



WADSWORTH

Control Systems

Maintaining the Climate for Growth



GARY & PATRICIA



GEORGE



CLAIRE



Growing stronger with Wadsworth

Wadsworth Controls, founded by George Dean, celebrated fifty years as an innovative and creative company in 2003. Gary and Patricia Dean have continued the tradition by introducing eight new well-designed, dependable products in the past four years. Wadsworth's attention to growers' needs has resulted in highly efficient greenhouse environments. Our products are backed by the support of the most experienced team in the industry. As the leading supplier of greenhouse automation, we offer three product lines:



- 1 PowerPull™ Curtains** for energy conservation, cooling, shading and day length control.
- 2 Vent Automation Drive Units, Rack and Pinion and Vent Controls** to automate vents and roll-up walls.
- 3 STEP™ Climate Controls** that range from simple staged systems to state-of-the-art integrated computers.

Wadsworth's knowledge and experience are broad. We've engineered systems and integrated our products into every kind of greenhouse. Whether you grow plugs, cut flowers, trees, tropicals, hydroponic vegetables or bedding plants; whether you teach, breed new varieties, conserve plant collections, serve retail customers or exhibit birds and butterflies, we've worked with someone like you. We're ready to help make your project a huge success. When you buy from Wadsworth, you can be proud of supporting U.S. manufacturing, and because we build our products in-house, you can be assured our expertise runs deep. Unlike others who simply import and distribute products, we have the bench strength to help you for years to come.

Sincerely,

The Dean Family - Gary, Patricia, George & Claire

*Wadsworth is proud to be a woman-owned, US manufacturer.
Check in your area to see if special incentives are available for working with us.*



SENSORS

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www.WadsworthControls.com



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CURTAIN SYSTEMS



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WADSWORTH CONTROL SYSTEMS

5541 Marshall St.

Arvada, CO 80002

Toll Free: 1.800.821.5829

ph: 303.424.4461

fax: 303.424.6012



Looking for ways to combat rising heating costs?

Install PowerPull curtains and reduce your energy costs up to 40%. Wadsworth's systems reduce energy costs year-round while improving plant quality and shopper and worker comfort.



■ Tom's Farm Market, Huntley, IL

Features:

- Positive drive rack and pinion system — no cable to re-tension
- Fabric glides between stationary stainless steel lines
- Slow-moving system optimizes management of cold air spill
- Built-in safety limits protect your system
- Durable fabric — resistant to UV, heat and chemicals
- Small bundle size ensures minimal shade
- Positive seal when closed
- Flexible design, easy installation for new construction or retrofitting



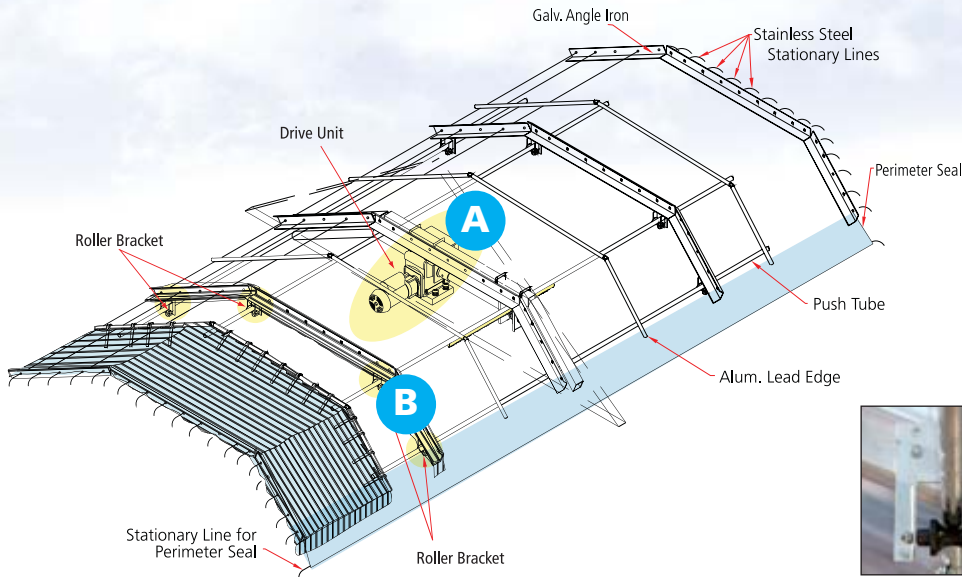
"All of Wadsworth's equipment is reliable and durable. We've had the same curtains for over 12 years!"

— Brian Clark
Chicago Botanical
Gardens

About our design

At Wadsworth, we have nearly four decades of experience with curtain systems. Over the years, we've perfected curtain design, and today we're proud to offer the longest-lasting system in the industry.

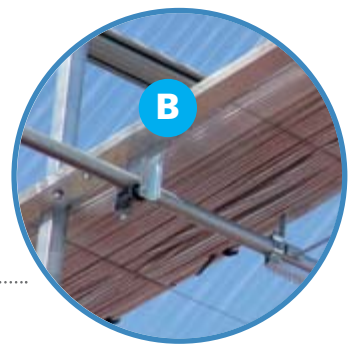
Our extensive experience means we're able to offer you any kind of curtain system you'd like, including a drum and cable system. We suggest the push/pull system because its durability, dependability and minimal maintenance pass the Wadsworth test.



A. Drive Unit



B. Roller Bracket

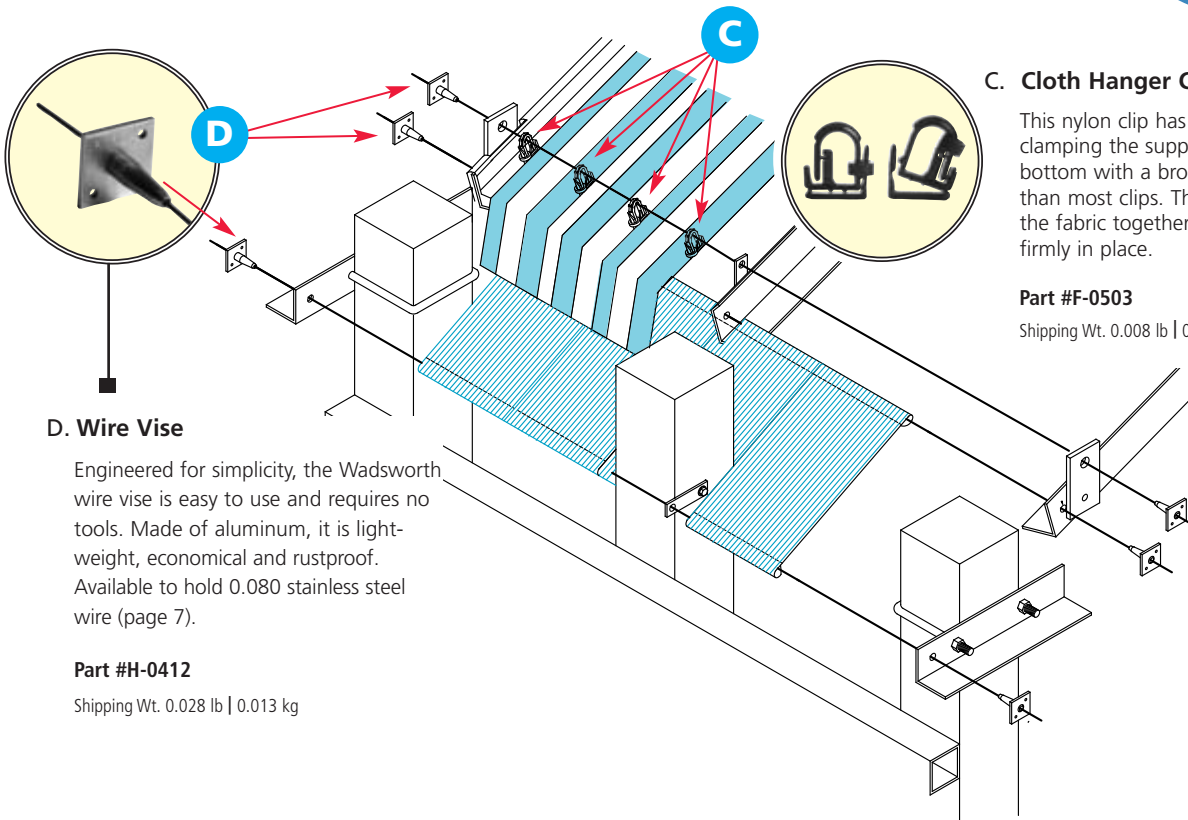


C. Cloth Hanger Clip

This nylon clip has the advantage of clamping the supported fabric top and bottom with a broader holding surface than most clips. The circular leg clamps the fabric together to hold the material firmly in place.

Part #F-0503

Shipping Wt. 0.008 lb | 0.004 kg



D. Wire Vise

Engineered for simplicity, the Wadsworth wire vise is easy to use and requires no tools. Made of aluminum, it is light-weight, economical and rustproof. Available to hold 0.080 stainless steel wire (page 7).

Part #H-0412

Shipping Wt. 0.028 lb | 0.013 kg

Why Wadsworth?

Growers tell us that they prefer the push/pull system because they just install it and enjoy. Drum and cable systems require constant maintenance to re-tension the cables. Visit our website to learn more about why growers choose Wadsworth at www.WadsworthControls.com.



■ Pleasant View, Loudon, NH



We custom-design each curtain system to meet your needs. Call today for a quote and start saving—
1.800.821.5829 or quotes@WadsworthControls.com

Benefits:

- Improves crop quality
- Pays for itself — up to 40% in energy savings means quick return on investment
- Enhances control of environment with temperature, light and humidity control
- Heat retention — cover at night when 80% of heating occurs
- Controls light level
- Cools 10° to 15° F
- Reduces plant stress
- Reduces water consumption
- Provides customer and worker comfort
- Helps maintain uniform temperatures
- Reduces labor costs — no more white washing
- Happy plants, happier owner

WHY I CHOSE WADSWORTH



“We’ve got shade and blackout curtains. The black cloth is almost impervious; it provides big heat savings in the winter. In warmer weather we rely on the shade to cool. It can be 98° outside and the plants inside stay nice and cool.”

— Jack Weatherford
Weatherford Farms
Stafford, TX



“We prefer Wadsworth’s curtains because they are well designed, and have excellent mechanics.”

— Mark DeJong
Theo Vanden Broek
DeJong’s Greenhouse
Pella, IA
www.DeJongGreenhouses.com

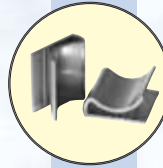
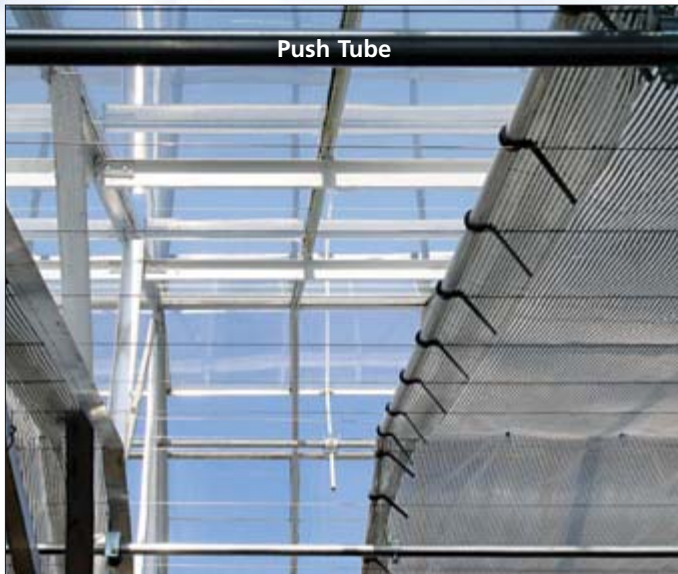


“We have a long relationship with Wadsworth and we know we can trust them to deliver a great system. I’m happy we went with Wadsworth; they take care of us.”

— Vince Beal
Bell Nursery
Burtonville, MD
www.BellNursery.com

Attention to detail

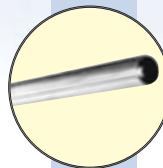
We pay attention to every element, like the shape of our clips and the specially designed grooves in our lead edge tube. We know that these features provide the system with the smallest bundle size so your crop has maximum sun when the system is not in use.



A. Aluminum Fabric Clip

Secures fabric to 10 gauge aluminum, galv. steel angle and various other surfaces. Its serrated inner surfaces provide extra holding power to keep the fabric in place.

Part #F-0510 | Shipping Wt. 0.012 lb | 0.005kg



B. Aluminum Lead Edge Tubing

7/8" O.D. x 12' aluminum tube with continuous groove for locking the lead edge fabric clip in place.

Part #G-0121 | Shipping Wt. 0.42 lb | 0.19kg



C. Lead Edge Material Clip

Clip secure fabric around 7/8" O.D. lead edge tubing (B). The extended legs gather fabric as system uncovers.

Part #F-0505 | Shipping Wt. .036 lb | .016kg

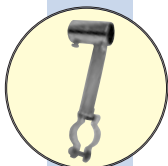


D. Stainless Steel Wire

0.080 stainless steel wire is extremely durable. Fabric glides on top of lines in PowerPull Systems. Sold in 2500' and 5000' coils. Tensile strength: 1800 lbs.

Part #G-0225: 2500' | Shipping Wt. 43 lb | 20kg

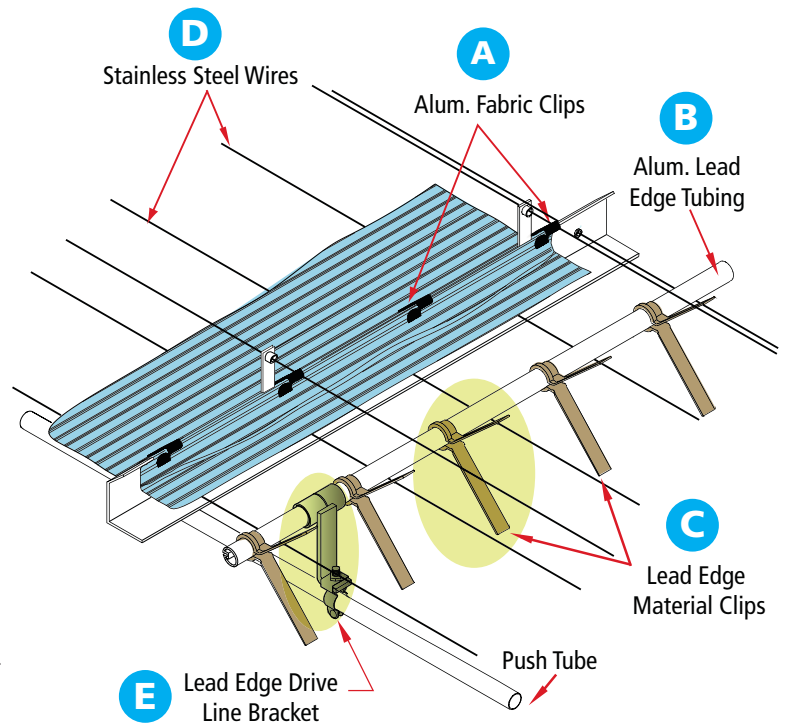
Part #G-0220: 5000' | Shipping Wt. 86 lb | 39kg



E. Lead Edge Drive Line Bracket

Attaches lead edge tube to the push tube.

Part #S-9145 | Shipping Wt. .42 lb | .19kg



Maintaining the Climate for Growth

Our EnviroSTEP and VersiSTEP integrated controls monitor and manage all aspects of climate: temperature, humidity, light level, CO₂ and watering.

Unlike staged STEP controls that group several pieces of equipment into stages, integrated controls allow each piece of equipment to have it's own parameters. These advanced controls offer more precise control. Now more than ever, the Wadsworth STEP brand name is your key to a Simple Total Environmental Program.

Advantages to using integrated controls:

Easy to Use

- Your integrated control is plug-n-play; all you need to do is connect it
- Although our settings are optimized for the typical greenhouse, customizing your control is simple
- Your shipment includes an instructional DVD
- Largest screen in the industry — includes graphic capabilities
- Interface panel is easy to use — simply push the button to select the desired option from the menu and press the GO key

Enhances Crop Quality

- Provides uniform growing conditions
- Multiple set point capability mimics nature, improves crop quality and hardiness
- Increased precision in monitoring and equipment control, each piece of equipment has its own parameters
- Highly accurate temperature and humidity control

Reduces Fuel Costs

- Maximizes energy management
- Reduce energy consumption by lowering night temperatures, this is when 80% of the heating occurs
- Ramping allows for a gentle transition between set point periods
- Solar-guarded, aspirated temperature and humidity sensors provide excellent accuracy. This counts in real-world terms; consider that for every one degree of improved accuracy, your energy consumption is reduced by 3%

Increases Productivity

- Automation allows you and your staff to focus on other aspects of running your business, such as growing plants and growing sales
- The EnviroSTEP or VersiSTEP are a great addition to your team. Your control works 24/7, with no complaints, and it will do exactly what you tell it to do. Talk about good management/labor relations!
- Add STEP saver software (see page 14) to save even more on labor costs

Barlow Flower Farm



Wadsworth equipment:

- 2 EnviroSTEP Controls
- Weather Station
- STEP saver

Equipment we control:

- Hot Water Boiler & Pump
- Floor & Overhead
- Hot Water Heat
- HAF Fans
- Roof & Gable Vents
- Curtain System

"The EnviroSTEP does a great job. The customer support is outstanding. I wish more companies would follow in their footsteps."

— Stephen Barlow
Barlow Flower Farm
Sea Girt, NJ
www.barlowflowerfarm.com



Ask about our training sessions that can be done **on-site** or **via the internet** (see page 21).

Integrated STEP Controls

Optional Equipment:

- Knowledge is power; maximize your integrated control with additional sensors. Read **pages 14-15** to learn more
- Weather Station enhances your control, protecting your crop and greenhouse from adverse weather conditions. It provides anticipatory control - see **page 15** for details
- CO₂ Sensor, Hot Water Sensor, Soil Temperature Probe, Light Sensor
- Save time, increase knowledge and get remote access with our STEPsaver software. It links your EnviroSTEP or VersiSTEP to a PC for more powerful data storage, reporting and remote monitoring capability. STEPsaver allows you to save crop settings for accurate, repeatable quality year after year. See **page 14** for more information
- Alarm Manager protects your crop by notifying you of dangerous conditions and power outages. See **page 22** for details

Oregon State University



“The EnviroSTEP controls everything in the greenhouse — the irrigation, propagation misting, curtains, lights, heating and cooling. The system is very intuitive. By monitoring the graphs we can see how temperature control is and how the curtain decreased our energy consumption.”

— Luigi Meneghelli
Oregon State University
Corvallis, OR

Wadsworth is proud to be a woman-owned, US manufacturer. Check in your area to see if special incentives are available for working with us.

Sun Works' Science Barge



L. Redman

Sun Works uses Wadsworth to control their Science Barge. This sustainable urban farm is powered by solar, wind, and biofuels, and irrigated by rainwater and purified riverwater. They grow fresh fruit and vegetables using recirculating hydroponics. For more information on Sun Works, visit <http://www.nysunworks.com>.

Wadsworth equipment: VersiSTEP Control, Weather Station, STEPsaver

Zone 1

- Exhaust Fans
- Pad Shutters
- Pad Pump
- Roof Vents

Zone 2

- Exhaust Fans
- Pad Shutters
- Pad Pump
- Roof Vents
- Under Bench Heat



J. Dean

“The Wadsworth VersiSTEP controller was a great match for the Science Barge. It’s user-friendly, provides all the control capabilities we need, and the technical support staff is always available.”

— Jenn Nelkin
New York Sun Works
New York, NY

EnviroSTEP™

Each year hundreds of growers install EnviroSTEP controls in their greenhouses. It's the flexible, rugged choice to integrate the climate control equipment for one zone. There's no better combination of power and value than the EnviroSTEP. Garden centers, production growers, laboratories and schools all benefit from this control. And it bears the UL mark, your assurance of regulatory approval.



Features:

- Single zone control
- 3 set point periods — day, night and DIF
- 12 relay outputs with manual override switches
- 2 analog outputs (0 to 10VDC) to control variable-speed fans and modulating valves
- 7 analog input channels for connecting light, CO₂, RH and temperature sensors
- 4 digital detector channels sense precipitation, wind speed and direction
- Records the status of all inputs and outputs in 15-minute increments
- Alarm outputs: temperature, RH and power failure
- Replaceable 10 amp DPDT relays, can operate a wide variety of equipment — these relays reduce the cost of your contactor panel

- Durable corrosion-resistant cabinet with locking door protects your control
- Cabinet measures 16" x 16" x 5"
- Largest display in the industry; has menu-driven choices and graphic functions
- Keypad for easy operation
- Ramping allows for gentle transition between set point periods and saves fuel

Includes:

- Solar-guarded aspirated temperature and humidity sensor and 100' of cable
- Solar-shielded outdoor temperature sensor with 25' of cable

Why I chose the EnviroSTEP

At Wadsworth we like to know why growers chose our products. Here are a few comments from growers who use the EnviroSTEP. Visit our website at www.WadsworthControls.com to learn why other growers chose our products. We'd like to hear about your Wadsworth experience, please contact Patricia@WadsworthControls.com.

WHY I CHOSE WADSWORTH

"Wadsworth controllers have long been respected in the industry. They continually respond to growers' needs with upgrades or new features. I wholeheartedly support Wadsworth controllers."

— Debbie Maggiulli
USDA
Corvallis, OR

"I love the EnviroSTEP controls. They're easy to use, and the DIF allows me to cut way down on growth regulators."

— Jack Weatherford
Weatherford Farms
Stafford, TX

"Because of your reliable controls, our greenhouses are working great. Your technical support team has been exceedingly helpful. The STEPsaver software has been very useful to our operation."

The advanced graphing feature and the averaging tab have been especially beneficial."

— Richard Zinn
Michigan Department of Agriculture
East Lansing, MI

Colorado State University Research Facility



Wadsworth equipment: Network of 10 EnviroSTEP Controls, Weather Station, STEPsaver



Equipment we control:

- Floor Heat Valves
- Overhead Unit Heaters & Valves
- Roof Vents
- Energy Curtains
- Corridor Vents
- Exhaust Fans
- Pad Pump
- HID Lights

"We struggled with our facilities people to get greenhouse controls, they just wanted us to use the building controls. Fortunately we were able to get the Wadsworth EnviroSTEP controls that we needed for our research. Wadsworth's system is so easy to use. Their technical support is top-notch so facilities is very pleased with the system."

—Jennifer Matsuura
Colorado State University
Ft. Collins, CO

VersiSTEP™

Flexible and powerful, this multi-zone control gives you the ability to divide its 24 outputs any way you'd like between 1 to 8 zones, and you can add 16 additional outputs with the Satellite unit. This is the perfect control for greenhouses with more equipment than will fit on an EnviroSTEP control or for growers with multiple zones.



Features:

- 1-8 zone control
- 3 set point periods — day, night and DIF
- 24 relay outputs with manual override switches
- 16 additional outputs when you order the VersiSTEP Satellite
- Replaceable 10 amp DPDT relays, can operate a wide variety of equipment — these relays reduce the cost of your contactor panel
- 4 analog outputs (0 to 10VDC) to control variable-speed fans and modulating valves
- 32 analog input channels for connecting light, CO₂, RH and temperature sensors
- 8 digital detector channels sense precipitation, wind speed and direction
- Ramping allows for gentle transition between set point periods and saves fuel
- Records the status of all inputs and outputs in 15-minute increments
- Alarm outputs: temperature, RH and power failure
- Largest display in the industry; has menu-driven choices and graphic functions
- Keypad for easy operation
- Durable corrosion-resistant cabinet with locking door protects your control
- Cabinet size: 32" x 24" x 5"

Includes:

- Solar-guarded aspirated temperature and humidity sensor and 100' of cable
- Solar-shielded outdoor temperature sensor with 25' of cable

VersiSTEP™ Satellite

The VersiSTEP has 24 outputs; the VersiSTEP Satellite gives you the option of adding 16 more outputs to your VersiSTEP control. You use the main VersiSTEP control to operate and make changes to the equipment assigned to the VersiSTEP Satellite.



Features:

- 16 relay outputs with manual override switches increases the VersiSTEP's capacity to 40 outputs
- Replaceable 10 amp DPDT relays
- Durable corrosion-resistant cabinet with locking door protects your control
- Cabinet Size: 24" x 18" x 5"



This unit is **not a stand-alone** control unit. VersiSTEP Satellite provides an additional 16 outputs for a VersiSTEP Control.

Part #M-4710

Requires 1amp @ 115 VAC
Shipping Wt. 30 lb | 14 kg



WHY I CHOSE WADSWORTH

Texas Floral



GM Pro

Denise Stevens, Jason Meyer, Peter Thaman-Bigsby

Wadsworth equipment:

3 VersiSTEP™ Controls, Weather Station

Equipment we control:

- | | |
|------------------------|------------------------------|
| - Heaters | - Roof Vents |
| - HAF Fans | - Pad Vents |
| - Shutters | - Pad Pumps |
| - 1-Speed Exhaust Fans | - Energy Curtains |
| - 2-Speed Exhaust Fans | - Side Wall Roll-Up Curtains |
| - Roof Fans | - 72 Irrigation Valves |

Instead of using fungicides, Peter monitors and controls the greenhouse climate.



GM Pro

“For us, it’s about growing a real high-quality product. Consistent quality solidifies the business.”

—Peter Thaman-Bigsby
Texas Floral
Azle, TX

STEPsaver™ Software

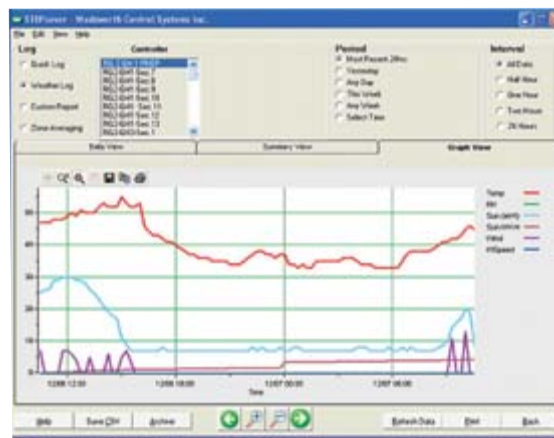
Add the convenience of your PC to the power of your environmental control. STEPsaver provides a single view of all of your greenhouse zones. Allows you to monitor and make changes from your PC or via the internet. It provides advanced data logging and analysis tools to help you manage your crop.

STEPsaver as a Productivity Tool

- View conditions for the entire greenhouse range at a glance. For greenhouses with many zones or acres, STEPsaver is a step saver
- All features accessible with point-and-click menus and buttons
- Allows you to see and change the settings for any controller in any zone
- Not limited to a single PC. No extra charge for sites with a Local Area Network
- Oversee the greenhouse climate, no matter where you are
- STEPsaver Imaging takes a snapshot of all settings so you can replicate previous success
- Instructional DVD included

STEPsaver as an Analysis Tool

- STEPsaver expands the graphing power of your Wadsworth STEP control
- Analyze temperature with equipment use
- Compare data between zones
- Filter data to pinpoint every data entry, or broaden your view to a few points that represent hours or a whole day. Spot long-term trends by hiding detail
- Create custom views of your data that combine sensor readings, equipment use and weather
- Dynamic, quick, and easily done with a few mouse clicks



STEPsaver as a Management Tool

- Transfer and store data from your greenhouse control
- Use STEPsaver's built-in reporting tools to summarize stored data. Know how many hours your fans or heaters ran. Confirm that systems ran as you expected. Learn the average temperature and humidity for day, night and DIF
- Manage access to settings with user names and passwords
- Access STEPsaver over the internet, with user name and password protection

STEPsaver as Your Watchdog

- STEPsaver constantly monitors your Wadsworth STEP controls for alarm reports
- Pop-up window on your desktop PC alerts you to trouble
- With your permission, STEPsaver reports to e-mail, or it will text your cell phone or PDA
- Makes an ideal complement to your Alarm Manager or other alarm monitoring system

"Data from the STEPsaver logging feature helped us achieve the lowest possible night temps while running the fewest amount of exhaust fans. This is critical in the Texas summer heat so we can avoid heat delay on our mums."

—Jimmy Klepac
Klepac Greenhouses
Blanco, TX

Part #M-4900

Shipping Wt. 2 lb | 1 kg



System Requirements

- Windows Operating System: 2000 or XP
- 500 MB available hard disk space
- STEPsaver works with: EnviroSTEP, VersiSTEP, STEP Up and post '95 microSTEP controls
- Upgrades available for pre '95 microSTEPS

Optimize the power of EnviroSTEP and VersiSTEP

Wadsworth sensors increase the power of your integrated STEP controls. By using additional sensors, your control can make anticipatory decisions for optimum control. Visit our website at www.WadsworthControls.com to learn more about how sensors add power to your integrated controls.



Computer Weather Station

Wadsworth's Weather Station monitors the following outdoor weather conditions:

- Temperature
- Humidity
- Wind speed and direction
- Precipitation
- Light intensity
- Accumulated light

Part #M-4825

Shipping Wt. 90 lb | 41 kg

EnviroSTEP and VersiSTEP Sensors

Temperature and Humidity Aspirated Sensors

Part #M-4821 Shipping Wt. 3 lb | 1.4 kg

Part #G-0400 4-Pair Cable for M-4821 aspirator

Temperature Aspirated Sensor – no RH

Part #M-4822 Shipping Wt. 3 lb | 1.4 kg

Part #G-0406 2-Pair Cable for M-4822 aspirator

Stainless Steel Soil Temperature Probe

Part #M-4823 Shipping Wt. 1 lb | 0.5 kg

CO₂ Sensor

Part #E-1505 Shipping Wt. 3 lb | 1.4 kg

Light Sensor (Pyranometer)

Part #D-1326 Shipping Wt. 1 lb | 0.5 kg

Hot Water Sensor

Part #M-4820 Shipping Wt. 1 lb | 0.5 kg

Weather Station (photo shown above)

Part #M-4825 Shipping Wt. 90 lb | 41 kg



Sensors

Wadsworth's sensors provide accurate temperature and humidity readings. Housed in a solar-guarded, aspirated unit. A fan draws air across the sensors providing an accurate ambient temperature reading rather than an incorrect reading due to direct sunlight exposure.

For every 1° of improved accuracy you reduce energy consumption by 3%.

“The sensors inside and outside the greenhouse help us to maintain the perfect soil moisture.”

*— Peter Thaman-Bigsby
Texas Floral
Azle, TX*

Staged STEP Automation Controls

Wadsworth introduced staged control to the greenhouse industry in the 1960's. This simple concept of using a centralized temperature sensor for all heating and cooling equipment saves energy and improves the climate. Heating and cooling equipment is assigned to a stage. The equipment assigned to the stage turns on when the temperature for that stage is reached.

We trademarked our pioneering series of staged controls with the acronym, "STEP":

SIMPLE **T**OTAL **E**NVIRONMENTAL **P**ROGRAM

Today, Wadsworth offers more advanced, integrated STEP controls in addition to our staged STEP controls.



Our newest staged STEP control, the STEP Up, adds some of the features from the integrated line of STEP controls for more power and flexibility.

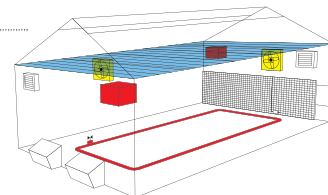
"STEP Up is a great control. It's super easy to use and packed full of features. The name STEP Up speaks volumes, growers need this control!"

— William Wendt
University of Florida
Jay, FL

64°
66°
70°
72°
74°
76°
78°

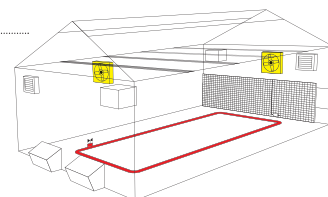
HT2 (64°)

- HAF Fans ON
- Unit Heaters ON
- Under Bench Heat ON
- Curtain Covers at night for heat retention



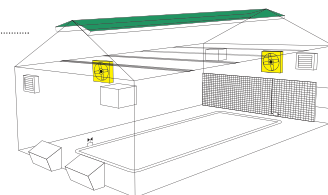
HT1 (66°)

- HAF Fans ON
- Under Bench Heat ON



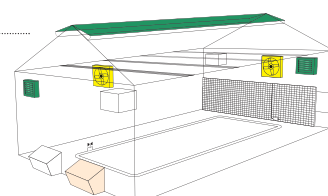
Set Point (70°)

- Ideal Temperature
- HAF Fans ON to circulate air
- Roof Vents modulate
- Shade Uncovered



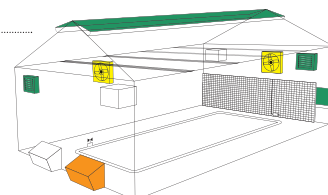
AC1 (72°)

- HAF Fans ON
- Motorized Louvers OPEN
- 2-Speed Fan ON-low
- Roof Vents Modulate



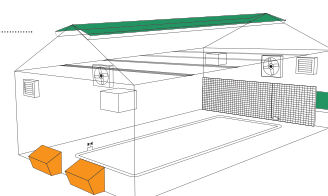
AC2 (74°)

- HAF Fans ON
- Motorized Louvers OPEN
- 2-Speed Fan ON-high
- Roof Vents Modulate
- Pad Vent 1/4 Open



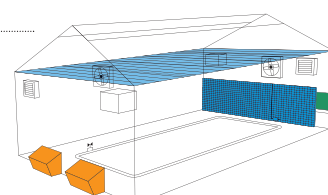
AC3 (76°)

- HAF Fans OFF
- Motorized Louvers CLOSED
- 2-Speed Fan ON-high
- 1-Speed Fan ON
- Roof Vents Modulate
- Pad Vent 1/2 Open



AC4 (78°)




- HAF Fans OFF
- Motorized Louvers CLOSED
- 2-Speed Fan ON-high
- 1-Speed Fan ON
- Roof Vents Closed
- Pad Vent Full Open
- Pad Pump ON
- Shade Covers



STEP Up Control™

STEP Up to improved control and increased profits. Wadsworth is proud to introduce our newest staged control. Like our traditional staged controls, it is very easy to use and we've added numerous features to provide even better control over the environment. STEP Up is an approved energy saving device. STEP Up and start saving!



OPTIONAL EQUIPMENT		
<p>Weather Guard</p> <p>Protects your structure by monitoring outdoor conditions. It will close the vents in extreme weather conditions.</p> <p></p> <p>See page 23 for more information.</p>	<p>STEPsaver Software</p> <p>Connects your STEP Up control to your PC for advanced data storage and remote access to your greenhouse.</p> <p></p> <p>See page 14 for more information.</p>	<p>Alarm Manager</p> <p>Protects your crop by calling up to four phone numbers if the conditions get too hot or too cold.</p> <p></p> <p>See page 22 for more information.</p>

Features:

- 6 stages: 2 stages of heating and 4 stages of cooling
Easily adjust the temperature for each stage
- 3 set point temperature periods — day, night and DIF; auto adjusts based on sunrise and sunset
- Modulates vents and curtains
- 1 analog output (0 to 10VDC or 4-20 milliamps) to control variable-speed fans and modulating valves
- Cycle timer
- Alarm output
- Password protection
- Easy to use knob and button interface
- Large menu-driven screen displays current temperature, time, date, grow weeks, equipment status, etc.
- Records the temperature in 15-minute increments and stores it for 7 days
- Logs and graphs data
- High, low and average temperatures
- Timed override switches in addition to the manual override toggle switches
- Stores settings in the event of a power failure
- Optional humidity sensor
- Durable corrosion-resistant cabinet: 9.5" x 6.25" x 3.75" (241 x 159 x 95 mm)

Includes:

- Solar-guarded aspirated temperature sensor and 100' of cable
- Cable to connect STEP Up to the contactor panel

Advantages:

Easy to Use

- It's as simple as turning a knob and pressing a button
- Wadsworth programs your control to operate your heating and cooling equipment

Improves Crop Quality

- 3 set point temperature periods — day, night and DIF
- Reduced night temperature mimics nature
- Use DIF to reduce stretch growing
- Accurate temperature improves crop quality and consistency
- Timed overrides allow you to fumigate

Reduces Fuel Costs

- Lowering the greenhouse temperature at night when 80% of the heating occurs reduces energy consumption
- Ramping allows for gentle transition between set point periods and saves fuel
- Using one central temperature sensor prevents heating and cooling from running simultaneously
- Solar-guarded, aspirated digital temperature sensor provides a more accurate temperature reading than unshielded sensors. For every 1° of improved accuracy you reduce energy consumption by 3%



Requires custom contactor panel. Visit us at www.WadsworthControls.com.

STEP 50A™

Tried and true, known and trusted, the STEP 50A may be the most widely used greenhouse control in the world. Its features, simplicity and ruggedness have won it a place with commercial growers, schools, universities and advanced hobbyists. Growers choose this control because it's so easy to operate — just turn the day and night knob to the desired temperature and the STEP 50A will do the rest.

Features:

- 5 stages: 2 stages of heating and 3 stages of cooling
- Day and night temperature settings — simply turn the two knobs to indicate the desired temperatures
- Controls most heating and cooling equipment
- Energy savings through programmable lockout of stages
- Modulating output voltage for proportional steam and hot water valves
- Equipment comes on gradually after a power failure
- Color-coded manual override toggle switches
- Replaceable 10 amp DPDT load relays, can operate a wide variety of equipment — these relays reduce the cost of your contactor panel
- Durable corrosion-resistant cabinet with locking door protects your control:
 - 16" x 16" x 5" (406 x 406 x 127 mm)
- Solar-guarded aspirated temperature sensor and 100' of cable

Advantages:

Easy to Use

- Easiest control to operate in the industry — simply set the knobs to your desired day and night temperature, and the STEP 50A will do the rest
- Heating and cooling equipment is assigned to each stage

Improves Crop Quality

- Reducing night temperature mimics nature and improves crop quality
- Temperature is more accurate because the STEP 50A uses a centralized temperature sensor that is housed in a solar-guarded aspirated unit

Reduces Fuel Costs

- Lowering the greenhouse temperature at night, when 80% of the heating occurs, reduces energy consumption
- Stage lockout can prevent cooling equipment from running at night
- Using one central temperature sensor prevents heating and cooling from running simultaneously
- Wadsworth's solar-guarded, aspirated temperature sensor provides a more accurate temperature reading than unshielded sensors. For every 1° of improved accuracy you reduce energy consumption by 3%

Increases Productivity

- Automation allows you and your staff to focus on growing plants and running the business

"We have some STEP50 controls in our older houses. They've been there for 26 years and they still work!

Wadsworth's products are built the right way. They keep on working with minimal maintenance."

— Jimmy Klepac
Klepac Greenhouses
Blanco, TX



Part #M-4010

Requires 1amp @ 115 VAC
Shipping Wt. 25 lb | 11.5 kg



OPTIONAL EQUIPMENT

Alarm Manager

Protects your crop by calling up to four phone numbers if the conditions get too hot or too cold. Requires a thermostat.



See page 22 for more information.

Weather Guard

Protects your structure by monitoring outdoor conditions. It will close the vents in extreme weather conditions.



See page 23 for more information.

MiniSTEP™ Control

Switch from thermostats and save money. Research shows that using a simple, centralized control reduces energy consumption. The MiniSTEP is an easy-to-use 4-stage control. It offers more energy savings than thermostats because it uses a single temperature sensor. This prevents heating and cooling equipment from operating at the same time.



Part #M-4000

Requires 1amp @ 115 VAC
Shipping Wt. 37 lb | 17 kg



Benefits:

- Improves crop quality by maintaining a more accurate temperature
- Reduces fuel costs by centralizing all temperature sensors, which prevents heating and cooling from running simultaneously
- Increases productivity
- Preset heating and cooling stages
- Easy to install and operate

OPTIONAL EQUIPMENT

Alarm Manager

Protects your crop by calling up to four phone numbers if the conditions get too hot or too cold. Requires a thermostat.



See page 22 for more information.

Weather Guard

Protects your structure by monitoring outdoor conditions. It will close the vents in extreme weather conditions.



See page 23 for more information.



Wadsworth Controls can customize a MiniSTEP for your greenhouse. Call **1.800.821.5829** for more details, or email info@WadsworthControls.com

Example of how a standard MiniSTEP works:

One Environment | One MiniSTEP Control

STAGES	EQUIPMENT STATUS
Heat Stage	- Unit heaters ON - HAF fans ON
Set Point	- HAF fans ON
AC 1	- HAF fans ON - Upper-gable louver OPEN - Two-speed exhaust fan on LOW
AC 2	- Side vent moves to full OPEN or motorized shutters OPEN - Upper-gable louver CLOSES - Two-speed exhaust fan on HIGH - HAF fans OFF
AC 3	- Single-speed exhaust fan ON - Evaporative pad pump ON - Side vent OPEN - Two-speed fan on HIGH

Features:

- 1 stage of heat
- 3 stages of cooling
- LCD display of current temperature, mode and output status
- Keypad provides easy operation
- Set point range: -40° to 220° F
- Durable corrosion-resistant cabinet: 16" x 14" x 6" (406 x 355 x 152 mm)

This complete package includes:

- 4-stage electronic control
- A pre-wired contactor panel
- Blueprints, control schematics, one-line power, conduit and wiring layouts for installation
- Solar-shielded temperature sensor with 75' of shielded cable

4-Stage Control

Upgrade from thermostats and cut your expenses with the 4-Stage Control. Using a simple, centralized control eliminates competition between your heating and cooling equipment, saving you money and energy so you can compete best where it really counts — in the marketplace.



Part #S-1608 (formerly known as the E-1608)

Requires 1amp @ 115 VAC
Shipping Wt. 7 lb | 3.2 kg



Features:

- 4-stages of heating or cooling
- Solar-shielded temperature sensor with 75' of shielded cable
- LCD screen displays current temperature, mode and output status
- Keypad provides easy operation
- Fahrenheit or Celsius scale
- NEMA 4 enclosure, 9" x 5.5" x 3" (228 x 140 x 76 mm)

Benefits:

- Easy to install and operate
- Stages can be set for control of heating or cooling
- Improves crop quality by providing more accurate temperature monitoring
- Reduces fuel costs by centralizing temperature sensor
- Prevents heating and cooling from running simultaneously
- Increases productivity
- Simplifies control and maintenance

4-Stage Incremental Control™

Order this 4-Stage Control (b) with our Incremental Vent Control (a) and open your roof or side vents in three increments. This 4-Stage Control uses three of the stages to send a temperature signal to Wadsworth's Incremental Vent Control. The fourth stage can be used to operate heating or cooling equipment.



Order the Incremental Vent Control with our drive unit with external limit switches. For details on these drive units that are not featured in this catalog, call 1.800.821.5829 or email info@WadsworthControls.com



a. Part #M-1089

Shipping Wt. 14 lb | 6.4 kg

b. Part #M-1608

Shipping Wt. 7 lb | 3.2 kg



Contactors Panels, Electrical Engineering & Training

Wadsworth wants to ensure your project is a success — that's why we offer three special services to help complete your project.

1 - Custom Contactor Panel - call for quote



Wadsworth's STEP Controls that come with 10 amp DPDT relays can operate a wide variety of equipment (i.e. exhaust fans, pad pumps). However, larger motor loads must first be connected to special purpose relays called motor starters or contactors. If you do not already own a motor starter for the motor loads requiring control, you will need to obtain them from your electrician, an electrical supply house, or from Wadsworth Control Systems.

Why purchase a panel from Wadsworth?

- **Expertise** — over 50 yrs. of experience
- **Savings** — we buy in bulk and assemble hundreds of panels a year under ideal factory conditions; take advantage of our economics of scale
- **Installation Ease** — saving you time and money
- **Pre-Engineered** — you'll find everything you need when your system arrives
- **Maintenance** — documentation to maintain and troubleshoot your system
- **UL Approved** — guarantees a safe unit and prevents expensive field inspections

2 - Electrical Engineering

Wadsworth's manuals include sample wiring diagrams. However, each project is unique. Take advantage of our 50+ years of experience and ensure your installation is properly designed.

Why are electrical blueprints beneficial?

- **Shop for competitive bids** — most electricians are not familiar with greenhouses, so they either overbid or underbid the project. Ordering blueprints allows one to get an understanding of the work involved so you can get the best bid from the most qualified electrician
- **Facilitate lending arrangements** — blueprints show you're serious and you've got all of your plans in place
- **Scheduling ease** — helps to ensure your project is completed on time
- **Maintenance** — documentation to maintain and troubleshoot your system

What do the custom blueprints include?

- **Sequence Charts** — indicate the order in which the equipment will come on to adjust to the set point
- **Load Schedules** — an inventory of all equipment; lets you know how much power is required
- **Conduit Layout** — a map that indicates the size and route the wire will run to reach all equipment
- **Line Power Diagram** — a map that indicates what equipment is served by which breaker
- **Control Schematic** — shows where relays connect

3 - Training

Experts from Wadsworth can provide custom training — on-site or via the internet. We can offer group training at your local growers meeting. Our products are easy to use, our manuals are very detailed *and* we offer DVDs with many of our products.

Growers benefit from our specialized training. We can help you **get the most control — from our controls!**



Contact Patricia Dean to discuss your custom training needs at **1.800.821.5829** or, patricia@WadsworthControls.com

Alarm Manager™

Keep your plants safe with our easy-to-use Alarm Manager. It is remarkably persistent; it will keep dialing and dialing until someone responds to your customized alarm message — all to keep your plants happy and growing strong.



Part #M-5800

Requires 0.1amp @ 115 VAC
Shipping Wt. 3 lb | 1.36 kg

Features:

- Create a call list with up to four phone numbers
- No need to install a second phone line
- Assign a “normal-state” for each input
- Determine a time delay for each input
- Record a custom message that indicates the location of the alarm (ex: “North house cold”)
- Monitors eight dry contact inputs
- Power Alarm calls you if the system’s power is cut off
- Rechargeable backup battery if any power outages occur
- Plug-in wall transformer, splitter and phone extension cable included
- FCC approved and registered

Benefits:

- Protects your crop by notifying you of dangerous conditions and power outages
- Continues calling up to four numbers until alarm is acknowledged
- Meshes with control complexity levels from a simple thermostat (hot/cold) system up to a fully integrated STEP control
- Easy plug-and-play integration with EnviroSTEP, VersiSTEP, STEP Up and Versatile Vent Controls

Thermostats

Wadsworth thermostats are commercial-grade controls built to survive in wet and harsh environments



Part #E-1613

Shipping Wt. 2 lb | .9 kg



Two-Stage Thermostat Features:

- Two stages for heating or cooling
- Two SPDT staged switches for heating or cooling
- Rugged, weather resistant enclosure
- Corrosion-resistant materials for long life
- Low mass, high surface area of stainless steel coiled sensor provides rapid response to temperature change
- Temperature Range: 40° to 110° F (4° to 43° C)
- UL Listed, CSA Certified
- NEMA 4X enclosure complies with N.E.C. Article 547
- Inductive Rating:
 - 16A @ 120V
 - 13.2A @ 208V
 - 12A @ 240V



Part #E-1612

Shipping Wt. 2 lb | .9 kg



Single-Stage Thermostat Features:

- One stage for heating or cooling
- One SPDT staged switch for heating or cooling
- Rugged, weather-resistant enclosure
- Corrosion-resistant materials for long life
- Low mass, high surface area of stainless steel coiled sensor provides rapid response to temperature change
- Temperature Range: 40° to 110° F (4° to 43° C)
- UL Listed, CSA Certified
- NEMA 4X enclosure complies with N.E.C. Article 547
- Inductive Rating:
 - 16A @ 120V
 - 13.2A @ 208V
 - 12A @ 240V

WeatherGuard™

With the WeatherGuard, you're adding a valuable member to your team that won't complain about the weather. Instead, it will take action to protect your greenhouse and crop against harsh weather. The WeatherGuard protects your greenhouse by overriding normal operations to close vents or retract shade systems when high winds, cold weather, rain or snow might cause damage to your crop or your greenhouse.

Features:

- Weather instruments measure wind speed and direction, precipitation and temperature
- Mounted on a mast
- Control box sends override signal directly to your equipment
- Easy to program
- Displays weather status
- Controls up to 10 vent machines
- Includes 100' of cable
- Control comes in a sturdy metal cabinet with a locking door



Weather Mast



Part #M-4835

Requires 1amp @ 115 VAC
Shipping Wt. 110 lb | 50 kg



Protection:

- Closes windward vents in high winds
- Allows leeward vents to stay open
- Vents are protected from cold temperatures and precipitation
- Outdoor shades can be retracted in high winds or if there is precipitation
- Indoor shades uncover and gutter heaters are turned on to protect the structure from snow damage

Used With:

The WeatherGuard integrates with existing vent machines and temperature controllers such as the STEP Up and the STEP 50A. If you have an integrated control, EnviroSTEP or VersiSTEP, use the Weather Station ([see page 15](#))

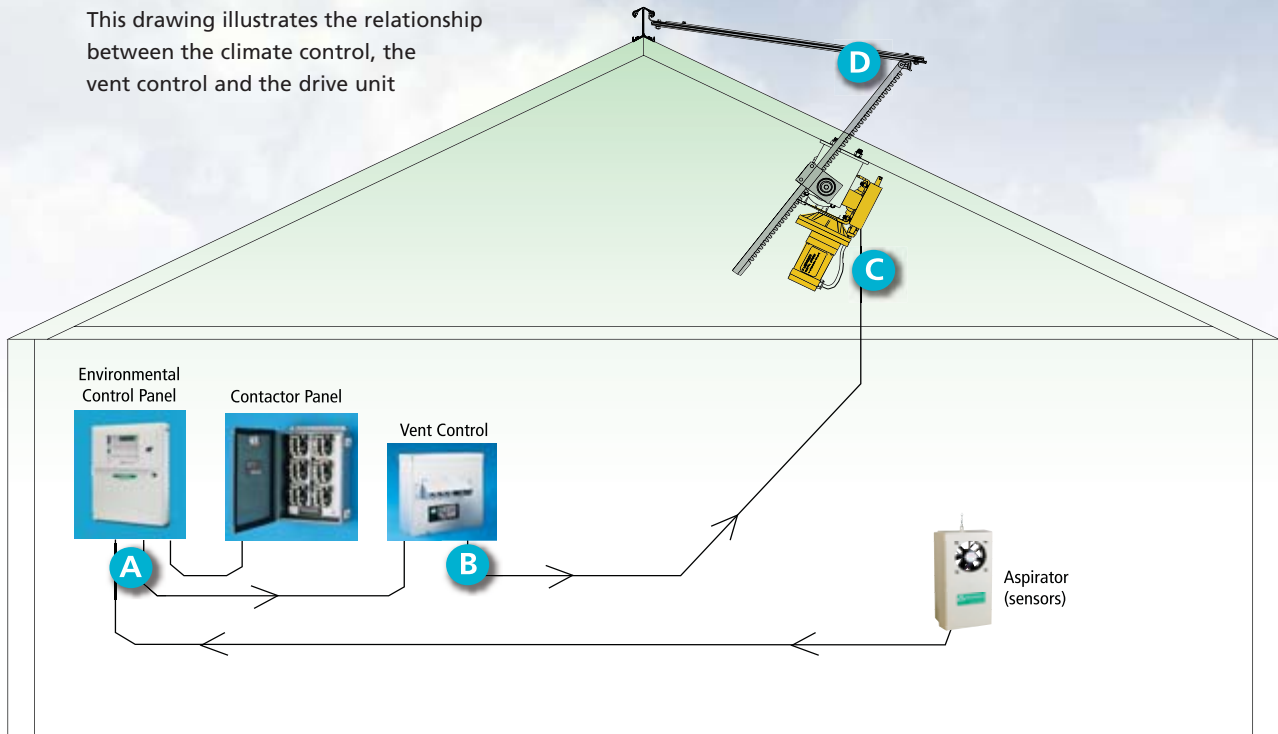
Dimensions






- | | |
|------------------------|--------------------------------------------|
| - Control Dimensions: | 16" (h) x 16" (w) x 5" (d), 19 lb / 8.6 kg |
| - Mast Dimensions: | 20' (h) x 2" (w) x 2" (d), 45 lb / 20.4 kg |
| - Mast Tee Dimensions: | 35" (h) x 4" (w) x 2" (d), 46 lb / 21 kg |

Vent Automation

Take advantage of Wadsworth's 40 years of experience in automating vents. Our drive units set the standard for rugged smooth operation and reliability. One advantage of choosing Wadsworth is that we are a US company and we are the only company that manufactures a complete system. Unlike others who simply import and distribute products, we have the bench strength to help you for years to come. Plus if you're using our environmental controls, we'll be your single-stop shop for a complete integrated system.

This drawing illustrates the relationship between the climate control, the vent control and the drive unit



A	B	C	D	E
<p>Environmental Control</p> <p>The temperature sensor sends information to the Environmental Control.</p> <p>The Environmental Control determines what equipment needs to activate to maintain the set point.</p> <p>The Environmental Control tells the Vent Control (B) to move the vent to the appropriate position.</p> <p style="text-align: center;"></p> <p>See pages 10-19 for more information.</p>	<p>Vent Control</p> <p>The vent control sends a signal to the drive unit to activate.</p> <p>Vent Controls include:</p> <ul style="list-style-type: none"> - Transformer* - Relays - Toggle Switches <p>This allows the vent control to manually operate the drive unit (C).</p> <p style="text-align: center;"><i>* not available in 2R follower models</i></p> <p style="text-align: center;"></p> <p>See pages 28-29 for more information.</p>	<p>Drive Unit</p> <p>The drive unit attaches to the shaft and turns it.</p> <p>Drive Units include:</p> <ul style="list-style-type: none"> - Motor - Gear Box - Torque Box - Dual Output Shaft - Internal Limit Switches <p style="text-align: center;"></p> <p>See page 27 for more information.</p>	<p>Rack and Pinion</p> <p>Rack and pinion connects the vent to the shaft. As the drive unit turns the shaft, the rack pushes the vent open or pulls it closed.</p> <p>Choose from aluminum or steel.</p> <p style="text-align: center;"></p> <p>See pages 30-31 for more information.</p>	<p>Putting it all together</p> <p>Universal shaft hangers support the shaft that drives the system.</p> <p>Sash adapters make it easy to replace the rack in existing systems.</p> <p>Round and square u-bolts are provided to put the system together.</p> <p style="text-align: center;"></p> <p>See page 31 for more information.</p>

WHY I CHOSE WADSWORTH



“Wadsworth’s equipment is easy to install and their design is simple, effective and straightforward. Their motors have a compact design that doesn’t interfere with our new, beautiful glass retail greenhouse.”

— Stephen Barlow
Barlow Flower Farm
Seagirt, NJ
www.BarlowFlowerfarm.com

Return on Investment

McCroy’s Sunny Hill Nursery had a problem. They have multiple ranges with long roll-up walls and they were using two tube motors to operate each wall. However, the tube motors were not durable and they had to replace them annually.



Wadsworth had a solution. McCroy’s replaced the two tube motors with one Wadsworth VC 2000 drive unit. This approach has an excellent ROI because the Wadsworth units last for decades. They are saving on the replacement motors and the labor to install them.



“I’m a 100% believer in the Wadsworth system. It just goes and goes and you never have to do anything to it.”

— Mark Sineath, Head Grower
McCroy’s Sunny Hill Nursery
Owners Dolores and Ward McCroy
Eustis, FL



Wadsworth’s **easy-to-install design** means that you only switch two wires to reverse the motor’s direction.

Why Wadsworth?

- Wadsworth is the only company that builds a complete system. We manufacture our own vent control boxes and drive units *and* stock two types of rack and pinion
- Installation is straightforward. If you need to reverse the motor's direction, simply switch two wires
- Reliable and durable — units last decades
- Maintenance-free, synthetic lubricant lasts the lifetime of the unit
- Proudly made in the US
- UL approval guarantees a safe unit and prevents expensive field inspections
- 24/7 toll-free tech support from the most experienced team in the industry



"I'm a big fan of Wadsworth's torque protection. It can save your greenhouse."

— Tom Hatley,
Tom's Farm Market
Huntley, Illinois
www.tomsfarmmarket.com

Simplify your life — automate your vents

Four questions to assist in choosing a system that fits your greenhouse needs:

1

What size drive unit do you need to lift the vent?

2

What is the shaft size?

3

- Which vent control?
- Do you want your vent to open in one movement or incrementally?

4

What type of rack?

1 | Drive Unit

What size drive unit do you need to lift the vent?

Let us help you decide — simply give us the specs (length, width and covering) of your vent and we'll suggest the right unit to get the job done!



Wadsworth is the ONLY manufacturer to offer a torque box — this unique and valuable element protects your investment

Wadsworth offers two drive units:

VC 100A and our *new* 3 RPM VC 2000

All units include:

- Internal limit switches that stop the motor in normal operation (the silver box on the side of the drive unit)
- Over-torque and reverse-torque protect the motor in case of mechanical binding (the small silver box on the bottom of the drive unit)

1 | Drive Units: VC 100A Vent Drive | 3 RPM VC 2000 Vent Drive



VC 100A Vent Drive

- 1/20 Horsepower – TENV, Continuous Duty
- 115 Volt - 60 Hz - .68 amp
- 1600 RPM motor; Total gear reduction 1900:1; final output .84 RPM
- Output torque 500 in. lb. / 56 Nm
- Lifts up to 75' of 4' polycarbonate roof ridge vent or 125' of 4' polycarbonate side vent
- Thermal overload protection – automatic reset
- Quick reversing
- Adjustable torque limit switch assembly
- Output gear reducer: worm gear with tapered roller bearing on output shaft immersed in synthetic grease
- Dual output shaft

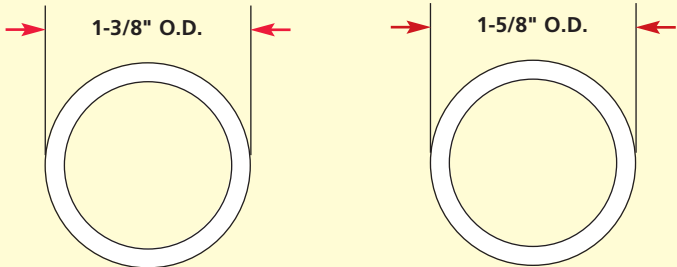


NEW! 3 RPM VC 2000 Vent Drive

- 1/5 Horsepower – TEFC, Continuous Duty
- 115 Volt - 60 Hz - 2.5 amp
- 1600 RPM; Total gear reduction 550:1; final output 3 RPM
- Output torque 1500 in. lb. / 169 Nm
- Lifts up to 325' of 4' polycarbonate roof ridge vent or 400' of 4' polycarbonate side vent
- Thermal overload protection – automatic reset
- Quick reversing
- Adjustable torque limit switch assembly
- Output gear reducer: worm gear with tapered roller bearing on output shaft immersed in synthetic grease
- Dual output shaft

2 | Shaft size?

Wadsworth's drive units come with a dual output shaft. All units can be ordered to fit either 1-3/8" or 1- 5/8" shaft. Measure the outside diameter of your shaft to determine which size is right for your greenhouse.



3 | Which Vent Control?

Do you want your vents to open in one movement or incrementally?

In choosing a vent control, you need to consider the overall greenhouse system. Your choice of vent control depends on how you want your vents to open, in increments (25%, 50%, 100%), proportionally (you define how many movements), or fully open. This in turn depends on what type of environmental control you use. Wadsworth offers an extensive line of vent controls so we're sure to have the right vent control for you. Even if you don't have an environmental control we now offer the Versatile Vent as a complete package that includes an aspirated temperature sensor.

Computerized environmental controls modulate vents based on time. These environmental controls are best paired with our LST vent control. Traditional staged controls like our STEP 50A pre-date computers, and therefore need a vent control that can manage the vent's position. Our Versatile Vent Control translates stages into timed vent movements and positions the vent in three increments based on time.

3 | LST Lead Control | 2R Follower Control | Versatile Vent



LST Lead Control

This Vent Control moves the vent from full open to full close. It relies on the environmental control to send a signal to increment.

Features:

- Manual override toggle switches allow for manual operation
- Includes a transformer and relays

The LST is a lead vent control; it can signal up to six 2R-Follower Controls, the 2R will follow the lead control.

- Used with a staged control, STEP 50A, STEP 500, or MiniSTEP, the LST opens the vent in one movement. There are no increments
- Used with a computerized control like the EnviroSTEP or the STEP Up, it will open in multiple proportions. The computer sends the signal to the LST control



2R Follower Control

This vent control is a follower control. It should be used in conjunction with a lead control.

Features:

- Manual override toggle switches allow for manual operation
- Two relays, hence the name 2R
- Does not include a transformer; it receives power from the lead controller

2R enables additional vents to reproduce the movements sent via the Lead Control. It draws power from a lead control— it is not a stand-alone unit.

- You can connect up to six 2R followers to a Versatile Vent or LST Lead Control
- 2R controls always follow the movement of the Lead Control



Versatile Vent™

The Versatile Vent is Wadsworth’s most flexible and capable control. It can be used with any type of environmental control or you can order it with a temperature sensor if you don’t have an environmental control.

Features:

- Manual override toggle switches allow for manual operation
- Includes a transformer and relays

The Versatile Vent is a lead vent control; it can signal up to six 2R-Series Follower Controls. The 2R will follow the lead control.

- Used with a staged control like STEP 50A, the Versatile Vent uses three of the cooling stages to open the vent in increments: 25%, 50% and 100%
- Used with an integrated control like the EnviroSTEP, it will open in multiple proportions; the computer overrides the Versatile Vent’s incremental command



Must be connected to an environmental control. See page 21 for more information or contact us 1.800.821.5829 or, info@WadsworthControls.com.

Versatile Vent Complete Package

If you don’t have a temperature control, the Versatile Vent is available with an aspirated temperature sensor (shown). It will open your vent or roll-up in three increments: 25%, 50% and 100%.

Features:

- Manual override toggle switches allow for manual operation
- Includes a transformer and relays
- When ordered with a temperature sensor, the unit displays temperature, vents position, and has an alarm output

The Versatile Vent Complete Package is a lead vent control; it can signal up to six 2R-Series Follower Controls. The 2R will follow the lead control.

Includes:

- Aspirated temperature sensor
- 100' of cable



4 | What type of rack?

Rack and pinion connects the vent to the shaft. As the drive unit turns the shaft, the rack pushes the vent open or pulls it closed.

What type of rack should I use?

- **Curved Rack** can give you extra clearance when space is tight and the rack might interfere with a curtain or aisle
- **Straight Rack** is used in most applications

What rack material do I need?

- **Aluminum Rack** is used in most applications
- **Steel Rack** is generally used for open roof greenhouses that need extra strength

How is the rack spaced?

Rack is usually placed every 6' to 7'. There should be 6" of rack when the vent is fully open. All models have 6" of rack movement per revolution of drive shaft.



Aluminum Rack and Pinion Features:

- Zinc pinion gear with shoulders to bear the weight and extend the life of the gear
- To extend life even further, lubricate once a year with Magna Lube, White Lithium Grease or a graphite-based spray lubricant
- Wide housing allows for unavoidable movement in the vents
- Unique design prevents binding
- Easy alignment: racks work even when the vent is not perfectly square
- Freedom from corrosion: stainless clevis pins, cotter pins, set screws, cast sash brackets and tough Nylatron bearings
- Precision-cut teeth on the PowerRack arms minimize sharp edges, assuring smooth operation
- Holes in the pinion housing are punched with a stamping tool to maintain exact spacing
- The PowerRack arm and housing are manufactured from aluminum alloy for strength and freedom from corrosion
- Wide load-bearing surfaces
- Replaceable parts

Straight PowerRack Models:

Length	Shaft	Shipping Wt	Part #
18"	1-3/8"	1.25 lb / 0.6 kg	M-2618
18"	1-5/8"	1.25 lb / 0.6 kg	M-2718
28"	1-3/8"	2.10 lb / 0.95 kg	M-2628
28"	1-5/8"	2.10 lb / 0.95 kg	M-2728
36"	1-3/8"	2.40 lb / 1.09 kg	M-2636
36"	1-5/8"	2.40 lb / 1.09 kg	M-2736
42"	1-3/8"	2.50 lb / 1.13 kg	M-2642
42"	1-5/8"	2.50 lb / 1.13 kg	M-2742
48"	1-3/8"	2.55 lb / 1.16 kg	M-2648
48"	1-5/8"	2.55 lb / 1.16 kg	M-2748
53"	1-3/8"	2.60 lb / 1.18 kg	M-2653
53"	1-5/8"	2.60 lb / 1.18 kg	M-2753
66"	1-3/8"	2.95 lb / 1.34 kg	M-2666
66"	1-5/8"	2.95 lb / 1.34 kg	M-2766
72"	1-3/8"	3.10 lb / 1.41 kg	M-2672
72"	1-5/8"	3.10 lb / 1.41 kg	M-2772

Curved PowerRack Models:

Length	Shaft	Shipping Wt	Part #
28"	1-3/8"	2.10 lb / 0.95 kg	M-2828
28"	1-5/8"	2.10 lb / 0.95 kg	M-2928
36"	1-3/8"	2.40 lb / 1.09 kg	M-2836
36"	1-5/8"	2.40 lb / 1.09 kg	M-2936
42"	1-3/8"	2.50 lb / 1.13 kg	M-2842
42"	1-5/8"	2.50 lb / 1.13 kg	M-2942
48"	1-3/8"	2.55 lb / 1.16 kg	M-2848
48"	1-5/8"	2.55 lb / 1.16 kg	M-2948
53"	1-3/8"	2.60 lb / 1.18 kg	M-2853
53"	1-5/8"	2.60 lb / 1.18 kg	M-2953
66"	1-3/8"	2.95 lb / 1.34 kg	M-2866
66"	1-5/8"	2.95 lb / 1.34 kg	M-2966
72"	1-3/8"	3.10 lb / 1.41 kg	M-2872
72"	1-5/8"	3.10 lb / 1.41 kg	M-2972

Steel Rack and Pinion

Steel is the standard for open roof greenhouses that need the extra strength. Now you can get them with Wadsworth's support and reliable US inventory. To check what lengths we stock, please call 1.800.821.5829.

- Rack arms are a heavy galvanized steel u-channel cut
- Corrosion-proof pinion gear
- Pinion houses are galvanized steel
- Rust-free plastic-free rollers and self-lubricating bronze journal bearings



Connecting the Aluminum Rack

Wadsworth's aluminum rack attaches the vent using the sash bracket shown.



Sash Bracket
Part #F-0918
Shipping Wt. .316 lb | .15 kg

When replacing aluminum rack on an existing vent, the sash brackets are often in good condition but do not fit the wider rack arms. We offer a sash bracket adapter that will fit most of the older style sash brackets. The adapter slips easily into the end of the rack arm and is held in place with a clevis pin. Please specify this part when ordering.



Sash Bracket Adapter
Part #F-0919
Shipping Wt. .316 lb | .15 kg

Hanging the Drive Unit

The universal shaft hanger supports the shaft that drives the rack and pinion.

- Made of 12-gauge rigid galvanized steel for reliability
- Easy mounting with the pre-punched holes and slots for 5/16" and 3/8" diameter u-bolts
- Shaft hanger holes and slots will fit 1" - 3" pipe, as well as square tubing, angle, channel and various other greenhouse members (u-bolts not included)



1-5/8" Shaft Hanger
Part #S-2808
Shipping Wt. 1.16 lb | 0.5 kg

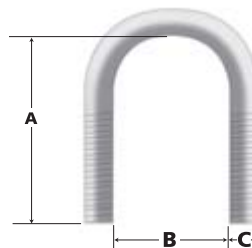


1-3/8" Shaft Hanger
Part #S-2806
Shipping Wt. 1.16 lb | 0.5 kg

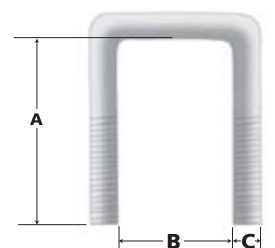
Round & Square U-Bolts

U-bolts are used to mount the drive unit to the universal shaft hanger and your greenhouse structure. To determine the size you need, refer to the illustration below. Other pipe sizes are available — call 1.800.821.5829 for details.

Part#	A	B	C	Pipe Size
H-2489	2-1/2" x	1-1/2" x	3/8"	1"
H-2491	2-3/4" x	1-3/4" x	3/8"	1-1/4"
H-2492	2-5/8" x	2" x	3/8"	1-1/2"
H-2494	3-1/8" x	2-1/2" x	3/8"	2"
H-2520	2-1/2" x	1-9/16" x	3/8"	1-1/2" sq.
H-2525	3" x	2-1/8" x	3/8"	2" sq.
H-2530	3-1/2" x	2-5/8" x	3/8"	2-1/2" sq.
H-2537	4" x	3-1/8" x	3/8"	3" sq.



Hex Nuts
Part #H-2460
3/8" - 16 Hex Nut
(for U-bolts above)





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