

Natural Ventilation

by: **AGRATECH** 
GREENHOUSE MANUFACTURERS



Peak Vent in Rigid Roof & Pad Vent



Peak Vent in Poly Roof & Pad Vent



Drop Wall 11' tall x 408' long



Gutter Vent in Poly Roof & Roll Up Wall

Natural ventilation is the best return on investment.
Lower capital costs and operating costs than forced air systems.



Agra Tech Rack & Pinion Vents

Continuous hinged windows operated by an internal steel rack and pinion drive system. The vent may be driven by a chain operated manual gearbox or by an automated vent controller.

Rack & Pinion Vents

Available for:

- Peak Vents on “Solar Light” (peaked 6:12 roof), “Continental” & “North Slope” (Gothic Arched house).
- Gutter roof vent for “Insulator” (arched roof).
- Wall Vents – Inside lifting for sides and ends.
- Pad Vents – Outside lifting for over pad cooling.

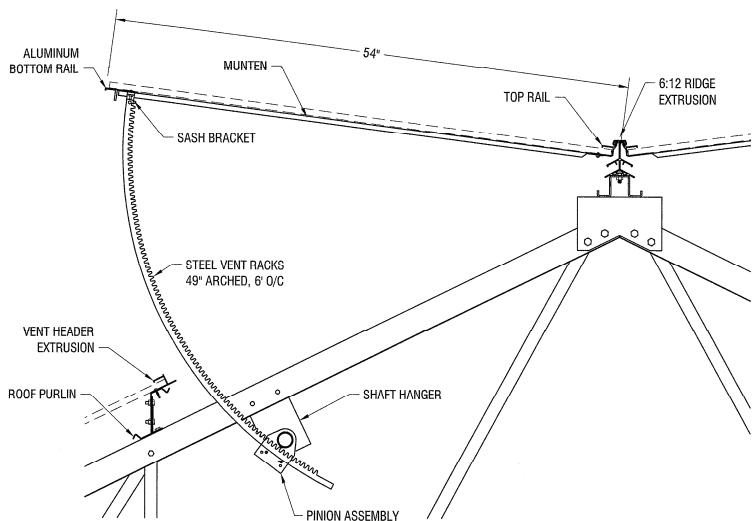
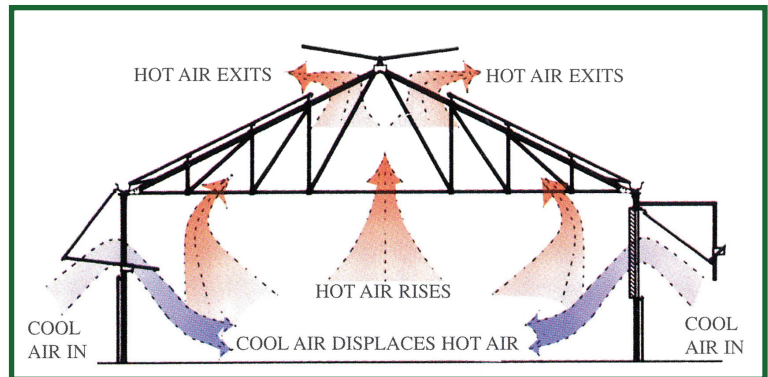


Key Benefits:

- Aluminum extruded hinge, top rail, bottom rail and headers.
- Steel rack & pinions 6' on center. Strong enough to hold up Glass spaced 10' on center.
- 1 3/8" diameter 13ga drive shaft.
- Shaft hangers with nylatron bearings.
- Extra Rack & Pinions at each end.
- Best possible weather seal (3 Points).
- Easy to install.
- Will work with other systems.

Arched steel vent racks tuck up into the peak leaving plenty of clearance for curtains and convection tubes above the bottom chord.

Use Roof Vents in conjunction with wall vents or roll up walls, so that as heated air exits, cool air can enter through the wall to take its place.



3 points of contact at Vent Header and Bottom Rail for a superior seal.

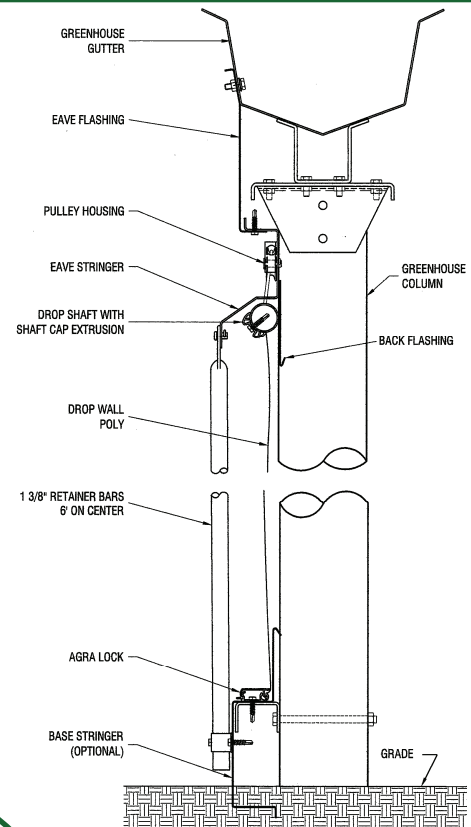


Drop Wall

The Drop Wall provides maximum sidewall natural ventilation to reduce inside temperature and introduce fresh outside air. Drop walls introduce cool air from the eave and may also be used for air pruning of crops.

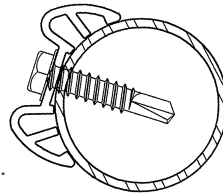
Key Benefits:

- Opening from the eave to grade, the drop wall aids in the evacuation of heat from upper areas of house.
- Lengths available up to 240' long, height to 12' tall.
- Crop roots are not subjected to cooler air immediately.
- The drop wall can be used for air pruning and access to the crop from the sidewall.
- Steel aircraft cable with steel pulley system operates the wall.
- Walls can be manually or motor driven – computer control of motor driven wall is optional

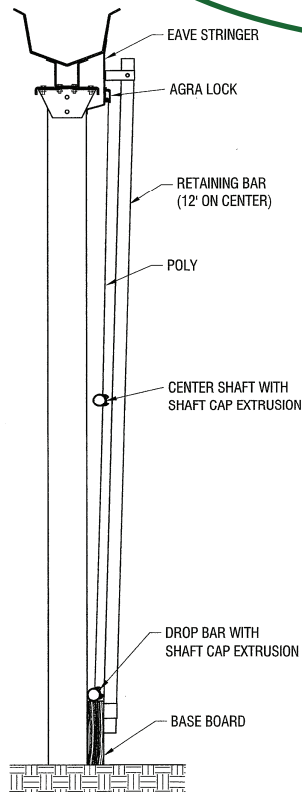


Shaft Cap Extrusion

Shaft Cap Extrusion is used on both the Drop wall and the Roll-Up wall, it allows poly to be changed without disassembling the wall.



Roll-Up Wall



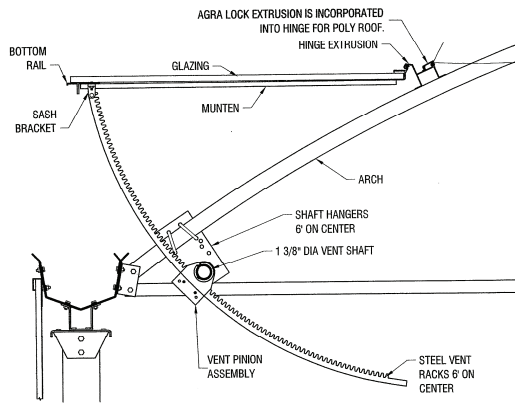
The Roll-Up wall provides maximum sidewall natural ventilation to reduce inside temperature and introduce fresh outside air. Roll-Up walls introduce cool air from ground level and are most cost effective.

Key Benefits:

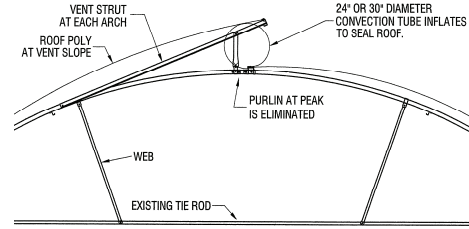
- Opens from grade to eave up to 240' long.
- 8' or taller has a center shaft, it opens twice as fast and is more stable in windy conditions.
- Retainer bars keep wall in place, 1 3/8" pipe for 8' or taller, cable for quonsets.
- This product is adaptable to existing greenhouses to provide cross ventilation.
- Walls can be manually or motor driven - computer control of motor driven wall is an available option.
- Can be used as interior roll up partition wall.



Insulator Vents



The **Insulator Gutter Vent** is designed to withstand the tension of an inflated poly roof. We recommend covering it with rigid glazing so vent can open fully without affecting the roof.



The **Tube Vent** is a simple yet efficient design that allows hot air to exit freely from the Insulator Greenhouse. Inflated convection tube seals the vent to close.

Maximum ventilation is achieved when used in conjunction with roll up or drop walls.

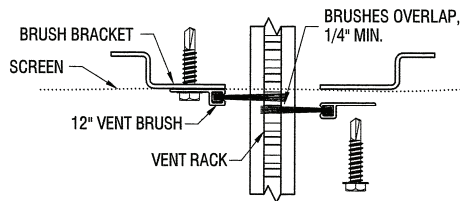
Stationary Vent:

Covered with Insect Screen only (no convection tube) for Tropical Locations.

Insect Screen System

Due to the fact that many chemical applications are prohibited and that insects have gained resistance to insecticides, we have designed an insect screen system for our vents.

The insect screen has nylon brushes through which the vent racks pass. The lightweight but durable screen fabric is constructed of UV-stabilized acrylic and polyethylene materials, offering between 4-8 years of protection.



Insect screen installed with a wall-vent.

Lean-To Screen House



Lean-To Screen house over Pad Vent.

The lean to screen house can be added to the sidewall or endwall of any Agra Tech gutter connected houses.

The lean to screen house stops insects from entering your cooling pad system without restricting airflow.

The lean to screen house protects your house from insect intrusion without reducing air flow through the pads. Insect screen restricts air flow through pads, which reduces cooling capacity. The way to maintain proper air flow is to increase the square ft of screen. The lean to screen house provides enough square feet of screen to keep your cooling system working as it was intended.



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