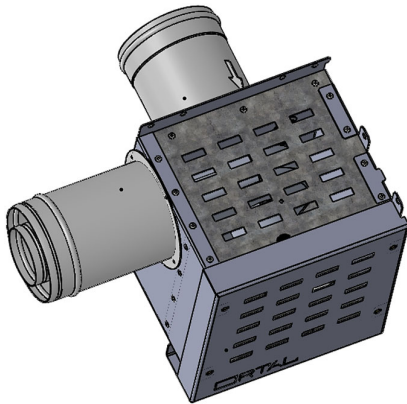
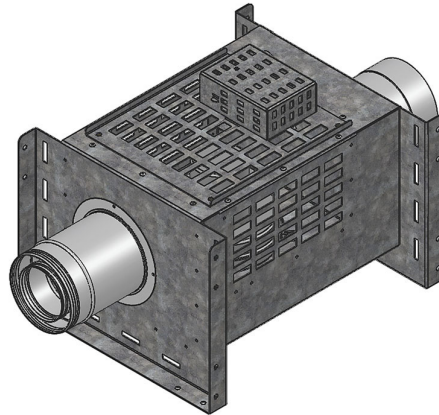


ORTAL[®]

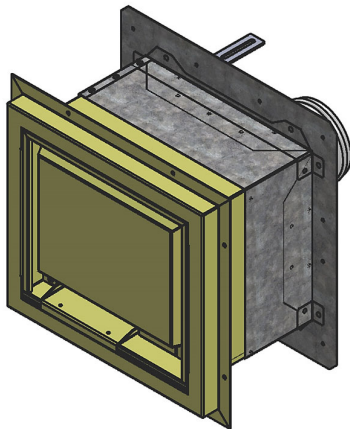
Installation and Operation Manual Power Vent System



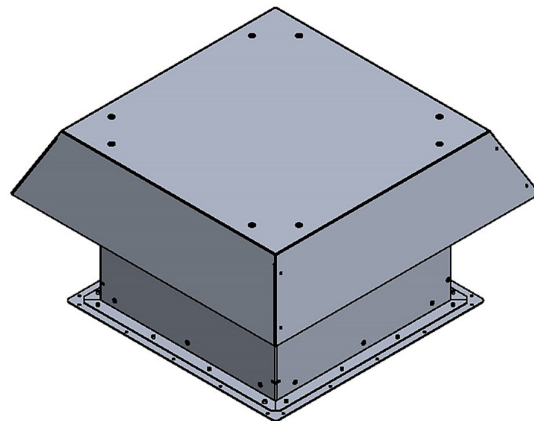
Inline-90 Power Vent



Inline-180 Power Vent



**Flush Horizontal Termination
Power Vent**



Vertical Termination Power Vent



General

Safety Information and Warnings



IMPORTANT NOTE: LOCAL CODE

Local codes and regulations that are more stringent than the requirements in this manual take precedence over Ortal requirements.



WARNING: REVIEW ALL WARNINGS

Review all safety warnings and installation guidelines contained in this manual and the applicable Ortal fireplace installation manual. Before installing the Ortal Power Vent System, read and understand all instructions. Consider installation location, venting pathway, clearances, structural requirements, framing and finish materials, and local codes. ALL warnings and instructions apply to all products manufactured and distributed by Ortal.



WARNING: FIREPLACE NOT APPROVED FOR POWER VENT FIELD ADAPTATION

The Power Vent System must be ordered at the time the fireplace is ordered. The fireplace must be adapted for power vent use by Ortal only. This system cannot be retrofitted in the field.



WARNING: ELECTRICAL GROUNDING

All electrical connections must be properly installed, insulated, and secured to avoid potential **ELECTRICAL SHOCK** and **FIRE HAZARD** and malfunction of the system. Consult local building code requirements. In the absence of local codes, refer to the National Electric Code, ANSI/NFPA 70, or the Canadian Electric Code, CSA C22.1.



WARNING: MATERIAL USAGE

All materials and objects used to carry out the installation must be certified/approved or specified by Ortal and are suitable for use. Do NOT install the system with different materials or objects than those approved for installation by Ortal.



WARNING: INSTALLATION AND SERVICE

Installation and repairs on the fireplace, power vent system, and vent system must be done by an authorized Ortal dealer/installer or gas supplier. Failure to meet this requirement will void the warranty of the fireplace and its components. Ortal will not be responsible for any damage caused by improper installation. The fireplace must be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. Control compartments, burners and circulating air passageways of the fireplace must be kept clean. Any alteration to the product can cause soot or carbon to form and may result in damage. This damage and any other damage that results from not following the instructions outlined in this manual is not the responsibility of Ortal.



WARNING: INSTALLATION AND OPERATION

The fireplace and accompanying components must be installed as an OEM installation in manufactured homes (USA only) or an aftermarket permanently located home, where not prohibited by local codes. The fireplace must be installed in accordance with the Manufacturer's instructions and the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280, in the United States, or the Standard for Installation in Mobile Homes, CAN/CSA Z240 MH Series, in Canada. **Exceeding the restrictions imposed in these instructions may result in a fire or explosion, causing property damage, personal injury, or loss of life. Ortal will not be responsible for any damage caused by improper installation. Do not store or use gasoline or other flammable vapors and liquids near this fireplace.**



WARNING: FOR USE WITH ORTAL FIREPLACES ONLY

Ortal Power Vent Systems are authorized for use with Ortal-manufactured fireplaces only. Do NOT attempt to use with a different manufacturer's product.



WARNING: PRESSURE SWITCH

The pressure switch component senses airflow when the power vent is activated and transmits an electrical signal to the power vent control box, which opens the solenoid and allows the flow of gas to the fireplace and enables operation. The pressure switch is a safety feature that prevents fireplace operation when the power vent is inactive. The power vent control box houses the pressure switch. It is vital for power vent operation that the fittings are tight, the fireplace glass panel(s) is/are sealed, and the control box is oriented correctly. Failure to follow these instructions could result in power vent and/or fireplace malfunction. Improper use or installation can lead to injury or death. **IMPORTANT: The adapter and control box fittings must be tightened correctly (using 16 mm and 11 mm wrench), and the pressure tube properly connected without leaks. Test the system before closing the walls to confirm operation.**



WARNING: CALIFORNIA PROP 65

These products and the fuels used to operate these products (liquid propane or natural gas), and the products of combustible of such fuels, can expose you to chemicals including benzene, carbon monoxide, and ceramic fibers, which are known to the state of California to cause cancer and/or reproductive harm. For more information, visit www.p65warnings.ca.gov.

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“→” Denotes new or changed information from most recent version manual.

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General Information

The Ortal Power Vent System is an optional component to most Ortal direct vent gas fireplaces that provides alternate installation configurations that are not available with typical direct venting runs, providing greater venting flexibility. This proprietary Power Vent System is comprised of a power vent fan and control box. The power vent fan creates a draw on the exhaust, forcing the flow through the inner pipe. This creates a suction of fresh air that enters and draws in through the outer air intake pipe.

This manual applies to the Ortal Power Vent System and approved venting only. The Ortal Installation manual will need to be referenced for the installation of the fireplace and remaining components.

NOTE: The fireplace must be configured for power vent use by Ortal only. This system cannot be retrofitted in the field.

Certification

The Ortal Power Vent System (including all Power Vent fan types) have been tested and listed by CSA Group for safety and efficiency for use with Ortal fireplaces. CSA Group is approved by the American National Standards Institute (ANSI) as an Accredited Standards Developer.

The listing for the power vent is grouped with the fireplace under the applicable fireplace listings shown below.

Certification Listings:

ANSI Z21.88/CSA 2.33 – 2019: Vented Gas Fireplace Heaters
ANSI Z21.50/CSA 2.22 – 2019: Decorative Vented Gas Fireplaces



IMPORTANT – PLEASE READ:

- It is the responsibility of the fireplace dealer and installer to ensure that the power vent and components are installed in compliance with these instructions and all applicable codes.
- Before starting, take careful note of **ALL** the **WARNINGS** in this manual.
- Consult the authority having jurisdiction to determine the need for a permit prior to starting the installation.

Venting

The following sections pertain to the venting pipe used with the Power Vent System.

→ Pre-Installation Considerations

IMPORTANT: Read Before You Begin

- **Maximum Vent Run:** Max. vent run distance is 165 feet. Each 90° elbow in the run reduces max. run by 10 ft.
- **Vertical Drop:** Vent configuration cannot exceed **20 feet** of cumulative vertical drop (downhill run). For venting that rises vertically after a drop, condensation drainage must be installed mid-way through the horizontal portion of the drop.
- **Elbows:** Up to twelve 90° elbows is permitted. Each 90° elbow reduces max. run length by 10 ft.
- **Condensation Drainage:**
For vent configurations that exceed 65 feet, install a condensation drain at the lowest point of the vent run after the 65-foot point. More than one condensation drain may be required if the vent run has a vertical drop after the 65-foot point in the run.
- Clearances:** Plan for clearances around the pipe are met (see the section “Clearances” for details).
- Vent Installation:** For vent component installation instructions, refer to [DuraVent's CVS](#) instructions for gas appliances.
- Vent Pipe Connections:**
 - Must be intact and without flaw (i.e., no holes, tears, open seams, corrosion, or other issues that may inhibit the proper function of the Power Vent System).
 - Inner and outer gasket rings must be intact.
 - Each connection between all the venting components must be securely locked.
 - Alignment dimples on the pipe must be correctly aligned. Twist pipe in place to secure, as per [DuraVent's CVS](#) instructions.
- Sealing:**
 - Failure to properly seal the venting can prevent the system from working properly and can result in damage to the fireplace and/or surrounding building material.
 - Damaged seals may cause pressure loss.

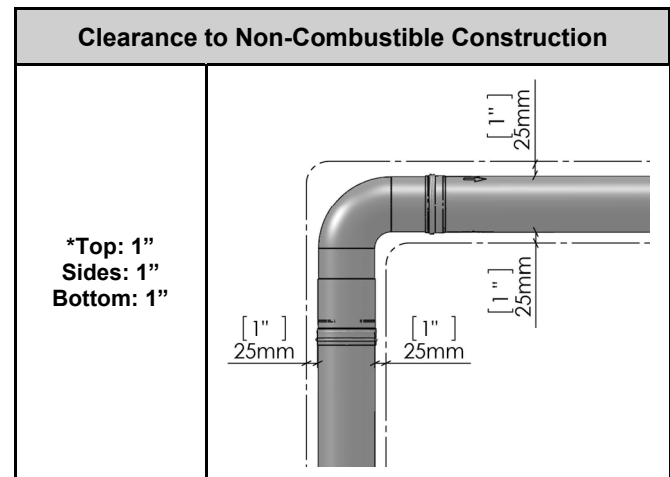
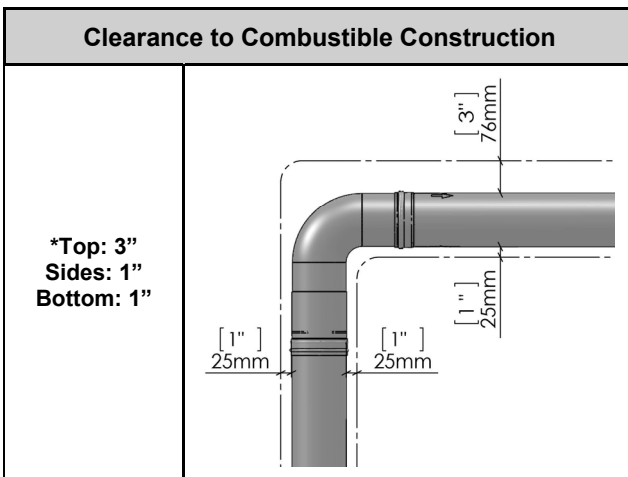
→ Venting Configurations

The following vent configuration information applies to all Ortal power vent models.

Power Vent Models	Inline-90 Inline-180 Flush Horizontal Termination Vertical Termination	
→ Max Run	165 feet	Each 90° elbow reduces max run length by 10 feet .
→ Max Elbows	12 x 90° (1 x 90° = 2 x 45°)	
→ Power Vent Fan Location	Fan must be 8 feet min of vent length from fireplace starter collar.	
Required Venting	3"x5" CVS co-axial direct vent pipe (5" diameter)	

! **IMPORTANT NOTE:** An Enervex RS009 Power Vent System must be used for the Stand Alone fireplace models. Ortal-manufactured Power Vent Systems are not configured for use with Stand Alones.

Clearances



*Top clearance applies to pipe oriented running horizontally at *any* angle.

! **NOTE:** These clearances override DuraVent's installation instructions

Power Vents

Inline-90 Power Vent (Mid-Line)

Pre-installation Considerations

Before you begin installation of the power vent, ensure you have planned for the following:

- Termination location (see "Clearances" section for details)
- Electrical requirements (see "Electrical" section for details)
- Local codes and regulations
- Power vent fan box and venting pipe clearance requirements
- Power vent access panel location
- Total venting run length and degree of offset (see all sections under "Venting" for details)

IMPORTANT: Read Before You Begin

Access Panels are required at the power vent service door in following locations for servicing:

- At the power vent fan box. Access panel must be min. 18"x18".
- At the power vent control box near the fireplace. Access panel must be min. 10"x10".

If there is any distance between the access panel and the power vent, the access panel size must be increased accordingly.

Airflow Requirement: To keep the component operating temperature cool, one of the following conditions must be met:

- Power vent must be located in an area with a min. 35 cubic feet of air space.
- OR-
- Power vent must be located in an area with a min. 8 cubic feet of air space AND the access panel must be louvered to allow for a min. 75 square inches of net open air space.

Vent Installation: For vent component installation instructions, refer to [DuraVent's CVS](#) instructions for gas appliances.

Review all clearance and venting requirements, pre-installation considerations for both the venting and the power vent, and local code before beginning installation.

Ensure all materials, system components, and tools necessary are present, and in good condition at the time of installation.

Venting may be installed independently of the fireplace and power vent fan if needed, as site conditions permit.

Installation Instructions

Step 1: Install the Control Box

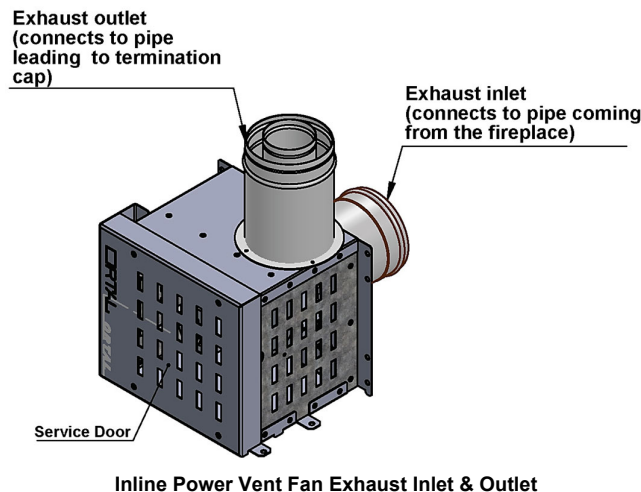
1. Place control box near the minimum 10"x10" control box access panel.



⚠ WARNING: To avoid operational malfunctions, control box *must* be oriented with “This Side Up” wording facing up and the feet facing down.

Step 2: Install the Power Vent

1. Install venting components leading from the fireplace to intended location of the power vent.
2. Attach venting pipe to exhaust inlet on the power vent.
3. At the exhaust outlet, install remaining venting components leading to the termination cap.



ⓘ REMINDER: Power vent should be installed within close proximity of power vent access panel. If there is any distance between the access panel and the power vent, the access panel size must be increased accordingly.

4. Secure the power vent to a stable structure using either the nailing flanges on the sides of the power vent fan box or a wall strap. Ensure clearances are maintained.

Step 3: Connect the Power Vent to the Control Box

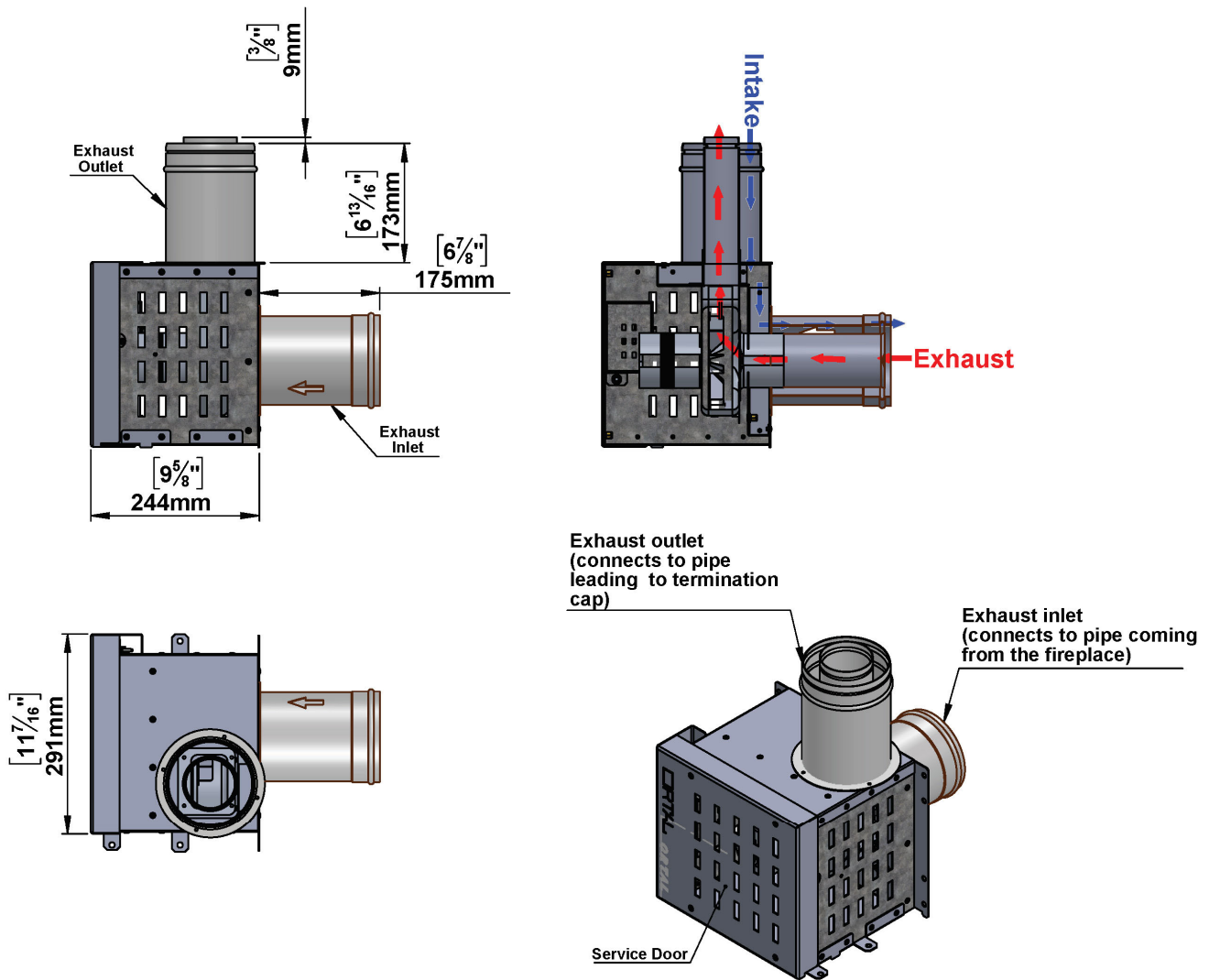
1. Insert the pig-tailed end of the 62-foot power cable (supplied) to the power vent **control box** through the cable clamp.
2. Open the power vent service door and connect the cable's pig-tailed end to the pig tail located in the **power vent**. Make sure all connections are tight and secure.
3. Plug the control box into the outlet inside the access panel area as per the Ortol fireplace installation instructions. See “Electrical” section for details.

ⓘ NOTES:

- Electrical connections should be completed by a certified electrician, and in accordance with local building codes.
- A protective layer of grease is used in the manufacturing process of the venting. The heat burns away this grease and can cause some smoking and smell during the initial running, which should dissipate within the first few hours of use.

⚠ WARNING: This smoke could set off a fire alarm. Anyone with an integrated smoke alarm system needs to be aware.

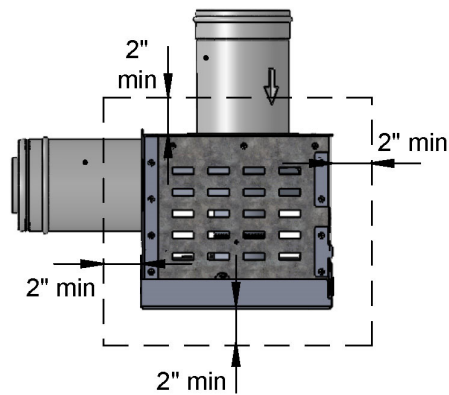
Dimensions



Dimensions for Inline-90 Power Vent

Clearances

Maintain 2 inches of space around the power vent.



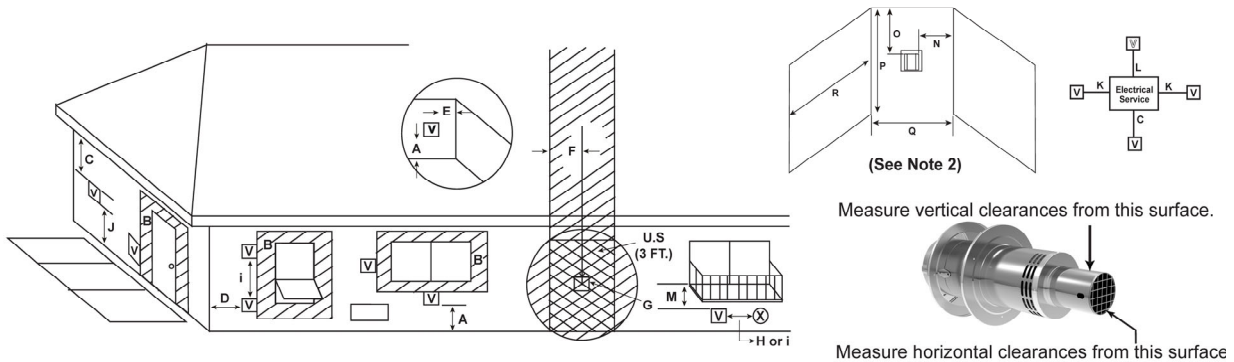
IMPORTANT NOTE: Due to airflow considerations, it will not be possible to keep only 2 inches of clearance on every side. To keep the component operating temperature cool, one of the following conditions must be met:

- Power vent must be located in an area with a min. 35 cubic feet of air space.

-OR-

- Power vent must be located in an area with a min. 8 cubic feet of air space AND the access panel must be louvered to allow for a net min. 75 square inches of air space.

Horizontal Termination Cap Clearances for InLine-90



V = VENT TERMINAL **X** = AIR SUPPLY INLET = AREA WHERE TERMINAL IS NOT PERMITTED

A = 12 inches.....clearances above grade, veranda, porch, deck or balcony (See Note 1)	J** = 7 ft..... clearance above paved sidewalk or a paved driveway located on public property (See Note 1)																		
B = 12 inches.....clearances to window or door that may be opened, or to permanently closed window. (Glass)	K = 6 inches..... clearance from sides of electrical service (See Note 5)																		
C = 24 inches.....vertical clearance to ventilated soffit located above the terminal 18 inches.....vertical clearance to unventilated soffit located above the terminal 42 inches.....for vinyl clad soffits and below electrical service	L = 12 inches.....clearance above electrical service (See Note 5)																		
D = 9 inches.....clearance to outside corner	Covered Alcove Applications																		
E = 6 inches.....clearance to inside corner	M*** = 24 inchesclearance under veranda, porch, deck, balcony or overhang 42 inches vinyl																		
F = 3 ft. (Canada).....not to be installed above a gas meter/regulator assembly within 3 feet (90 cm) horizontally from the center-line of the regulator	N = 6 inches non-vinyl sidewalls 12 inches vinyl sidewalls																		
G = 3 ft.....clearance to gas service regulator vent outlet	O = 24 inches non-vinyl soffit and overhang 42 inches vinyl soffit and overhang																		
H = 9 inches (U.S.A.) 12 inches (Canada) clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance (See Note 2)	P = 8 ft.																		
i = 3 ft. (U.S.A.) 6 ft. (Canada).....clearance to a mechanical (powered) air supply inlet (See Note 2)	<table border="1"> <thead> <tr> <th></th> <th>Q_{MIN}</th> <th>R_{MAX}</th> </tr> </thead> <tbody> <tr> <td>1 cap</td> <td>3 feet</td> <td>2 x Q_{ACTUAL}</td> </tr> <tr> <td>2 caps</td> <td>6 feet</td> <td>1 x Q_{ACTUAL}</td> </tr> <tr> <td>3 caps</td> <td>9 feet</td> <td>2/3 x Q_{ACTUAL}</td> </tr> <tr> <td>4 caps</td> <td>12 feet</td> <td>1/2 x Q_{ACTUAL}</td> </tr> <tr> <td colspan="3">Q_{MIN} = # termination caps x 3 R_{MAX} = (2 / # termination caps) x Q_{ACTUAL}</td> </tr> </tbody> </table>		Q _{MIN}	R _{MAX}	1 cap	3 feet	2 x Q _{ACTUAL}	2 caps	6 feet	1 x Q _{ACTUAL}	3 caps	9 feet	2/3 x Q _{ACTUAL}	4 caps	12 feet	1/2 x Q _{ACTUAL}	Q _{MIN} = # termination caps x 3 R _{MAX} = (2 / # termination caps) x Q _{ACTUAL}		
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4 caps	12 feet	1/2 x Q _{ACTUAL}																	
Q _{MIN} = # termination caps x 3 R _{MAX} = (2 / # termination caps) x Q _{ACTUAL}																			

** a vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.

*** only permitted if veranda, porch, deck or balcony is fully open on a minimum of 2 sides beneath the floor, or meets Note 2.

Note 1: On private property where termination is less than 7 feet above a sidewalk, driveway, deck, porch, veranda or balcony, use of a listed cap shield is suggested. (See vents components page)

Note 2: Termination in a covered alcove space (spaces open only on one side and with an overhang) are permitted with the dimensions specified for vinyl or non vinyl siding and soffits. 1. There must be 3 feet minimum between termination caps. 2. All mechanical air intakes within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap. 3. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.

Note 3: Local codes or regulations may require different clearances.

Note 4: Termination caps may be hot. Consider their proximity to doors or other traffic areas.

Note 5: Location of the vent termination must not interfere with access to the electrical service.

In the U.S and Canada: Vent system termination is NOT permitted in screened porches.

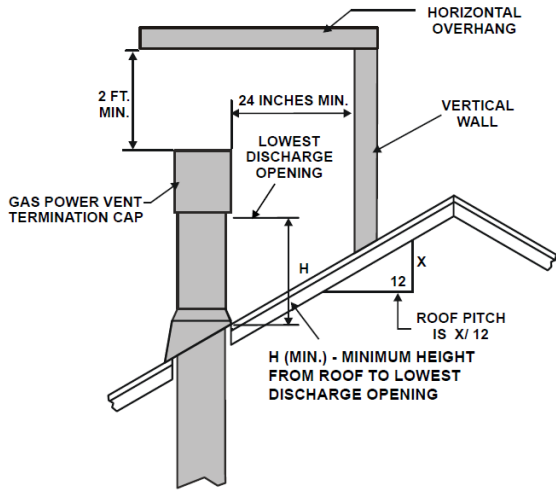
Vent system termination is permitted in porch areas with two or more sides open. You must follow all side walls, overhang and ground clearances as stated in the instructions.

⚠ WARNING: A VINYL PROTECTOR KIT IS REQUIRED IF EXTERIOR WALLS ARE FINISHED WITH VINYL SIDING.

! NOTE: Default to local code if greater clearance is required.

Vertical Termination Cap Clearances for Inline-90

Minimum Height From Roof To Lowest Discharge Opening

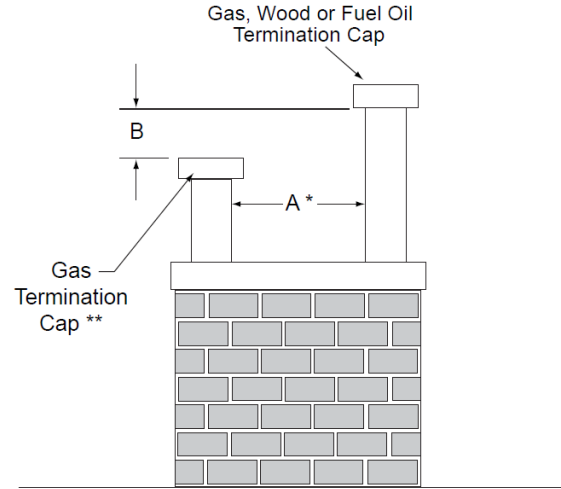


Roof Pitch	H (Min.) Ft.
Flat to 6/12.....	1.0*
Over 6/12 to 7/12.....	1.25*
Over 7/12 to 8/12.....	1.5*
Over 8/12 to 9/12.....	2.0*
Over 9/12 to 10/12.....	2.5*
Over 10/12 to 11/12.....	3.25
Over 11/12 to 12/12.....	4.0
Over 12/12 to 14/12.....	5.0
Over 14/12 to 16/12.....	6.0
Over 16/12 to 18/12.....	7.0
Over 18/12 to 20/12.....	7.5
Over 20/12 to 21/12.....	8.0

*H min. may vary depending on regional snowfall. Refer to local codes.

Staggered Termination Caps

A	B
6 in. (minimum) up to 24 in.	18 in. minimum
24 in. and over	0 in. minimum



* If using decorative cap cover(s), this distance may need to be increased. Refer to the installation instructions supplied with the decorative cap cover.

** In a staggered installation with both gas and wood or fuel oil terminations, the wood or fuel oil termination cap must be higher than the gas termination cap.

Notes:

1. Maintain a minimum of 2 feet clearance between edge of vertical termination and perpendicular wall.
2. If terminating near window, keep minimum of 2 feet clearance between window and vent termination.
3. All mechanical air intakes (such as an Enerflex power vent) within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap.
4. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.

NOTE: Default to local code if greater clearance is required.

Inline-180 Power Vent (Mid-Line)

Pre-installation Considerations

Before you begin installation of the power vent, ensure you have planned for the following:

- Termination location (see “Clearances” section for details)
- Electrical requirements (see “Electrical” section for details)
- Local codes and regulations
- Power vent fan box and venting pipe clearance requirements
- Power vent access panel location
- Total venting run length and degree of offset (see all sections under “Venting” for details)

IMPORTANT: Read Before You Begin

Access Panels are required at the power vent service door in following locations for servicing:

- At the power vent fan box. Access panel must be min. 18”x18”.
- At the power vent control box near the fireplace. Access panel must be min. 10”x10”.

If there is any distance between the access panel and the power vent, the access panel size must be increased accordingly.

Airflow Requirement: To keep the component operating temperature cool, one of the following conditions must be met:

- Power vent must be located in an area with a min. 35 cubic feet of air space.
- OR-
- Power vent must be located in an area with a min. 8 cubic feet of air space AND the access panel must be louvered to allow for a min. 75 square inches of net open air space.

Power Vent Orientation: Power vent must be oriented with electrical box facing down or to the side. Due to heat restrictions, electrical box cannot face up.

Vent Installation: For vent component installation instructions, refer to [DuraVent's CVS](#) instructions for gas appliances.

Review all clearance and venting requirements, pre-installation considerations for both the venting and the power vent, and local code before beginning installation.

Ensure all materials, system components, and tools necessary are present, and in good condition at the time of installation.

Venting may be installed independently of the fireplace and power vent fan if needed, as site conditions permit.

Installation Instructions

Step 1: Install the Control Box

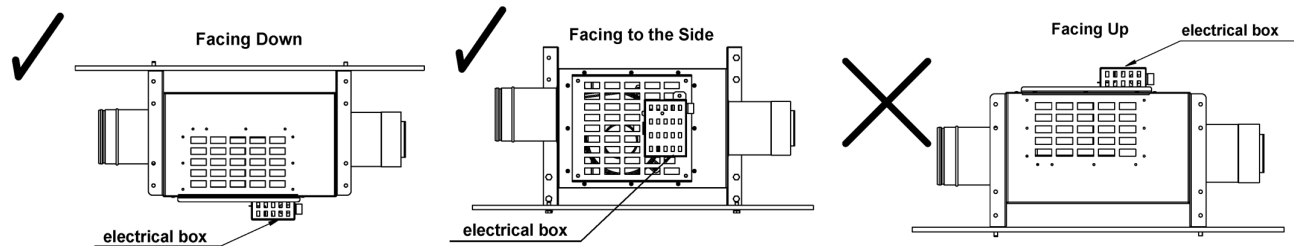
1. Place control box near the minimum 10"x10" control box access panel.



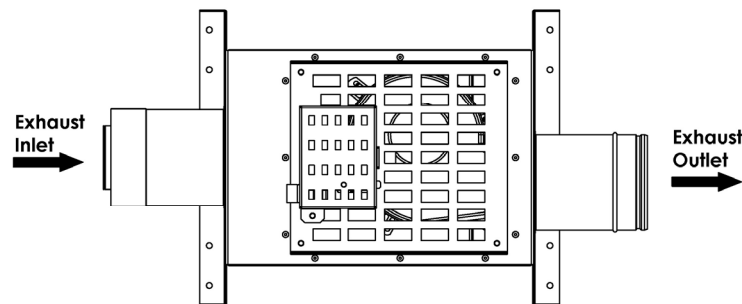
WARNING: To avoid operational malfunctions, control box *must* be oriented with “This Side Up” wording facing up and the feet facing down.

Step 2: Install the Power Vent

1. Orient the power vent with electrical box facing down or to the side only.



2. At the desired location, secure the power vent to a stable structure using the nailing flanges on the power vent box. Stable structure may be combustible or non-combustible. Ensure clearances are maintained.
3. Install venting components leading from the fireplace to intended location of the power vent.
4. Attach venting pipe to exhaust inlet on the power vent.
5. At the exhaust outlet, install remaining venting components leading to the termination cap.



Inline-180 Power Vent Fan Exhaust Inlet & Outlet

REMINDER: Power vent should be installed within close proximity of power vent access panel. If there is any distance between the access panel and the power vent, the access panel size must be increased accordingly.

Step 3: Connect the Power Vent to the Control Box

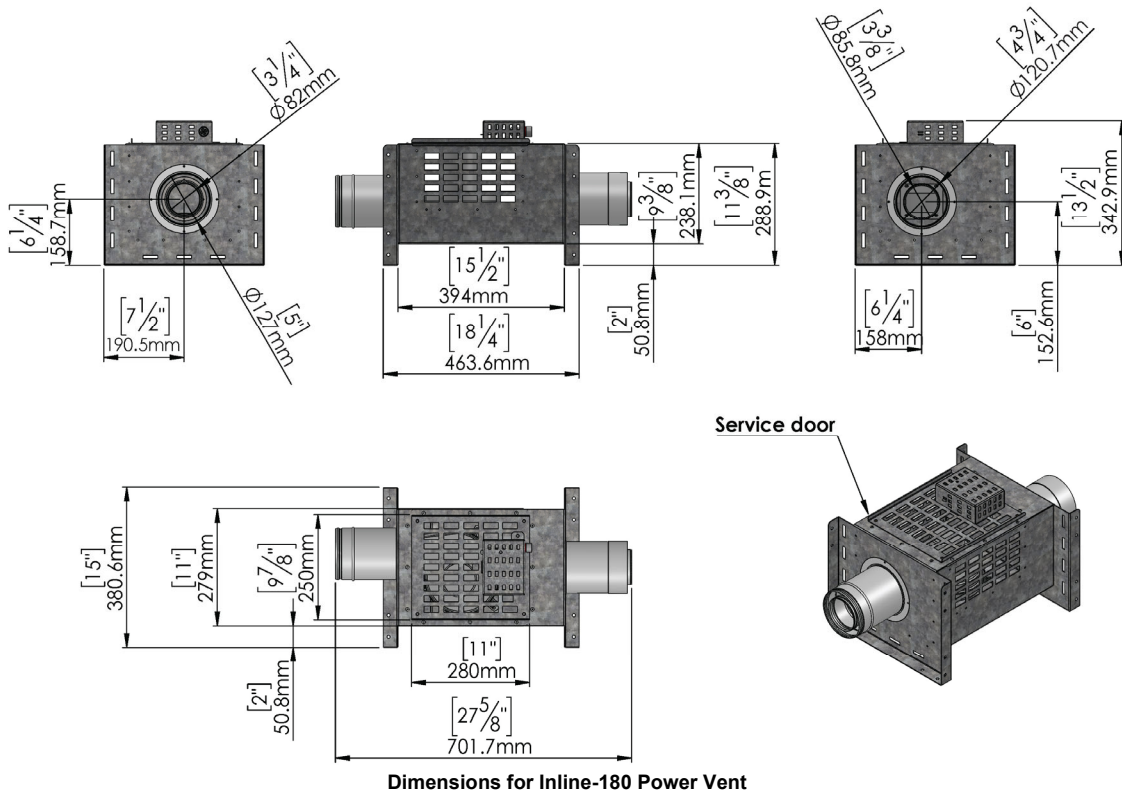
6. Insert the pig-tailed end of the 62-foot power cable (supplied) to the power vent **control box** through the cable clamp.
7. Open the power vent service door and connect the cable's pig-tailed end to the pig tail located in the **power vent**. Make sure all connections are tight and secure.
8. Plug the control box into the outlet inside the access panel area as per the Ortal fireplace installation instructions. See “Electrical” section for details.

NOTES:

- Electrical connections should be completed by a certified electrician, and in accordance with local building codes.
- A protective layer of grease is used in the manufacturing process of the venting. The heat burns away this grease and can cause some smoking and smell during the initial running, which should dissipate within the first few hours of use.

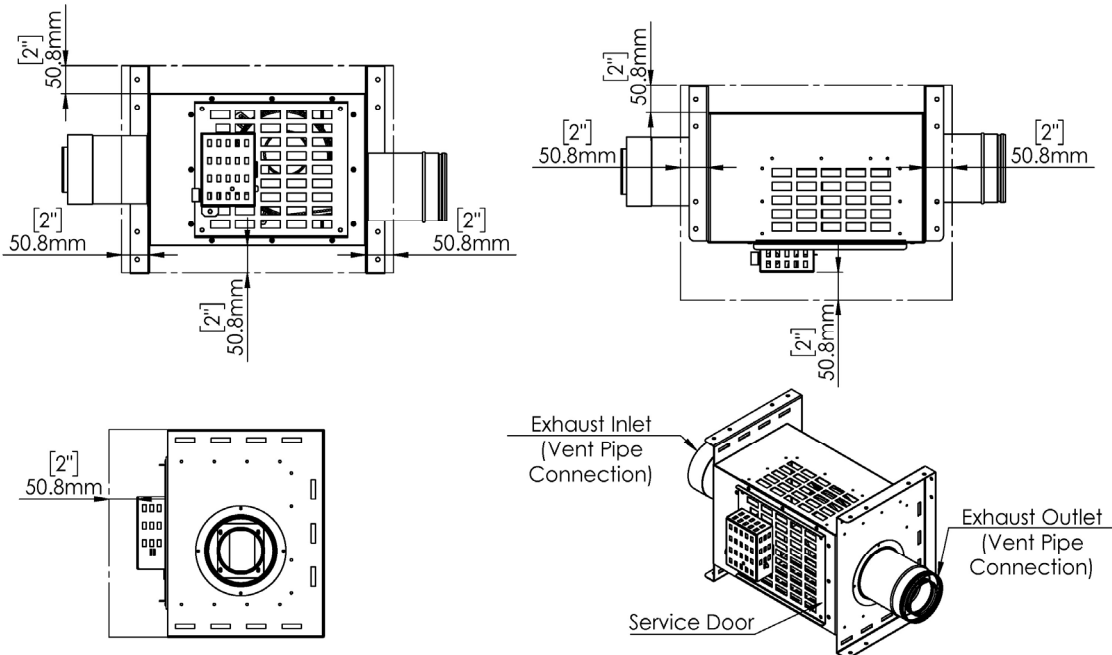
WARNING: This smoke could set off a fire alarm. Anyone with an integrated smoke alarm system needs to be aware.

Dimensions



Clearances

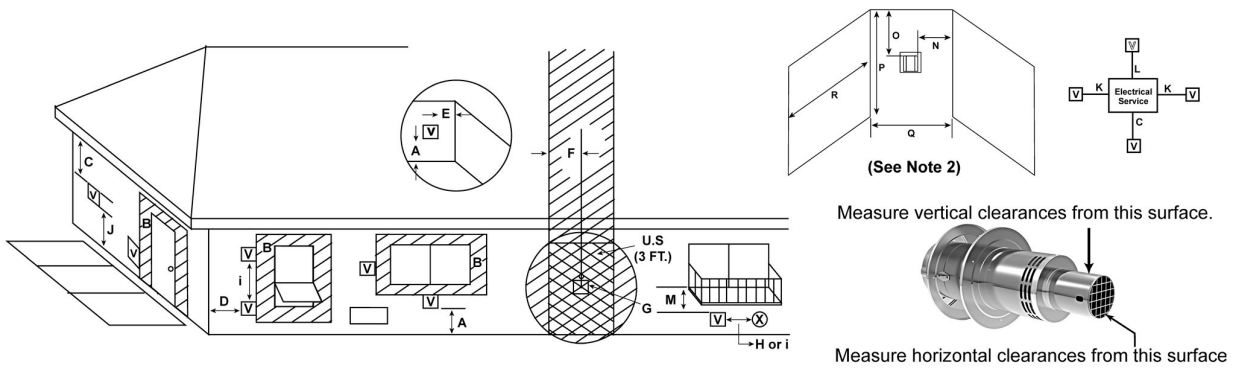
Maintain 2 inches of space around the power vent. In the instance where two power vents are next to each other, each power vent requires 2 inches of clearance.



IMPORTANT NOTE: Due to airflow considerations, it will not be possible to keep only 2 inches of clearance on every side. To keep the component operating temperature cool, one of the following conditions must be met:

- Power vent must be located in an area with a min. 35 cubic feet of air space.
- OR-
- Power vent must be located in an area with a min. 8 cubic feet of air space AND the access panel must be louvered to allow for a net min. 75 square inches of air space.

Horizontal Termination Cap Clearances for Inline-180



V = VENT TERMINAL **X** = AIR SUPPLY INLET **▨** = AREA WHERE TERMINAL IS NOT PERMITTED

A = 12 inches.....clearances above grade, veranda, porch, deck or balcony (See Note 1)	J** = 7 ft..... clearance above paved sidewalk or a paved driveway located on public property (See Note 1)																		
B = 12 inches.....clearances to window or door that may be opened, or to permanently closed window. (Glass)	K = 6 inches.....clearance from sides of electrical service (See Note 5)																		
C = 24 inches.....vertical clearance to ventilated soffit located above the terminal	L = 12 inches.....clearance above electrical service (See Note 5)																		
18 inches.....vertical clearance to unventilated soffit located above the terminal																			
42 inches.....for vinyl clad soffits and below electrical service																			
D = 9 inches.....clearance to outside corner																			
E = 6 inches.....clearance to inside corner																			
F = 3 ft. (Canada).....not to be installed above a gas meter/regulator assembly within 3 feet (90 cm) horizontally from the center-line of the regulator																			
G = 3 ft.....clearance to gas service regulator vent outlet																			
H = 9 inches (U.S.A.) 12 inches (Canada) clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance (See Note 2)																			
i = 3 ft. (U.S.A.) 6 ft. (Canada).....clearance to a mechanical (powered) air supply inlet (See Note 2)																			
	Covered Alcove Applications																		
	M*** = 24 inchesclearance under veranda, porch, deck, balcony or overhang																		
	42 inches vinyl																		
	N = 6 inches non-vinyl sidewalls																		
	12 inches vinyl sidewalls																		
	O = 24 inches non-vinyl soffit and overhang																		
	42 inches vinyl soffit and overhang																		
	P = 8 ft.																		
	<table border="1"> <thead> <tr> <th></th> <th>Q_{MIN}</th> <th>R_{MAX}</th> </tr> </thead> <tbody> <tr> <td>1 cap</td> <td>3 feet</td> <td>2 x Q_{ACTUAL}</td> </tr> <tr> <td>2 caps</td> <td>6 feet</td> <td>1 x Q_{ACTUAL}</td> </tr> <tr> <td>3 caps</td> <td>9 feet</td> <td>2/3 x Q_{ACTUAL}</td> </tr> <tr> <td>4 caps</td> <td>12 feet</td> <td>1/2 x Q_{ACTUAL}</td> </tr> <tr> <td colspan="3">Q_{MIN} = # termination caps x 3 R_{MAX} = (2 / # termination caps) x Q_{ACTUAL}</td> </tr> </tbody> </table>		Q _{MIN}	R _{MAX}	1 cap	3 feet	2 x Q _{ACTUAL}	2 caps	6 feet	1 x Q _{ACTUAL}	3 caps	9 feet	2/3 x Q _{ACTUAL}	4 caps	12 feet	1/2 x Q _{ACTUAL}	Q _{MIN} = # termination caps x 3 R _{MAX} = (2 / # termination caps) x Q _{ACTUAL}		
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** a vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.

*** only permitted if veranda, porch, deck or balcony is fully open on a minimum of 2 sides beneath the floor, or meets Note 2.

Note 1: On private property where termination is less than 7 feet above a sidewalk, driveway, deck, porch, veranda or balcony, use of a listed cap shield is suggested. (See vents components page)

Note 2: Termination in a covered alcove space (spaces open only on one side and with an overhang) are permitted with the dimensions specified for vinyl or non vinyl siding and soffits. 1. There must be 3 feet minimum between termination caps. 2. All mechanical air intakes within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap. 3. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.

⚠ WARNING: A VINYL PROTECTOR KIT IS REQUIRED IF EXTERIOR WALLS ARE FINISHED WITH VINYL SIDING.

! NOTE: Default to local code if greater clearance is required.

Note 3: Local codes or regulations may require different clearances.

Note 4: Termination caps may be hot. Consider their proximity to doors or other traffic areas.

Note 5: Location of the vent termination must not interfere with access to the electrical service.

In the U.S and Canada: Vent system termination is NOT permitted in screened porches.

Vent system termination is permitted in porch areas with two or more sides open. You must follow all side walls, overhang and ground clearances as stated in the instructions.

Vertical Termination Cap Clearances for Inline-180

Minimum Height From Roof To Lowest Discharge Opening

Roof Pitch **H (Min.) Ft.**

Flat to 6/12.....	1.0*
Over 6/12 to 7/12.....	1.25*
Over 7/12 to 8/12.....	1.5*
Over 8/12 to 9/12.....	2.0*
Over 9/12 to 10/12.....	2.5*
Over 10/12 to 11/12.....	3.25
Over 11/12 to 12/12.....	4.0
Over 12/12 to 14/12.....	5.0
Over 14/12 to 16/12.....	6.0
Over 16/12 to 18/12.....	7.0
Over 18/12 to 20/12.....	7.5
Over 20/12 to 21/12.....	8.0

*H min. may vary depending on regional snowfall. Refer to local codes.

Staggered Termination Caps

A	B
6 in. (minimum) up to 24 in.	18 in. minimum
24 in. and over	0 in. minimum

Gas, Wood or Fuel Oil Termination Cap

Gas Termination Cap **

* If using decorative cap cover(s), this distance may need to be increased. Refer to the installation instructions supplied with the decorative cap cover.

** In a staggered installation with both gas and wood or fuel oil terminations, the wood or fuel oil termination cap must be higher than the gas termination cap.

Notes:

1. Maintain a minimum of 2 feet clearance between edge of vertical termination and perpendicular wall.
2. If terminating near window, keep minimum of 2 feet clearance between window and vent termination.
3. All mechanical air intakes (such as an Enervex power vent) within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap.
4. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.

NOTE: Default to local code if greater clearance is required.

Flush Horizontal Termination Power Vent (End of Line)

Pre-Installation Considerations

Before you begin installation of the power vent, ensure you have planned for the following:

- Electrical requirements (see “Electrical” section for details)
- Local codes and regulations
- Power vent fan box and venting pipe clearance requirements
- Termination location (location must be accessible for servicing)
- Total venting run length and degree of offset (see all sections under “Venting” for details)

IMPORTANT: Read Before You Begin

Vent Installation: For vent component installation instructions, refer to [DuraVent's CVS](#) instructions for gas appliances.

Review all clearance and venting requirements, pre-installation considerations for both the venting and the power vent, and local code before beginning installation.

Ensure all materials, system components, and tools necessary are present, and in good condition at the time of installation.

Venting may be installed independently of the fireplace and power vent fan if needed, as site conditions permit.

Installation Instructions

Step 1: Install the Control Box

1. Place control box near min. 10"x10" control box access panel.



WARNING: To avoid operational malfunctions, control box *must* be oriented with “This Side Up” wording facing up and the feet facing down.

Step 2: Install the Power Vent

1. Refer to “Application Options from Step 2” section and install the power vent according to desired application.
2. Install venting components leading from the fireplace up to the location of the power vent.
3. Attach venting pipe to exhaust inlet on the power vent.

Step 3: Connect the Power Vent to the Control Box

1. Insert the pig-tailed end of the 62-foot power cable (supplied) to the power vent **control box** through the cable clamp.
2. Open the power vent service door and connect the cable’s pig-tailed end to the pig tail located in the **power vent**. Make sure all connections are tight and secure.
3. Plug the control box into the outlet inside the access panel area as per the Ortol fireplace installation instructions. See “Electrical” section for details.

NOTES:

- Electrical connections should be completed by a certified electrician, and in accordance with local building codes.
- A protective layer of grease is used in the manufacturing process of the venting. The heat burns away this grease and can cause some smoking and smell during the initial running, which should dissipate within the first few hours of use.

WARNING: This smoke could set off a fire alarm. Anyone with an integrated smoke alarm system needs to be aware.

Application Options from Step 2

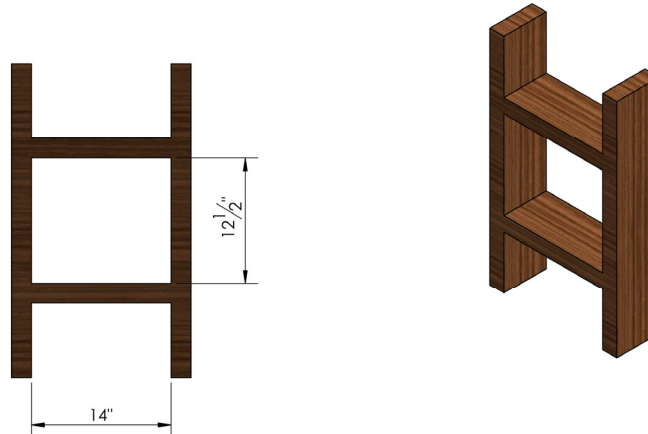
Flush Installation: Wall Thickness Less Than 7 1/2"

! NOTES:

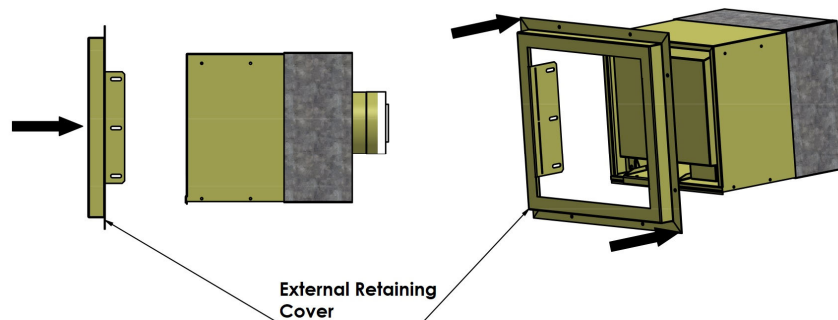
- Must have space for a 10" power vent depth.
- If a 90-degree elbow is directly connected to the power vent, a minimum of 24" depth is necessary (includes power vent, adapter, 90-degree elbow, and 1" clearance).

Instructions

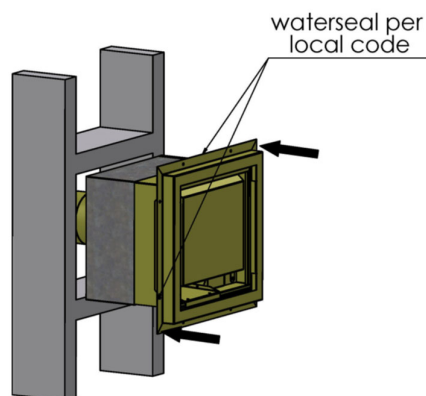
1. Prepare an opening size **12 1/2" x 14"**. Surrounding material may be combustible or non-combustible.



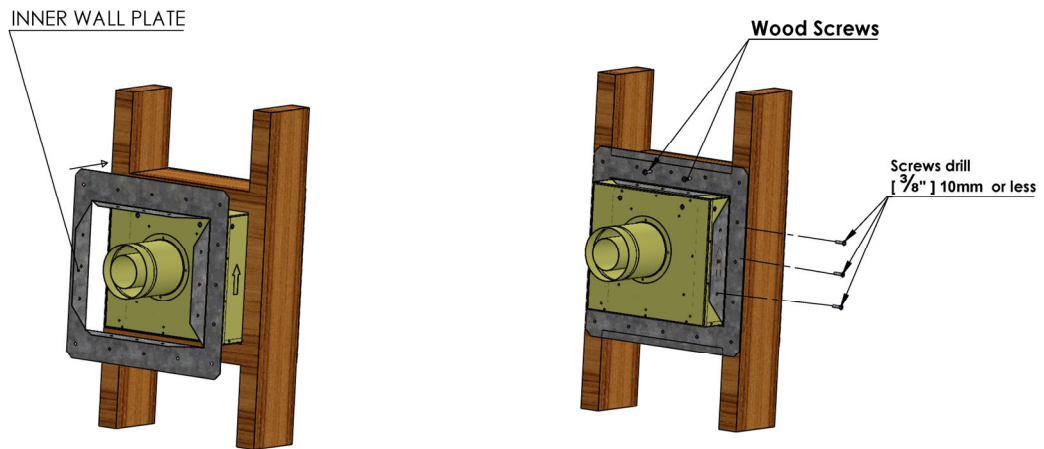
2. Position the external retaining cover as shown in the diagram below. Seal flange and power vent fan box using weather-proof caulking.



3. Insert the power vent fan box into position.

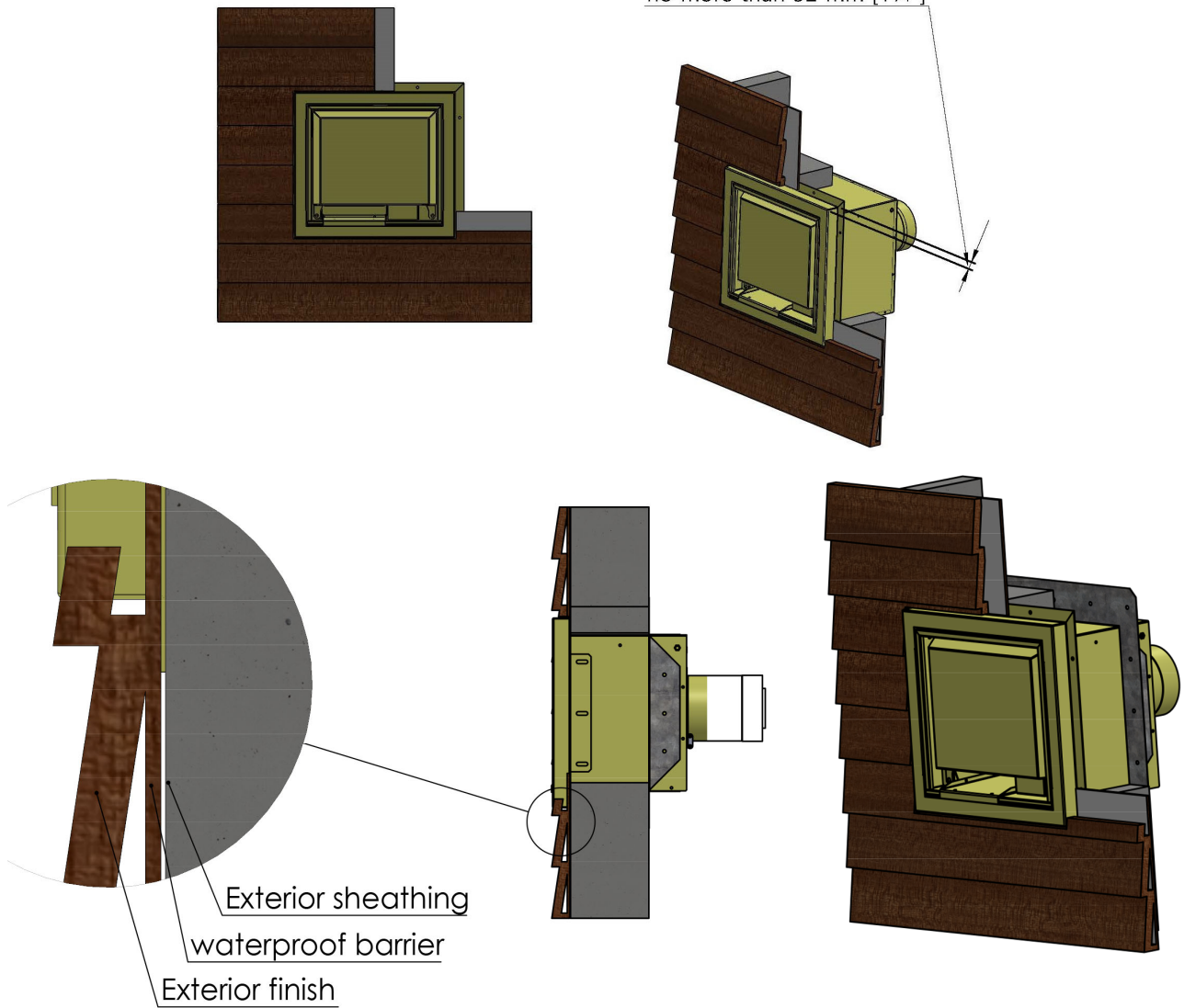


4. Position and secure the 'inner wall plate' (draft stop) into place.



5. Prepare the wall finish. The finish should be no deeper than 1¼".

Wall finish deep
no more than 32 mm [1¼"]



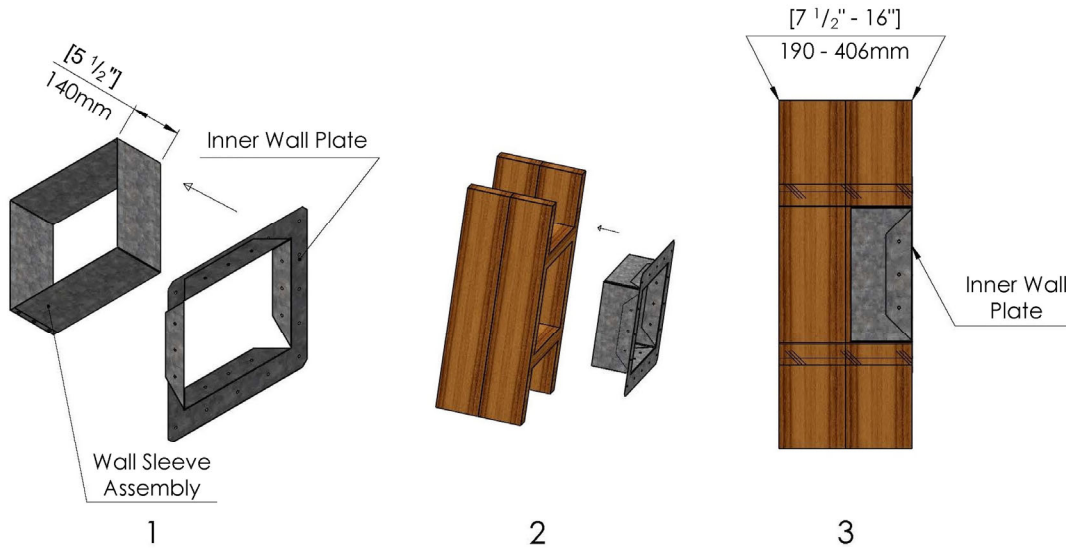
Flush Installation: Wall Thickness 7 1/2" - 16"

NOTES:

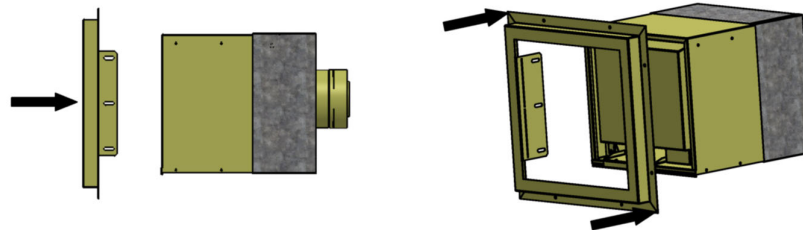
- Must have space for a 10" power vent depth.
- If a 90-degree elbow is directly connected to the power vent, a minimum of 24" depth is necessary (includes power vent, adapter, 90-degree elbow, and 1" clearance).
- Framing can be non-combustible or combustible. Images below are shown alternating between both options.

Instructions

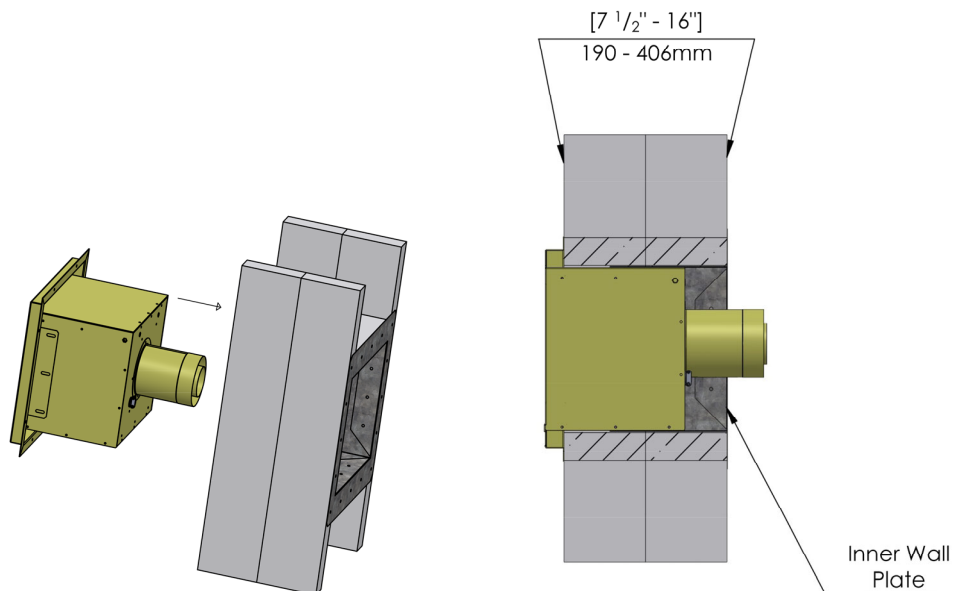
1. Connect the two parts together (Image 1 below), insert the assembly into the wall and secure to framing (Images 2 and 3 below).



2. Position the external retaining cover as shown in the diagram below.



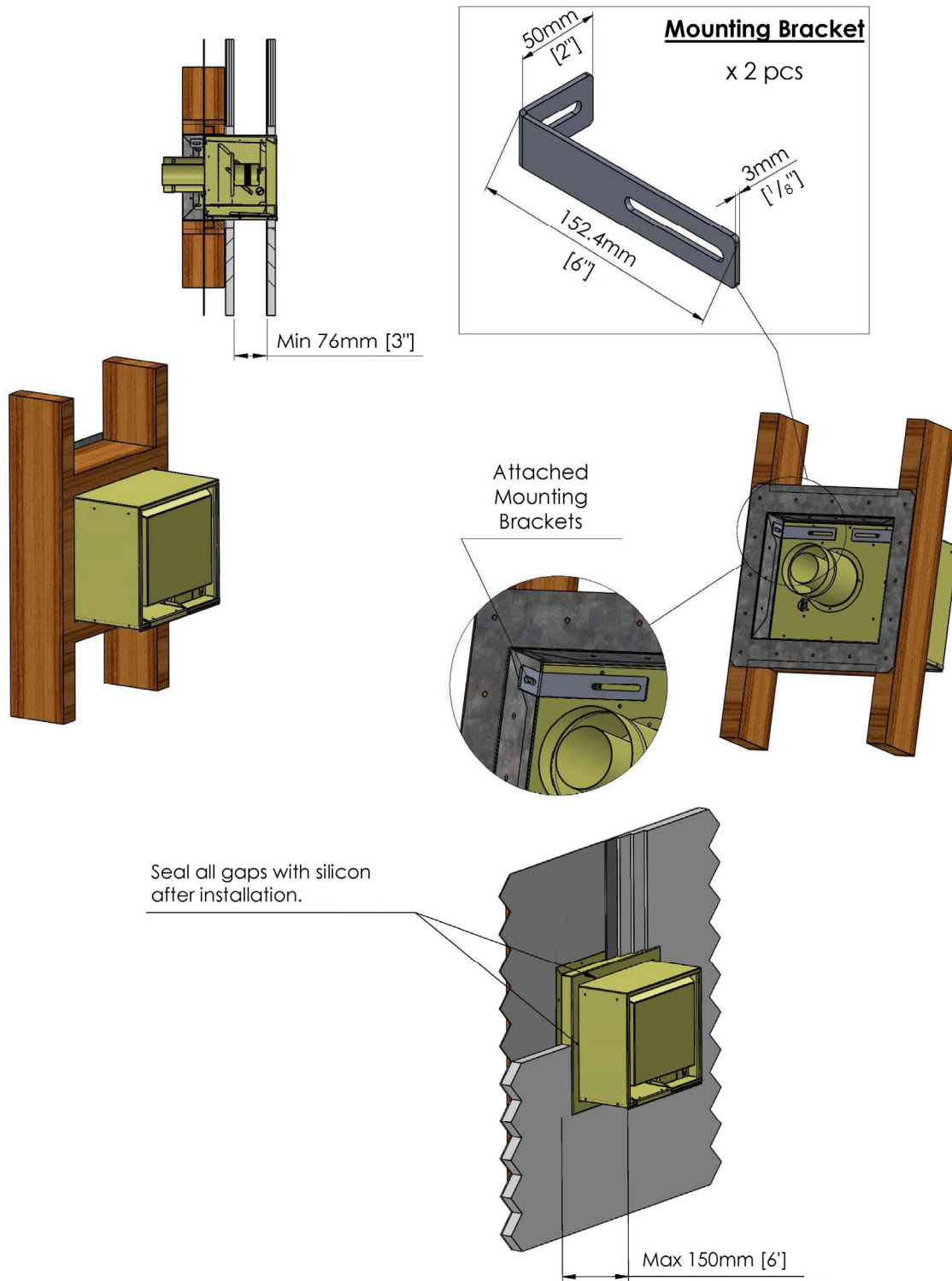
3. Insert the power vent fan box into position.



Extended Power Vent Application

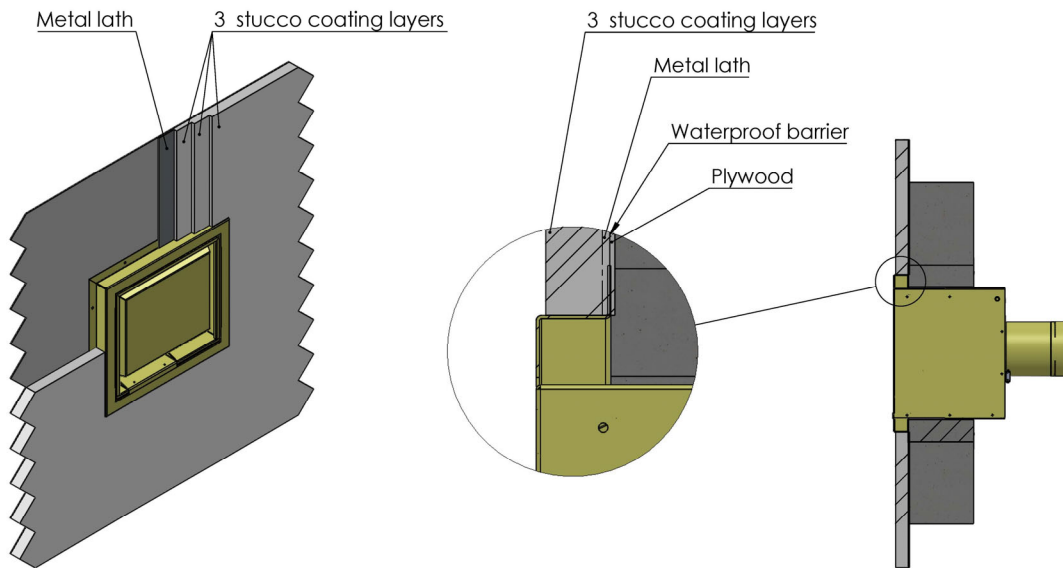
Instructions

1. Install the power vent referring to step 1 instructions from "Wall Thickness 7 1/2" - 16".
2. Refer to the diagram below for remaining instructions.



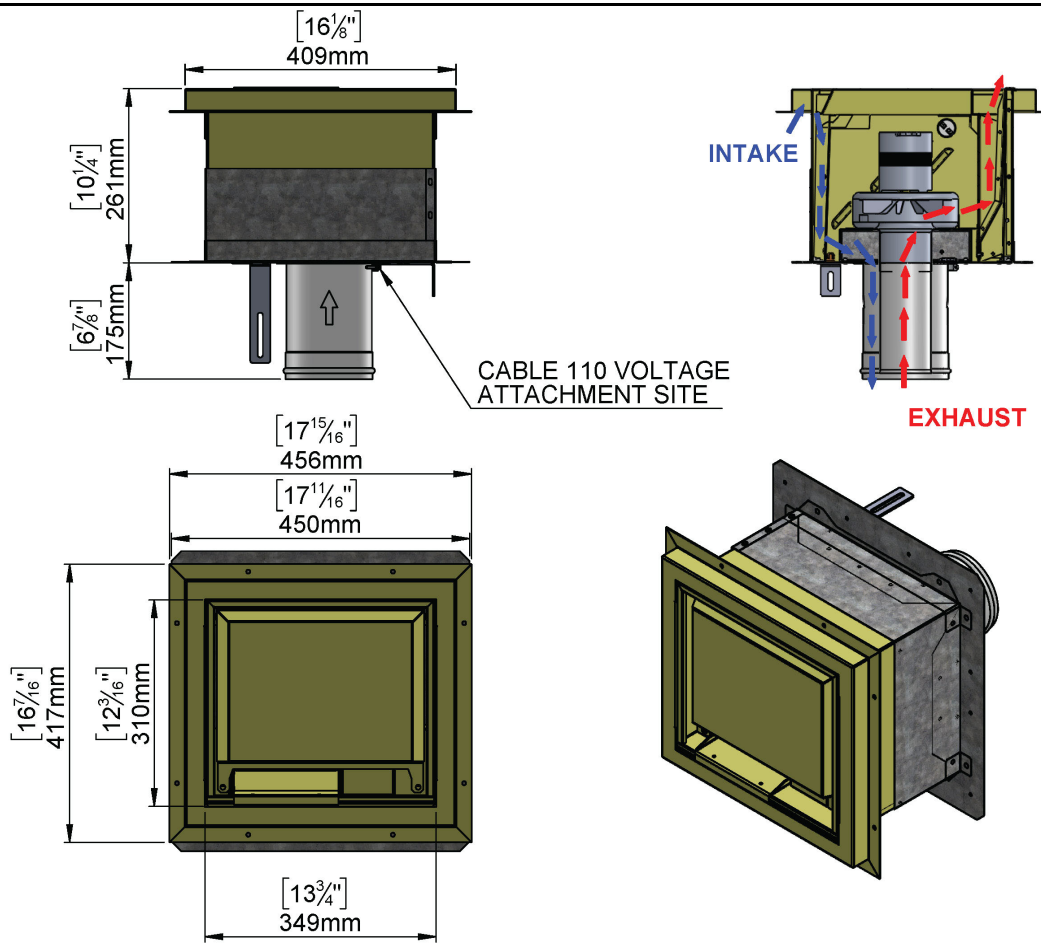
! NOTE: Local codes must be consulted regarding all sealings.

Stucco Walls



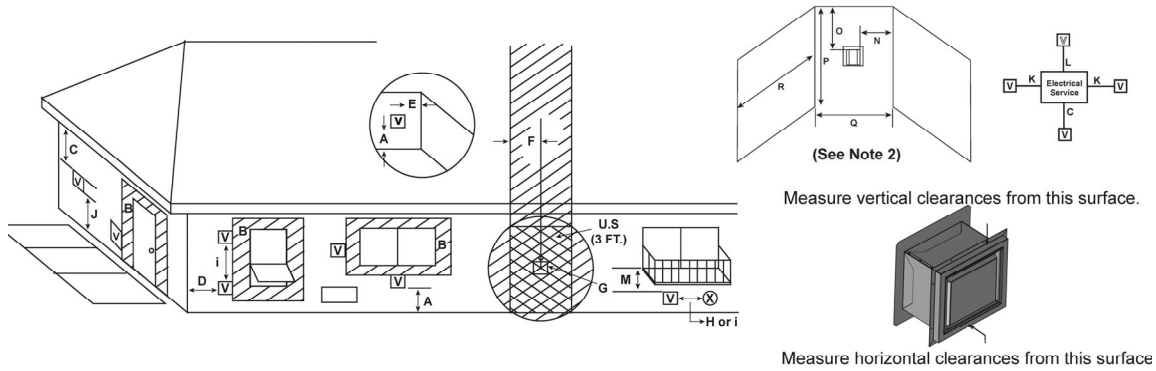
NOTE: Diagrams are intended for illustrative purposes only. All local codes and building requirements must be consulted.

Dimensions



Dimensions for Flush Horizontal Termination Power Vent

Clearances



V = VENT TERMINAL **X** = AIR SUPPLY INLET **▨** = AREA WHERE TERMINAL IS NOT PERMITTED

A	= 12 inches (See Note 1)	clearances above grade, veranda, porch, deck or balcony	J**	= 7 ft. (See Note 1)	clearance above paved sidewalk or a paved driveway located on public property																		
B	= 12 inches	clearances to window or door that may be opened, or to permanently closed window. (Glass)	K	= 6 inches (See Note 5)	clearance from sides of electrical service																		
C	= 24 inches	vertical clearance to ventilated soffit located above the terminal	L	= 12 inches (See Note 5)	clearance above electrical service																		
		12 inches																					
		vertical clearance to unventilated soffit located above the terminal																					
		42 inches																					
		for vinyl clad soffits and below electrical service																					
D	= 9 inches	clearance to outside corner	Covered Alcove Applications																				
E	= 6 inches	clearance to inside corner	M***	= 24 inches	clearance under veranda, porch, deck, balcony or overhang																		
F	= 3 ft. (Canada)	not to be installed above a gas meter/regulator assembly within 3 feet (90 cm) horizontally from the center-line of the regulator			42 inches																		
G	= 3 ft.	clearance to gas service regulator vent outlet			vinyl																		
H	= 9 inches (U.S.A.)		N	= 6 inches	non-vinyl sidewalls																		
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** a vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.

*** only permitted if veranda, porch, deck or balcony is fully open on a minimum of 2 sides beneath the floor, or meets Note 2.

Note 1: On private property where termination is less than 7 feet above a sidewalk, driveway, deck, porch, veranda or balcony, use of a listed cap shield is suggested. (See vents components page)

Note 2: Termination in a covered alcove space (spaces open only on one side and with an overhang) are permitted with the dimensions specified for vinyl or non vinyl siding and soffits. 1. There must be 3 feet minimum between termination caps. 2. All mechanical air intakes within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap. 3. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.

Note 3: Local codes or regulations may require different clearances.

Note 4: Termination caps may be hot. Consider their proximity to doors or other traffic areas.

Note 5: Location of the vent termination must not interfere with access to the electrical service.

In the U.S and Canada: Vent system termination is NOT permitted in screened porches.

Vent system termination is permitted in porch areas with two or more sides open. You must follow all side walls, overhang and ground clearances as stated in the instructions.

⚠ WARNING: A VINYL PROTECTOR KIT IS REQUIRED IF EXTERIOR WALLS ARE FINISHED WITH VINYL SIDING.

! NOTE: Default to local code if greater clearance is required.

Vertical Termination Power Vent (End of Line)

Pre-Installation Considerations

Before you begin installation of the power vent, ensure you have planned for the following:

- Electrical requirements (see “Electrical” section for details)
- Local codes and regulations
- Power vent fan box and venting pipe clearance requirements
- Termination location (location must be accessible for servicing)
- Total venting run length and degree of offset (see all sections under “Venting” for details)

IMPORTANT: Read Before You Begin

Power Vent Riser: The Vertical Termination Power Vent must be installed on the supplied riser or a site-fabricated chase to elevate the power vent from any surface where water or snow can accumulate. Supplied riser may be used in addition to a site-fabricated chase.

The lowest part of the Power Vent must sit minimum 10 ⁹/₁₆” above roof surface. See instructions below for details.

Vent Installation: For vent component installation instructions, refer to [DuraVent's CVS](#) instructions for gas appliances.

Review all clearance and venting requirements, pre-installation considerations for both the venting and the power vent, and local code before beginning installation.

Ensure all materials, system components, and tools necessary are present, and in good condition at the time of installation.

Venting pipe may be installed independently of the fireplace and power vent fan if needed, as site conditions permit.

NOTE: Default to local code if a specific riser height is required.

Installation Instructions

Step 1: Install the Control Box

1. Place control box near min. 10"x10" control box access panel.



WARNING: To avoid operational malfunctions, control box *must* be oriented with “This Side Up” wording facing up and the feet facing down.

Step 2: Install the Power Vent

1. Refer “Application Options from Step 2” section and install the power vent according to desired application.
2. Install venting components leading from the fireplace up to the location of the power vent.
3. Attach venting pipe to exhaust inlet on the power vent.

Step 3: Connect the Power Vent to the Control Box

1. Insert the pig-tailed end of the 62-foot power cable (supplied) to the power vent **control box** through the cable clamp.
2. Open the power vent service door and connect the cable’s pig-tailed end to the pig tail located in the **power vent**. Make sure all connections are tight and secure.
3. Plug the control box into the outlet inside the access panel area as per the Ortal fireplace installation instructions. See “Electrical” section for details.

NOTES:

- Electrical connections should be completed by a certified electrician, and in accordance with local building codes.
- A protective layer of grease is used in the manufacturing process of the venting. The heat burns away this grease and can cause some smoking and smell during the initial running, which should dissipate within the first few hours of use.

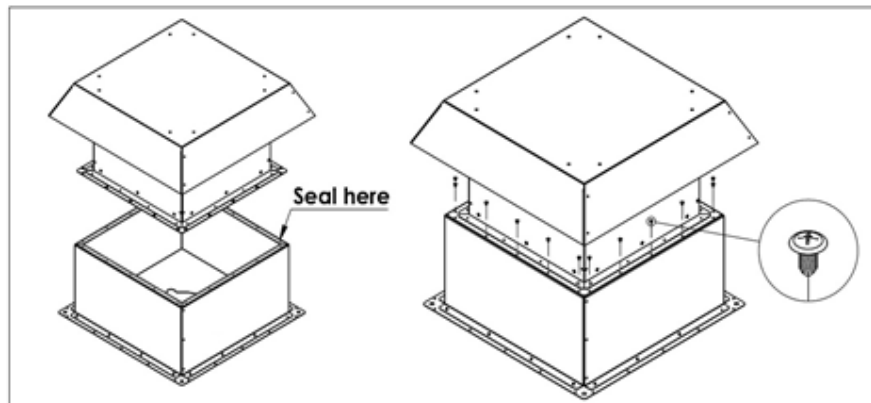
WARNING: This smoke could set off a fire alarm. Anyone with an integrated smoke alarm system needs to be aware.

Application Options from Step 2

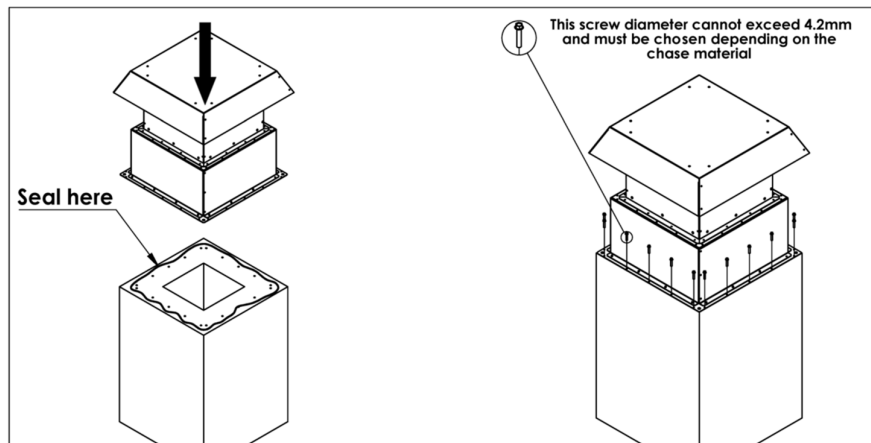
Install Power Vent Fan with Supplied Riser

! NOTE: Seal and flash all joints according to local codes.

1. Add a water-proof sealing material (not supplied) to attachment area. Attach the supplied riser to the bottom of the power vent base at minimum three attachment points along each edge of the base.



2. Add a water-proof sealing material (not supplied) to desired attachment area. Set riser/power vent unit on attachment area.
3. Secure riser to the attachment area at minimum three points along each edge of the riser.

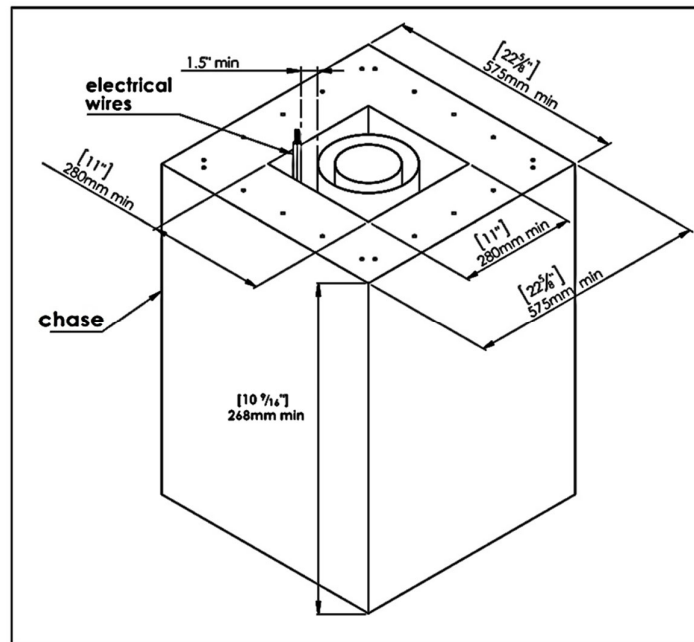


4. Add additional weather-proof sealant at the base of the riser to prevent moisture.

Install Power Vent Fan with Site-Fabricated Chase

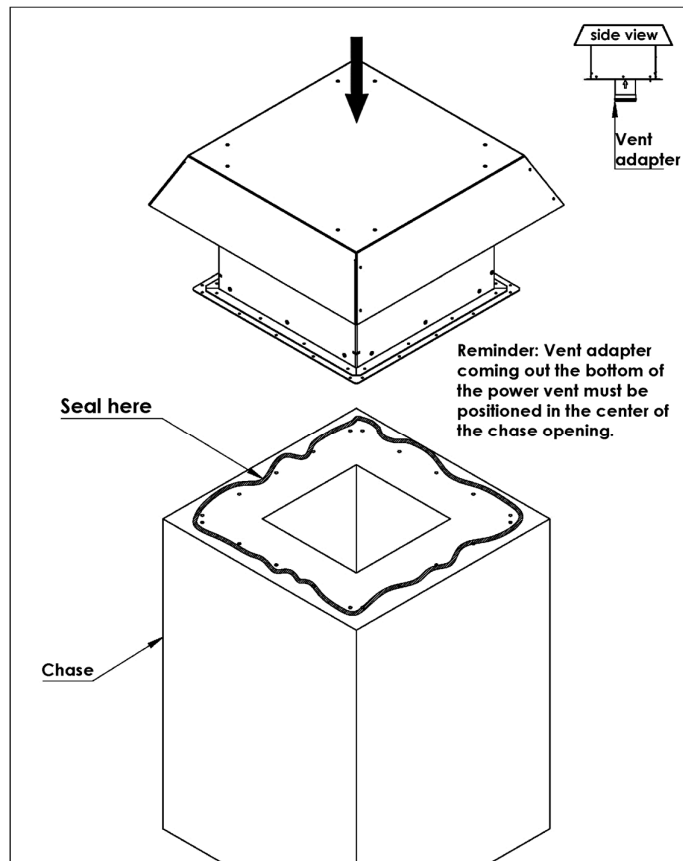
NOTE: Seal and flash all joints according to local codes.

- Construct the chase according to the following specifications (see figure below):
 - Chase opening must be $22 \frac{5}{8}$ " x $22 \frac{5}{8}$ " outer and 11" x 11" inner.
 - Minimum chase height is $10 \frac{9}{16}$ ".
 - Maintain $1 \frac{1}{2}$ " clearance from electrical wiring and vent pipe to ensure wiring does not come into contact with pipe.



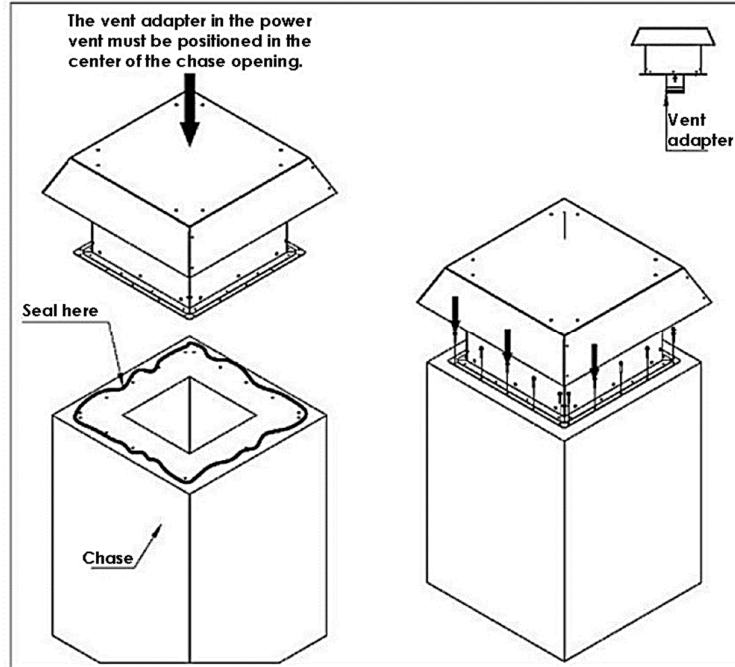
Custom Chase Dimensions for Vertical Power Vent

- Add a water-proof sealing material (not supplied) at intended attachment area on the top of the chase. Set power vent on intended attachment area.



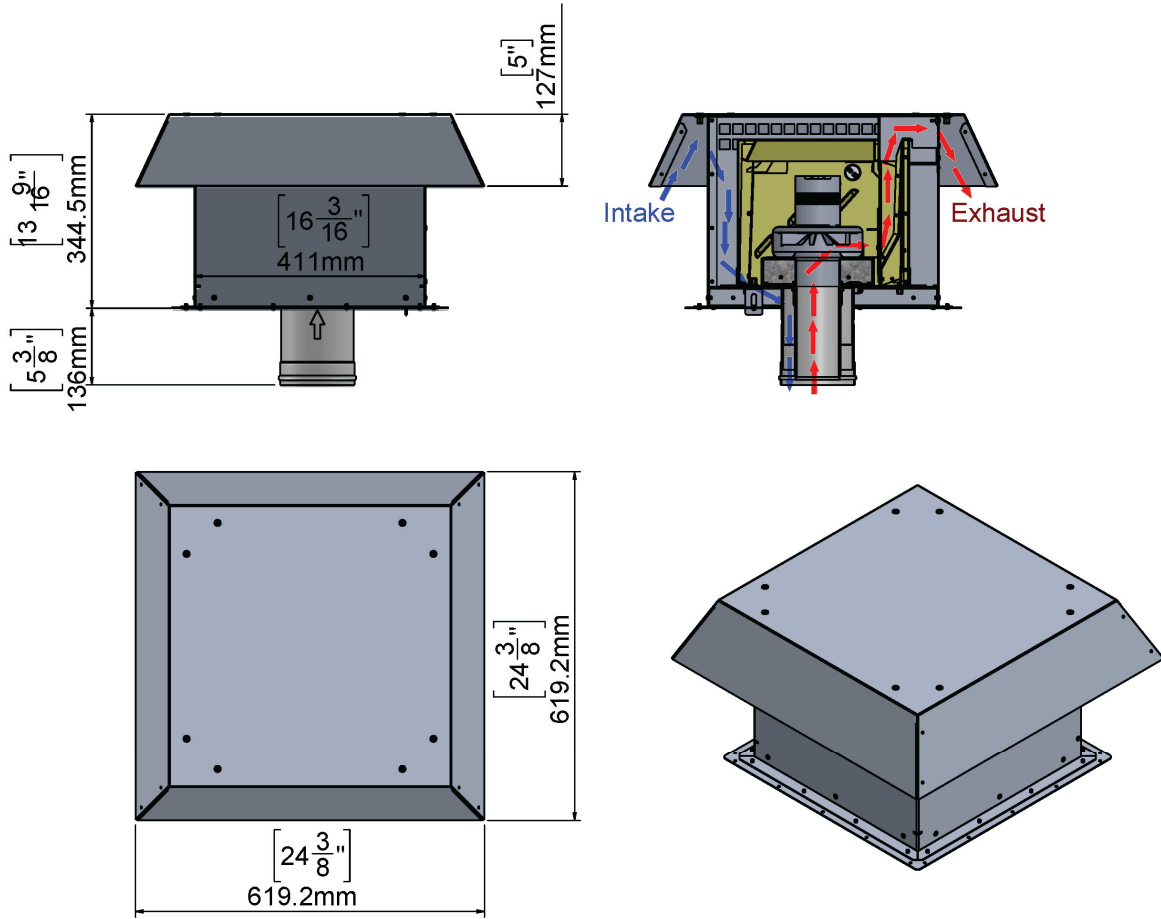
! NOTE: Power vent fan unit and riser should not be used as a chase cover. Chase cover (not supplied) is required.

3. Attach power vent to the top of the chase at three points along each edge of the power vent base.

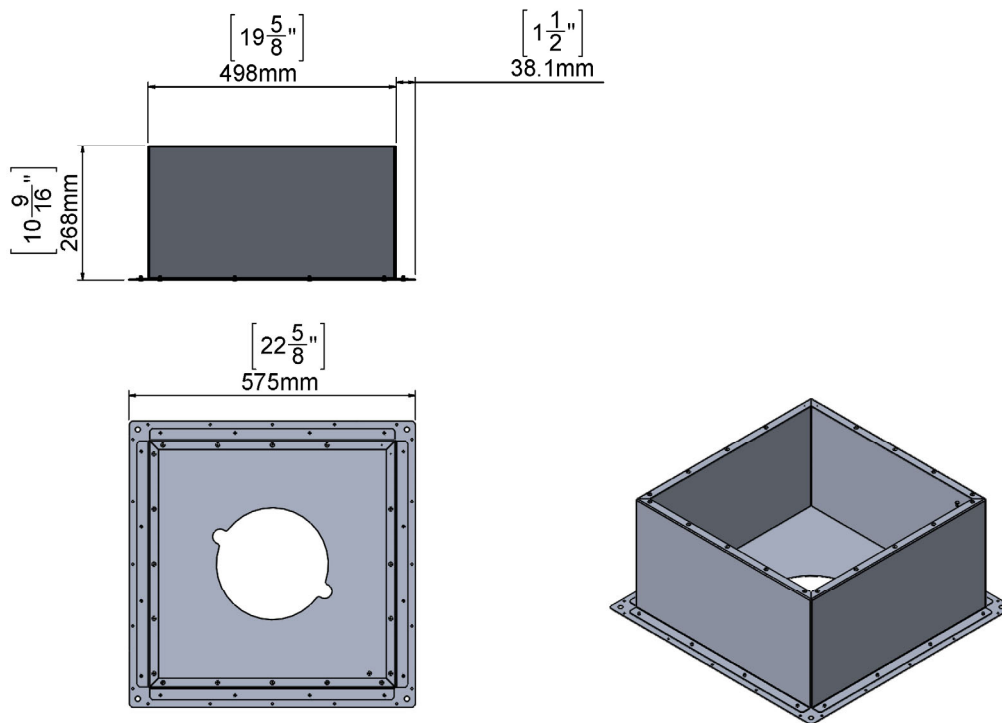


4. Add additional weather-proof sealant between the base of the power vent and the chase to prevent moisture.
5. Flash according to local codes.

Dimensions



Dimensions for Vertical Termination Power Vent

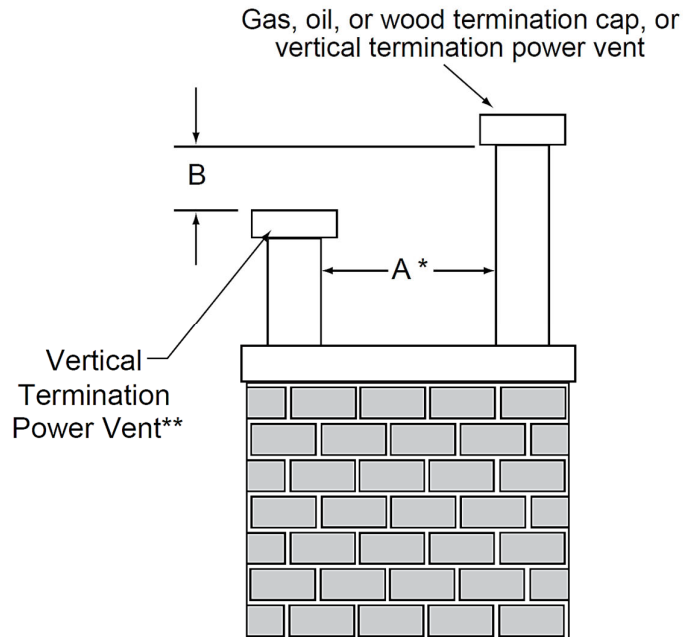


Dimensions for Vertical Termination Power Vent Riser

Clearances

Maintain clearances as outlined in detail below.

A - when exhaust is facing away from an intake side	A - when exhaust is toward an intake side	B
12" min up to 24"	12" min up to 24"	18" min
24" min or greater	36" or greater	0" min



*If using decorative chimney shroud, this distance may need to be increased. Refer to chimney shroud installation instructions.

**In a staggered installation with wood or fuel oil terminations, the wood or fuel oil termination cap must be higher than the vertical termination power vent.

! NOTES:

- Maintain a minimum of 2 feet clearance between edge of vertical termination and perpendicular wall.
- If terminating near a window, keep minimum of 2 feet clearance between window and vent termination.
- All mechanical air intakes (such as an Enervex power vent) within 10 feet of a termination cap must be a minimum of 1 foot below the termination cap.
- All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.
- Default to local code if greater clearance is required.

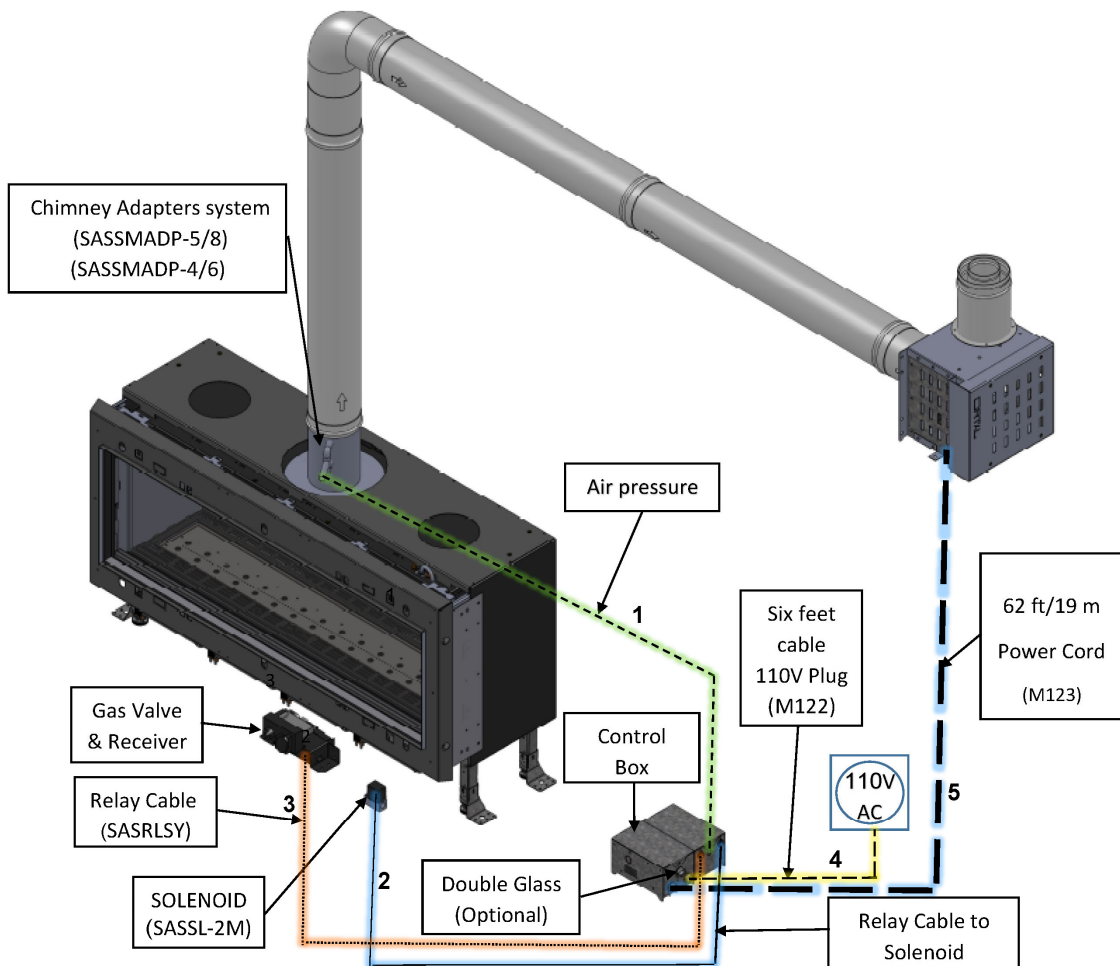
Electrical

Power is supplied to the power vent fan from the power vent control box via the supplied 62-foot Power Cable. One duplex receptacle with 2 outlets (not provided) must be installed near access panel location. The power vent power cable and the fireplace AC Adapter will be plugged into this receptacle.

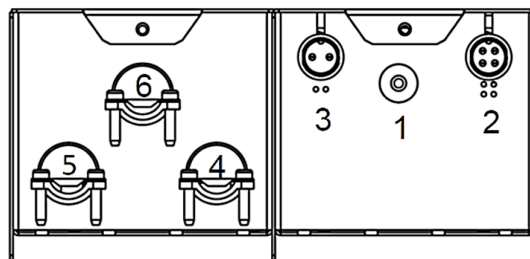
NOTE: The Power Vent System requires a continuous power supply and will not operate on battery power or during power failure.

Electrical Outlet Requirements			
Duplex Receptacle with 2 outlets	120V	15 amp	Located near the access panel location (or according to local code)

→ Wiring Diagrams

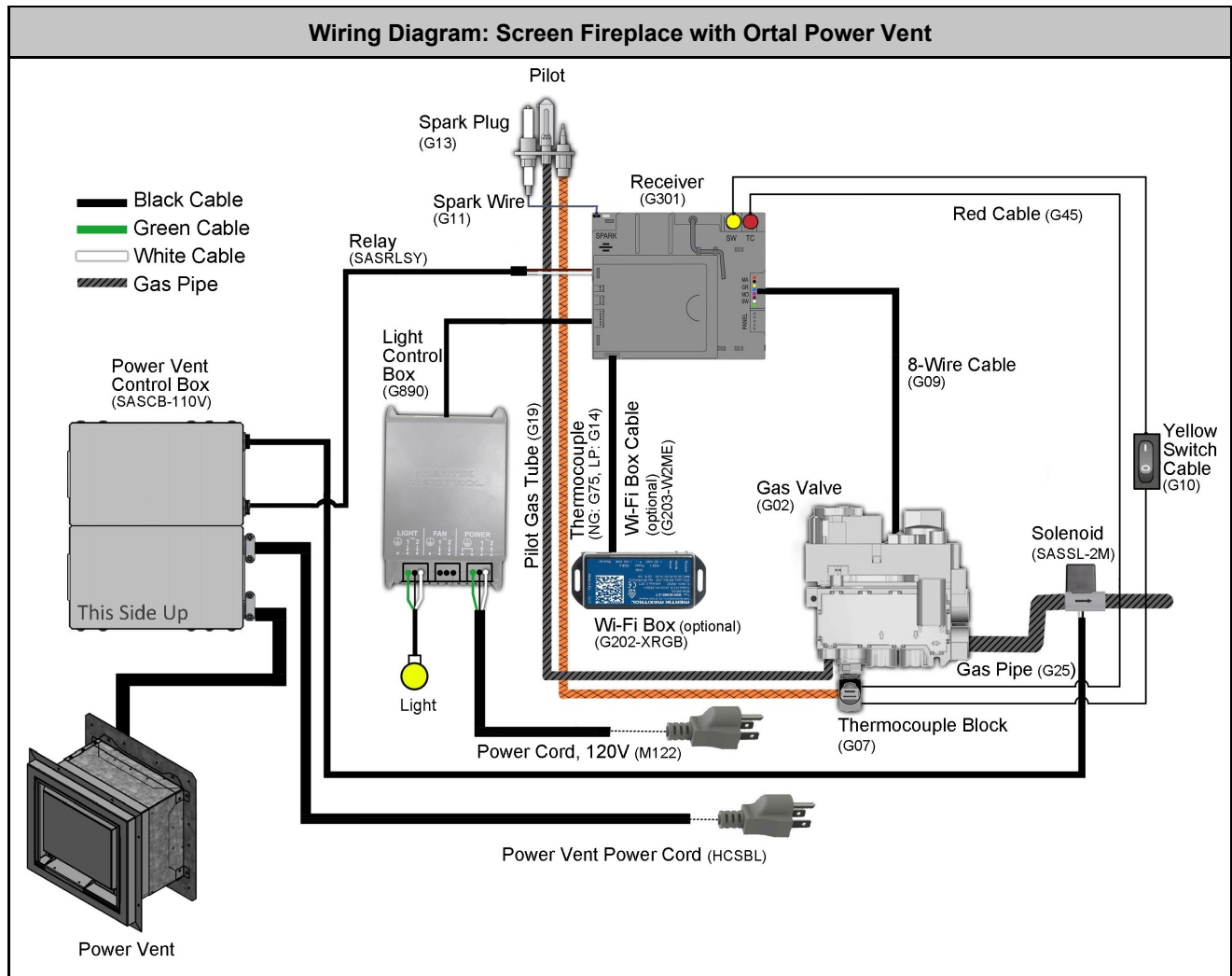


Wiring Overview for Power Vent

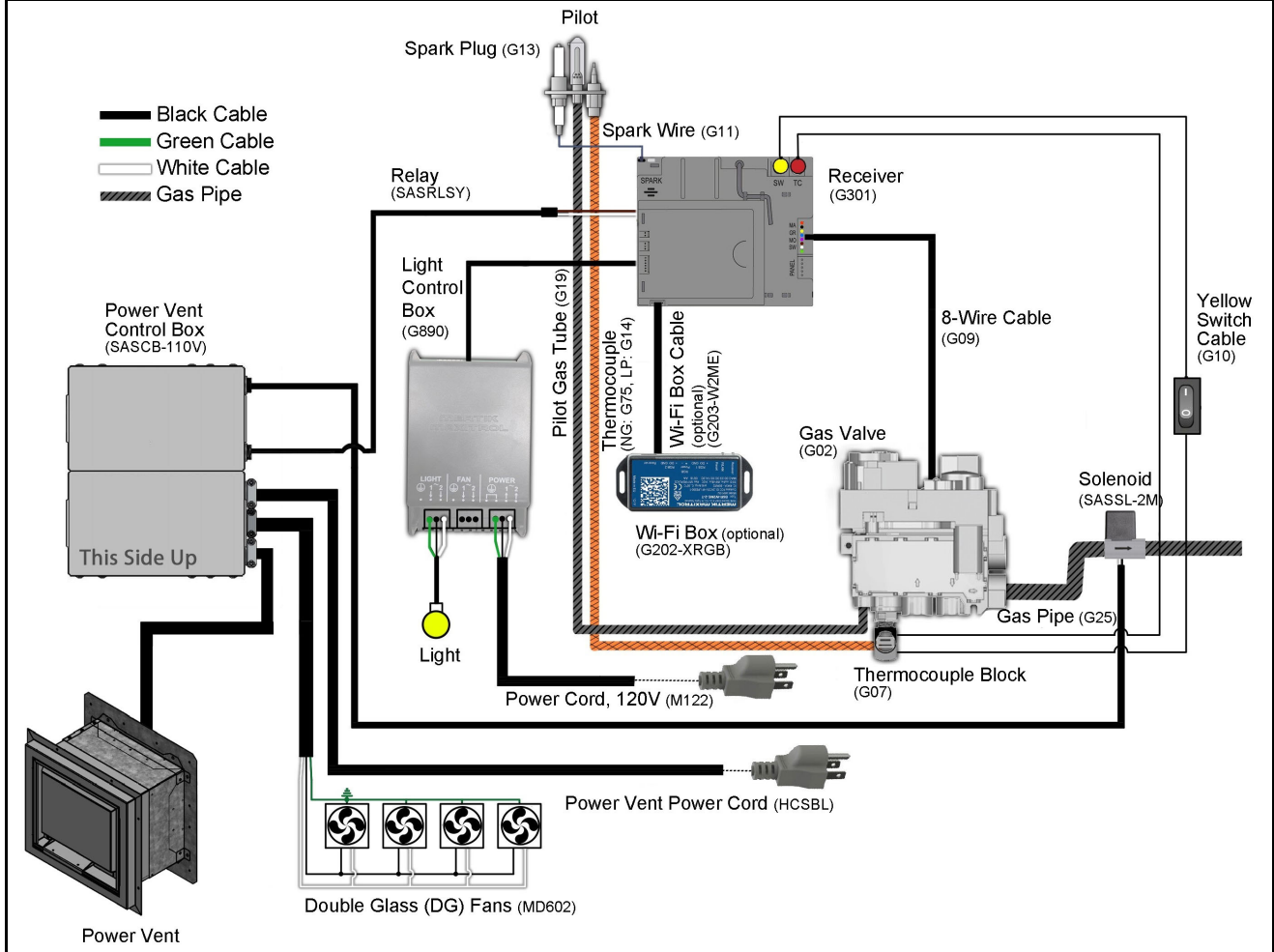


(*Connector 6 will be used only for Double Glass and/or Heat Control System)
Connection Ports for Power Vent Control Box

The following diagrams show the electrical wiring required for different feature combinations.



Wiring Diagram: Double Glass Fireplace with Ortal Power Vent



Operation


An Ortal fireplace equipped with a Power Vent System is operated in the same manner as a standard Ortal fireplace, including remote controlled on/off and flame control. See the Remote Control Operation Manual or Homeowner's Operation Manual for more information.

Light Indication

- When the power vent is connected to electricity, a red LED light displays in the power vent and control box.
- A red LED light indicates that electricity is supplied to the power vent system.
- A white LED light displays in the control box when the system has been given a command to turn on, it could be from the remote, wall switch or home system.
- Once given the command to operate, the power vent motor turns on and pressurizes the system. Once the pressure threshold is passed, the green LED will illuminate.
- Gas Solenoid:
 - When the pressure threshold is passed, an electric signal is sent to the solenoid to open and allow gas to the main burner. The blue LED will come on momentary.
 - When the gas solenoid closes, a yellow LED light momentarily displays in the control box.

Light Indication Chart		
Color	Action	Location
Red	Electricity is sent to the power vent.	Control Box
White	PV system is given command to turn on.	
Green	Air pressure threshold is passed.	
Blue	Solenoid open, gas is released (burner on, pilot on).	
Yellow	Solenoid closed, gas flow is stopped (burner off, pilot on).	

 **NOTE:** When initially turning on the fireplace, the pilot switches on and *only* then does the rest of the burner ignite.

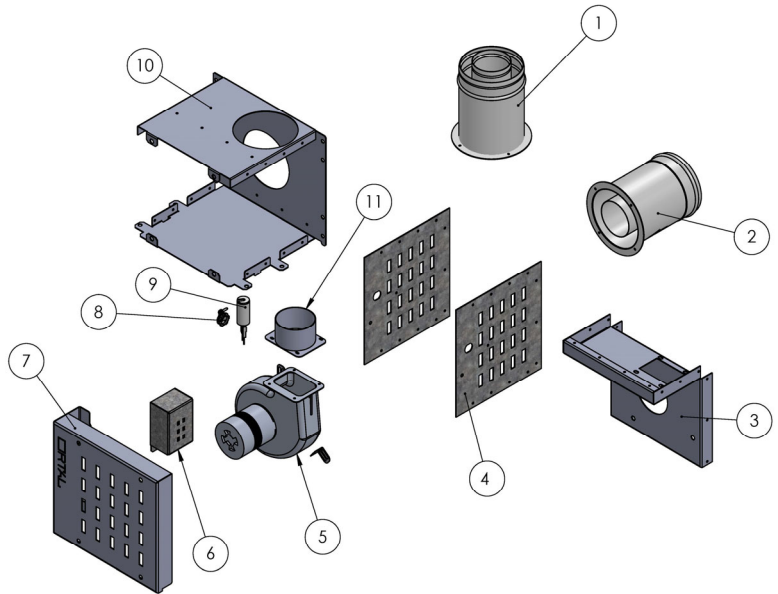
 **NOTE:** Use the G6R-H3TV14(FB) remote control and receiver included with the fireplace kit. For Symax Models use B6R-H9TV4PB.

 **Important:** Before turning on the fireplace for the first time, ensure that the vent system and fireplace have been installed according to instructions.

Components

Inline-90 Power Vent Components

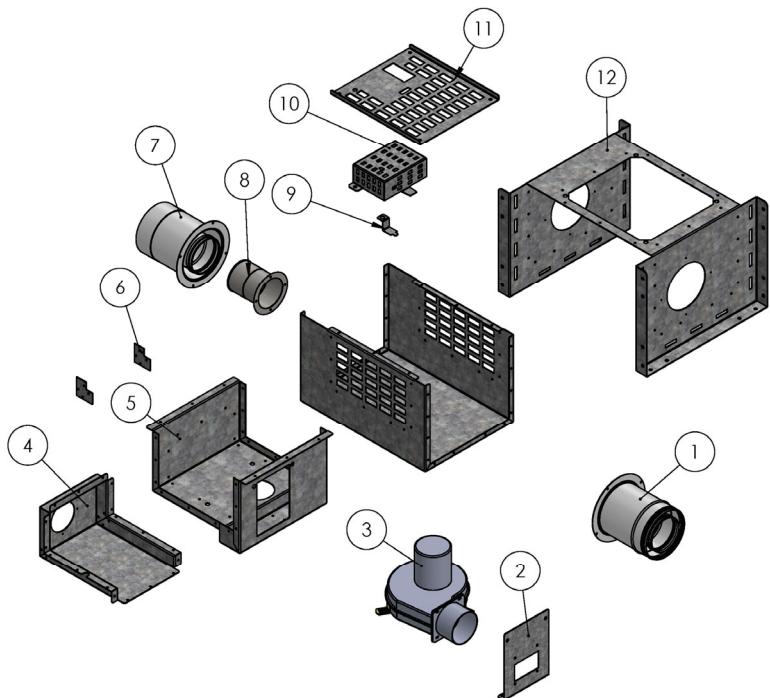
Item	Description
1	3"-5" Adapter for Fan Exhaust System, Output
2	3"-5" Adapter for Fan Exhaust System, Input
3	Exhaust/Fresh Air Divider
4	Power Vent Outer Box Side Pieces
5	Exhaust Blower 120V
6	Electrical Box
7	Inline-90 PV Service Door
8	Cable Clamp
9	Capacitor
10	PV Outer Box Section
11	Exhaust Blower Starter Collar



Inline-90 Power Vent Fan Box Components

Inline-180 Power Vent Components

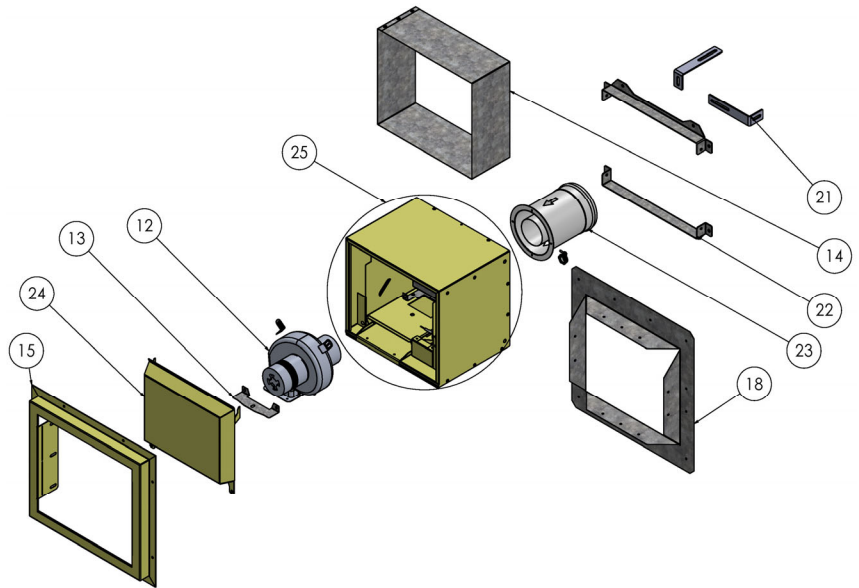
Item	Description
1	3"-5" Adapter for Fan Exhaust System, Output
3	Blower
6	High Voltage Box
7	3"-5" Adapter for Fan Exhaust System, Input
8	3" Adapter for Fan Exhaust System, Female Adapter
9	Connector Piece
10	High Voltage Box
11	Service Door
2+4+5+12	Fan Box



Inline-180 Power Vent Fan Box Components

Flush Horizontal Termination Power Vent Components

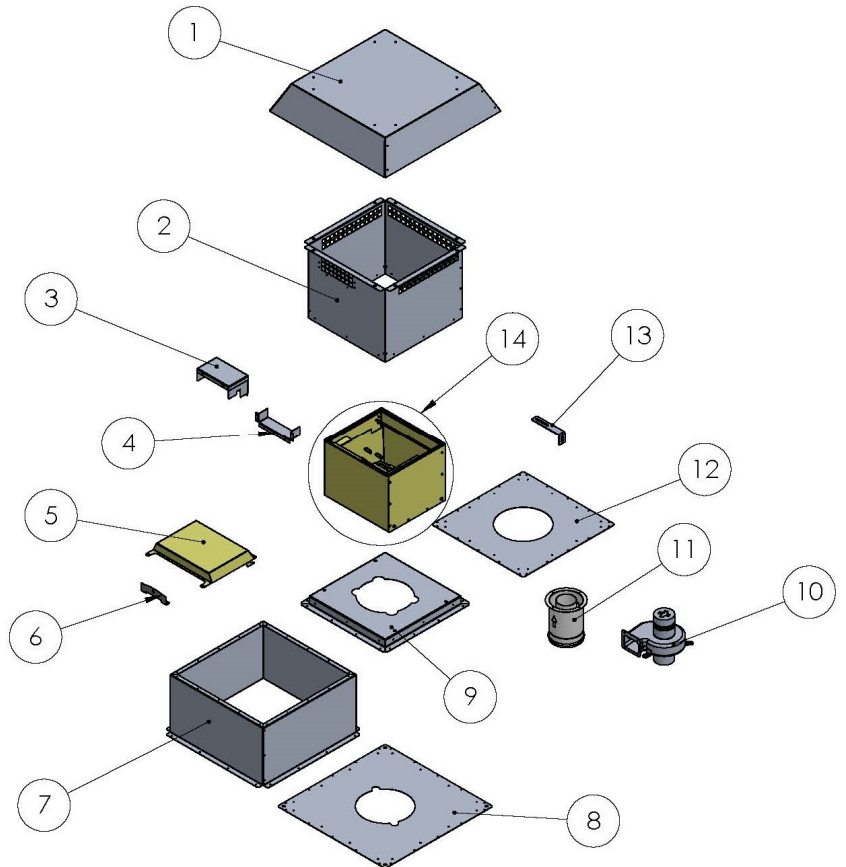
Item	Description
12	Exhaust Blower 120V
13	Coordinator 6
14	Sleeve
15	Outer Flange
18	PV Draft Stop
21	Angle Bracket
22	PV Hanging Bracket
23	3"-5" Adapter for Fan Exhaust System, Input
24	Horizontal PV Service Door
25	Assembly Box for Fan Exhaust



Flush Horizontal Termination Power Vent Fan Box Components

Vertical Termination Power Vent Components

Item	Description
1	Fan Box Top
2	Outer Shell
3	Exhaust Port
4	Lower Exhaust Cover
5	Vertical PV Service Door
6	Coordinator 6
7	Riser
8	Base Plate
9	Blower Base
10	Exhaust Blower 120V
11	3"-5" Adapter for Fan Exhaust System, Input
12	Protective Cover
13	Angle Bracket
14	Assembly Box for Fan Exhaust

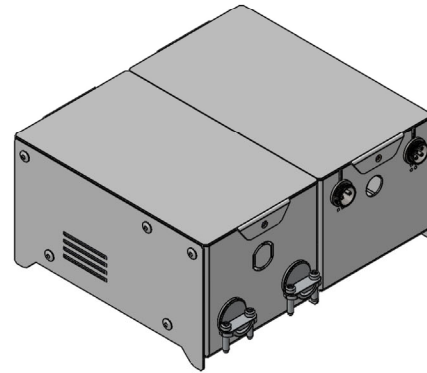
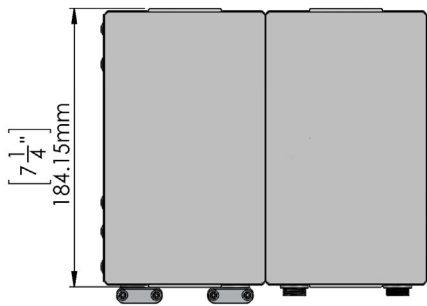
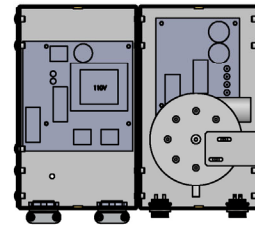
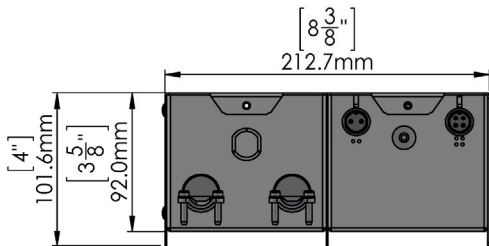


Vertical Termination Power Vent Fan Box Components

Power Vent Blower Technical Data

Power Vent Blower Data	
Item	Value
Voltage	120V
Frequency	60Hz
Current	0.3 amps
Power Consumption	35W
Maximum Airflow	150 m3/h
Maximum Noise	46.5 dB(A)
Insulation Class	F
Thermal Protection	Self-restoring T.P.
Housing Material	Aluminized steel
Impeller Material	Inox AISI430


Control Box



Dimensions for Power Vent Control Box

Troubleshooting

Use the troubleshooting guide below at the first sign of any problem with the power vent system. If the provided solution is ineffective, contact Ortal for support.

 **WARNING:** The fireplace and power vent must be turned off at the first sign of any problem. Do NOT manipulate the system while the fireplace and the power vent are turned on.

 **NOTE:** Pilot issues are not related to the Ortal Power Vent system. Please consult fireplace installation manual.



Problem: The power vent is excessively noisy.

✓ **Solution:** The blower is too tightly fastened to the box. Loosen the bolts. There is an issue with the blower fan. Inspect for defects, foreign objects, or obstructions.



Problem: High or “ghostly” flames.

✓ **Solution:** Confirm restrictor size. Adjust or change the restrictor. Refer to the restrictor table for correct calibrations. Check the connection to the exhaust pipe and confirm that it is sealed correctly. If the situation is not resolved, contact Ortal support. A restrictor other than what is indicated in the table may be advised.



Problem: The pilot is on, but the burner and power vent are not operating properly.

✓ **Solution:** The pressure switch does not recognize pressure in the vent and causes the gas solenoid to be closed. Consider the following:

- Refer to the LED table. If a light that should be on does not display, failure is indicated.
- Confirm that the control box is in a level position with the directional arrow up.
- Make sure the pressure switch is correctly installed and connected to the pressure switch tube.
- Confirm that all terminations in the control box are properly connected.
- Look for obstruction.
- If accessible, check exhaust pipe connection.
- Check the gas tube between the GV60 valve and the burner port.
- The inlet pressure is too low, too high, or not in the required range. Check with gas provider.



Problem: The power vent fan is not starting even though the red and white LED light indicators are on (signaling live current in the system).

✓ **Solution:** The system may be experiencing a power shortage. The LED light indicators only require 80V to turn on, but the power vent fan needs minimum 110V to start. This can occur if you have a faulty power cord, faulty outlet, or any kind of electric interference on the way to the PV safety box. Double check the voltage level using a Multimeter at each location between the power source and power vent fan to determine if there is a power shortage and where it is located. Replace faulty part if necessary.



Problem: The power vent fan is on, the LED light indicators are on, and the pilot is function, but the burner does not operate.

✓ **Solution:** Consider the following:

- A possible gas solenoid failure. The gas solenoid is not open.
- A wire (see termination #2) from control to gas solenoid is not connected.
- There is no proven draft.

Double check the solenoid and wiring. Make sure the pressure switch is properly oriented and connected to the pressure switch tube.



Problem: The burner turns off on its own (without use of remote control).

✓ **Solution:** Confirm that the remote control is a T16 or TV-14 model. A standard Ortal (Mertik) remote control may activate the system, but it does not allow it to remain in operation. Confirm that the pilot gasket is sealed, and the glass is on and sealed.



Problem: The burner turns on and off.

✓ **Solution:** Make sure the pressure switch is properly oriented and connected to the pressure switch tube.

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