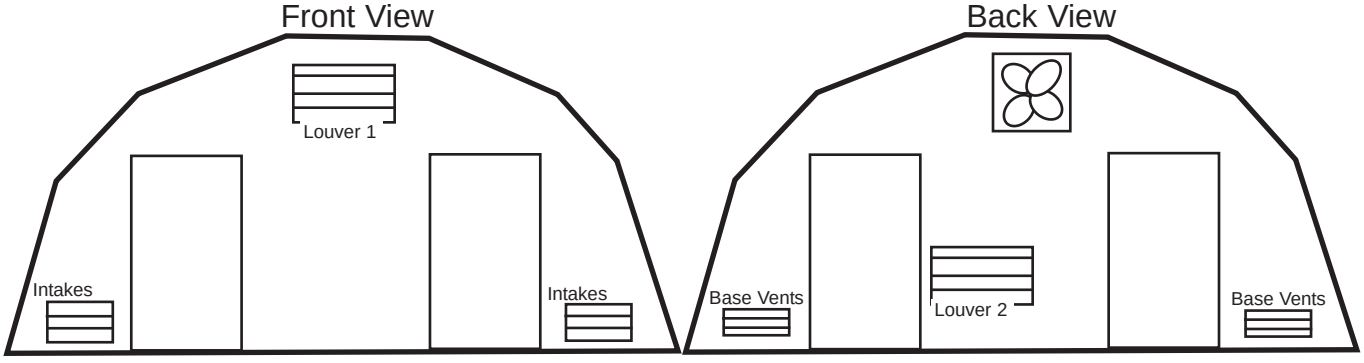
HV-40 Two - 8” Circulation fans (see illustration)

HV-60 Two - 12” Intake Shutters

Recommend 4 to 5 tubes of caulking

For BTU Heater Calculation:

868 sq. ft.



Greenhouse Heating

Heating Your Greenhouse for Four-Season Growing!

What you can grow in your greenhouse is only limited by how warm your heat is. First, select an energy source. Electric heaters are generally less expensive to purchase and work well if you have electricity wired to your site (no unsafe extension cords, please!) Gas heaters use either natural gas or propane. They are inexpensive to operate and require no electricity.

Next, decide how warm you will need to keep your greenhouse. If your goal is to winter-over plants, you need only keep your greenhouse above freezing. If you plan to get an early start with seedlings, you will need a more consistent and constant heat supply.

Heaters are rated by the amount of BTU's they produce. In order to determine the correct size of heater you'll need, you'll first need to gather some information on the size of your greenhouse, the minimum outside temperature you expect for your area, and the minimum temperature you want to maintain in your greenhouse.

Greenhouse BTU Calculator

Do This	Formula	Example
Find the **total SF of exposed surface area of** your greenhouse. (see accessories chart on pg 4.5)	288	(using our Solexx™ panels) Nine 4 x 8 panels would be 9 x 32 = 288 SF
Determine the **maximum inside temperature** you want to keep you greenhouse.	60	You're growing seedlings, so you want the inside temperature to stay at 60 degrees F
Determine the **minimum outside temperature** you expect for your area.	20	You live in Oregon and you expect temperatures to be down to 20 degrees F this winter
Determine the **heat loss factor** for the greenhouse covering material.	.48	Corrugated plastic has a heat loss value of .8
Multiply the SF by the difference in temperatures, then by the heat loss factor.	288x40x.48=**5530**	The total sq. footage of the covering surface area is 288. The temperature difference is 40 degrees F. The heat loss factor is .8

5530 is the minimum BTU rating to keep your greenhouse at the desired temperature during the coldest time of the year. Our electric heater provides 5,118 BTUs to heat your greenhouse. Our non-vented gas heaters provide 20,000 BTUs for those larger greenhouses.

UPS Accessory Shipping Chart

Order Total:	Shipping Rate:
Up to $25.00	$9.95
$25.01 - $50.00	$11.95
$50.01 - $75.00	$12.95
$75.01 - $100.00	$13.95
Over 100.01	12%

Rates are for the contiguous 48 states.
Call for all other rates.

Delivery:

Orders are generally processed in our warehouse and shipped UPS within 2-3 business days after the order is received. Please allow 2 weeks for delivery.