Centrotherm

INSTALLATION INSTRUCTIONS

InnoFlue Lite CE

- Examine all components for possible shipping damage prior to installation.
- **Do not mix products or instructions from multiple manufacturers.**
- Different manufacturers utilize different methods for joining vent sections. Proper joint assembly is essential for a safe installation. Follow these instructions exactly as written. Check integrity of joints upon completion of assembly.
- InnoFlue® Lite must be free to expand and contract and must be supported in accordance with these instructions.
- InnoFlue® Lite can be used in conjunction with standard InnoFlue® Polypropylene.

Centrotherm

InnoFlue Lite CE

Introduction

InnoFlue® Lite is manufactured from polypropylene. It has been evaluated to **CE EN 14471** for use with Category II and IV (US) and Gas-Vent-BH, Class II C (Canada) Residential, Commercial, and Industrial gas fired appliances. InnoFlue® Lite **CE EN 14471** rated for use with maximum flue gas temperatures of 230°F (110°C). InnoFlue® Lite is rated to a maximum vent pressure of .725 psi (5000 Pa) or 20" of water column.

As part of regular equipment maintenance, check for vent system integrity and blockage.

All installations must conform to all relevant Local, State and National codes. In the US: National Fuel Gas Code ANSI-Z223.1, NFPA 54, NFPA 211. In Canada: CAN/CGA-B149.1 or CAN/CGA-B149.2. Permits may be required before an installation can begin. Before installation, each vent component must be inspected for possible shipping damage and correct seal placement. These installation instructions must be read, understood, and complied with.

These installation instructions comply with **CE EN 14471** . Refer to the appliance manufacturer's installation instructions for appliance adaptors, terminations, maximum allowable vent length, and elbow equivalent lengths. For **CE EN 14471** approved InnoFlue® Lite components, consult the InnoFlue® Lite catalog at www.centrotherm.us.com. InnoFlue® Lite vent components must be used throughout the entire vent system. Do not mix with other vent manufacturer's products.

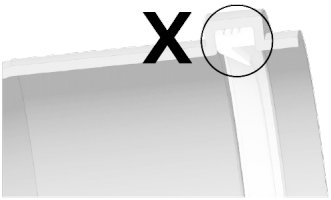
General Installation Guidelines

Property damage, personal injury, or death can result if these instructions are not followed. They are a guide for professional installers generally familiar with the installation and maintenance of heating equipment and related vent systems.

- Masonry chimneys or existing B-vents can be used as passageways for InnoFlue® Lite, provided that no other appliances are or will be connected.
- Do not install InnoFlue® Lite in a multiple flue chimney if one of the flues serves as an exhaust passage for a gas fire place or solid fuel burning.
- Appliances can be fired up immediately after an InnoFlue® Lite vent system is installed and inspected.
- Free standing components (i.e. above the roof) may not exceed a maximum vertical height of 59" (1.5m) without additional support.
- Unless approved by the appliance manufacturer, only one appliance may be connected to a vent system.
- A Condensate Drain must be installed in the vent system as close to the flue outlet as possible unless the appliance is designed to manage condensate. Recommended to use additional drains on horizontal runs over 50'.
- All penetrations of fire rated walls/ceilings shall be sealed using fire stops that are approved for such use and must be installed according to the passive fire stop manufacturer's installation instructions.
- InnoFlue® Lite SW Rigid systems expand and contract slightly during heating cycles and must be installed following these instructions.
- InnoFlue® Lite can be painted. Use a paint that is recommended for use with polypropylene, such as Rust-Oleum or Krylon. Before painting, remove any ink markings on vent with acetone (or equivalent) and then apply an adhesion promoter that is specifically recommended for use with polypropylene. Reattach label to InnoFlue® vent after paint has dried.
- Use of Centrotherm supplied supports is strongly recommended. In instances where Centrotherm supports are not suitable, field supplied supports that are of clam shell design and have a minimum threaded rod diameter of 5/16" (8mm) are permissible.
- All diameters of InnoFlue® Lite SW Rigid product are UV stabilized and can be installed outside of a building. In diameters 2" & 3" black components are available for enhanced performance but are not required.
- Do not use spray foam or mortar on InnoFlue® Lite SW Rigid
- For exterior components only, a single stainless-steel screw may be used to fix direction of vent.
- Rain Caps are not required (refer to local codes).
- Due to insulating properties of InnoFlue® Lite polypropylene material, additional insulation is not required. For outdoor installations in extreme cold weather environments mineral wool and aluminum cladding can be used.
- InnoFlue® Lite cannot be directly buried in the ground. If application requires underground installation, InnoFlue® Lite must be sleeved with a larger diameter pipe that is suitable for direct bury applications. InnoFlue® Lite must be supported, pitched, and able to expand/contract within the sleeve.

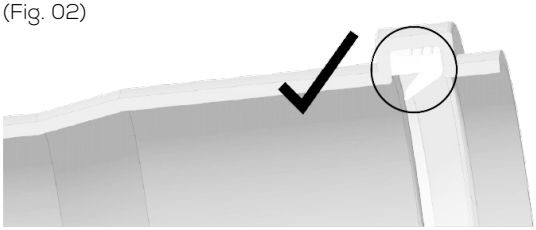
Gasket Placement (Fig. 01 & 02)

- Gaskets are factory installed in all InnoFlue® Lite components.
- If a gasket is missing or damaged, it must be replaced by a correctly sized, Centrotherm supplied gasket.
- Make sure gasket bead and gasket itself are clean, then insert the new gasket in correct orientation as shown.
- Gasket must fit evenly within the gasket bead.



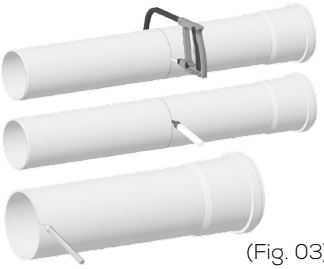
(Fig. 01)

(Fig. 02)



InnoFlue® Lite SW Rigid (Fig. 03)

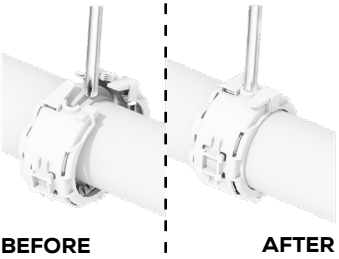
- Use trade tools such as a hack saw to create a perpendicular, clean cut.
- Deburr cut end so that damage to the gasket is avoided. Use Reed Manufacturing DEB4 or equivalent.
- Remove debris from inside the pipe prior to assembly.
- Chamfering vent is optional but will ease installation.

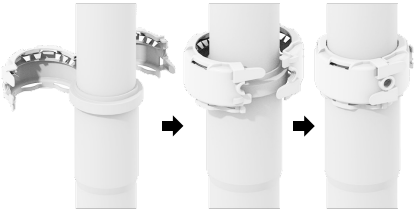


(Fig. 03)

Joint Connections (Fig. 04)

- InnoFlue® Lite components are factory labeled by displaying a flow arrow. This arrow represents exhaust flow and must point towards the termination (away from the appliance). **Exception: when using InnoFlue® Lite for air intake the flow arrow direction is not applicable.**
- Each female socket of every InnoFlue® Lite vent length or component features a factory installed gasket. Before assembly, make sure gaskets are in place correctly **(see Gasket Placement above).**
- For Horizontal sections measure the depth of the female socket. Mark the male end of each component 1/4" less than the depth of the female socket from its end.
- Place a thin layer of Centrocerin, a water-based lubricant, onto the male end for ease of assembly. Note: water can be used as a lubricant.



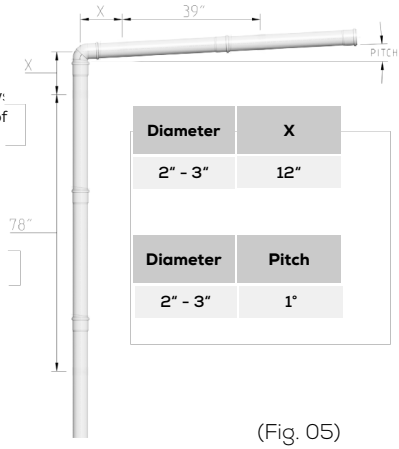


(Fig. 04)

Note: For a proper warrantable installation, every connection joint needs to be secured by an **Octo Clamp** on the exhaust vent run. On the intake side, an **Octo Clamp** is optional on every joint and should be used as needed to properly support the vent run.

Vent Support - Horizontal (Fig. 05)

- Use only InnoFlue® Lite SW Rigid vent lengths for horizontal vent configurations.
- Install Octo Clamp onto solid ceiling joists or surfaces.
- Space Octo Clamp no more than 39" (1m) apart.
- Use additional Octo Clamps at directional changes such as Elbows or Tee sections as needed. Recommended to support within 12". of direction change depending on vent length diameter.



Diameter	X
2" - 3"	12"

Diameter	Pitch
2" - 3"	1°

(Fig. 05)

Vent Support - Vertical (Fig. 05)

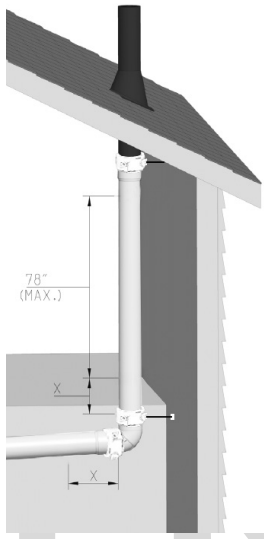
- Use only InnoFlue® Lite SW Rigid vent lengths for vertical, wall mounted vent configurations.
- Install Connector Clamp onto solid wall studs or surfaces.
- Space Connector Clamp no more than 78" (2m) apart.
- Use additional Connector Clamps at directional changes such as Elbows or Tee sections as needed. Recommended to support within 12". of direction change depending on vent length diameter.

Vent Pitch (Fig. 05)

- Male sockets of all components must point and pitch back towards the appliance to assure free condensate flow to the Condensate Drain of the appliance or vent system.
- Vent Lengths installed in a horizontal configuration of diameters 2" & 3" must be pitched towards the appliance and at an angle of no less than 1° or 1/4 in/ft (2.1 cm/m).

Vertical Installations (Fig. 06)
(SW Rigid / Through Roof)

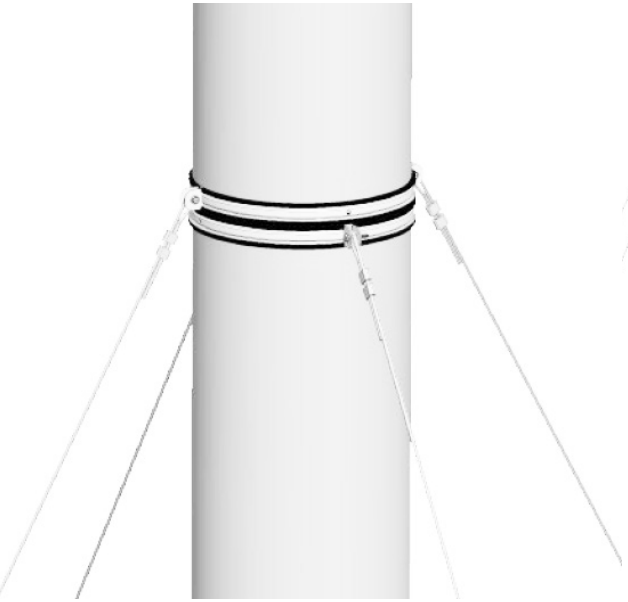
- Install the appliance adaptor as approved by the appliance manufacturer.
- Add vent lengths, elbows and condensate drain(s) as needed to reach the final vertical vent run.
- If horizontal run is more than 39" (1m), install Connector Clamps onto solid ceiling joists or surfaces.
- Pitch horizontal portion of the vent system **(see Vent Pitch).**
- Install a Support Bracket at any directional change **(see Vent Support - Horizontal Vertical).**
- On vertical runs, install Connector Clamps no more than 78" (2m) apart.
- Install Connector Clamps onto solid wall studs or surfaces.
- Opening in roof deck should be cut slightly larger than the vent diameter.
- Terminate standard vent pipe so that the top female socket remains below the roof flashing.
- Insert End Pipe into the top of the standard vent pipe.
- Slip an approved Roof Boot (such as Oatey) or custom flashing over the End Pipe.
- Follow the instructions of the Flashing manufacturer to correctly seal the roof penetration.
- Insert a Bird Screen into End Pipe (per local code).
- Vertical termination greater than 59" (1.5m) beyond the roof line must be supported by braces or guy wires.

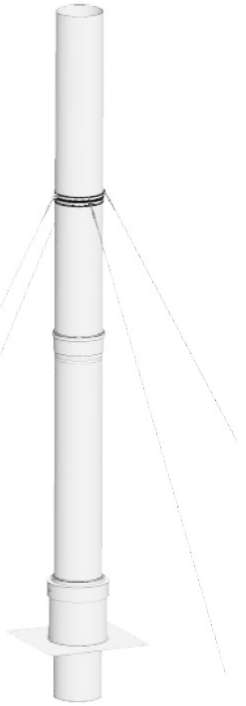


(Fig. 06)

SW Rigid Guy Wire Guidance (Fig. 07)

- Use of field-sourced guy wire and clamps can be used in conjunction with InnoFlue® Lite for required vertical support.
- Refer to local code for support distances when required.





(Fig. 07)

Vertical Installations (Fig. 08)
SW Rigid / Masonry Chimney or Chase)

- Pull assembled rigid sections **(see Joint Connections)** up to the top (lowering from the top is an option).
- It is recommended to use guy wire or cable when lowering long runs of rigid down a chimney or chase.
- Slip a Connector Clamp over the bottom of the vent pipe **(see Joint Connections)**.
- Seat male end of the rigid vent pipe into the Base Support **(see Joint Connections)**.
- Insert Stem of base support into base support bracket.
- Install lock washer onto stem. From the Base Support, make the connection to the appliance with rigid components, **(see Horizontal Installation instructions)**.
- Use a Wall Plate to seal masonry around vent pipe.
- Do not use spray foam or mortar on Innoflue® Lite SW Rigid.

(Fig. 08)

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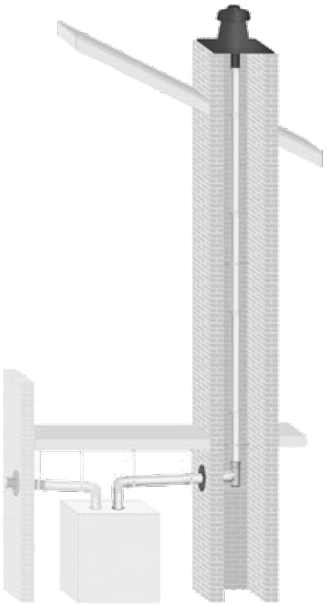
Vertical Installations (Cont.) (Fig. 09)
SW Rigid / Masonry Chimney or Chase)

- When using a masonry chimney as a passageway for InnoFlue® Lite SW Rigid, the chase must be structurally sound and free of any debris or obstructions.
- If only supported with a Base Support at the bottom, the maximum continuous vertical vent length for a rigid InnoFlue® Lite vent system cannot exceed 164' (50m).
- Multiple InnoFlue® Lite vent or air intake systems can be installed into one chase.
- Affix Spacers onto each vent or air intake (offset them), then pull or lower them individually or bundle into the chase.
- Both InnoFlue® Lite SW Rigid expand slightly during normal operation. Rigid pipe can expand upwards through the Chimney Cover.
- Install a Base Support bracket just below the entry point into the chase.
- Measuring from the Base Support, attach Spacers at intervals of 78" (2m) or less to the rigid or flex pipe.

Notes:
Spacers serve to keep InnoFlue® Lite SW Rigid or Flex away from rough surfaces to avoid damage to the pipe during installation or normal operation. They do not have a support function. Attach Spacers to the pipe, even if the chase is larger than the reach of the Spacers.

Notes:
InnoFlue® Lite SW Rigid can divert from vertical in large chases.



(Fig. 09)

Vertical Termination (SW Rigid / Masonry Chimney)

Terminate standard vent pipe so that the top female socket remains below the top of the Chimney Cover.

- Insert End Pipe into the top of the standard vent pipe.
- Slip the Chimney Cover over the End Pipe.
- Anchor the Chimney Cover to the masonry with screws (provided) and silicone. Pre-drill masonry with 3/16" ø (5mm ø) size bit.
- Insert a Bird Screen into the End Pipe (per local code).

Horizontal SW (Through the Wall Installation)

- Total equivalent vent length may not be greater than specified in the appliance manufacturer's instructions.
- Find the best suitable spot to penetrate the wall based on ANSI Z223.1/NFPA 54 specifications. Consult drawing table for permitted Vent Terminal (V) locations.
- Cut a hole (key hole saw) slightly larger than the (OD) outer diameter of the gasket bead.
- For horizontal vent configurations, use InnoFlue® Lite SW Rigid components only.
- For air intake, InnoFlue® Lite SW Rigid may be used.
- If horizontal run is more than 39" (1m), install Support Brackets onto solid ceiling joists or surfaces.
- Pitch any horizontal portion of the vent system towards the appliance at the angle specified in the Vent Pitch section.
- Install the appliance adaptor as approved by the appliance manufacturer.
- Add vent lengths, elbows and Condensate Drain(s) as needed to reach the wall penetration **(see Joint Connections)**.
- Seal the wall area around the vent with silicone.

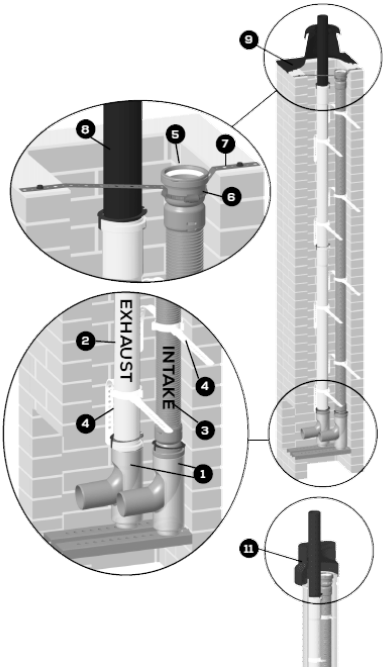
Multiple Vent Vertical Installation (Fig. 11)
(SW Rigid Through a Masonry Chimney or B-Vent)

Masonry Chimney Rigid

- Install the InnoFlue® Lite Base Supports **(1)** to the base of the chimney.
- Lower assembled InnoFlue® Lite Rigid **(2)** sections **(see Joint Connections) (3)** down from the top of the chimney (pulling from the bottom is also an option).
- Install InnoFlue® Lite Spacers **(4)** to both the exhaust and intake vents vertically offset from one another while lowering.
- When using InnoFlue® Lite Rigid **(2) (3)** install to the Base Support Elbow (see Vertical Installations (SW Rigid / Masonry Chimney or Chase)).
- Insert an end pipe **(8)** into the exhaust socket and terminate using an chimney cover **(9) (see Vertical Termination [InnoFlue® Lite SW Rigid, Masonry Chimney]**.

Existing B-Vent Rigid & Flex Termination

- Install InnoFlue® Lite B-Vent Support Brackets **(10)** and Base Supports **(1) (see Bottom Termination)**.
- When multiple vents are required to face the same direction, the use Base Support Brackets included with each InnoFlue® Lite Base Supports **(1)** and secure to structure.
- Lower assembled InnoFlue® Lite Rigid **(2)** sections **(see Joint Connections) (3)** down from the top of the B-Vent (pulling from the bottom is an option).
- Install InnoFlue® Lite Spacers **(4)** to both the Exhaust and Intake vents vertically offset from one another while lowering.
- When using InnoFlue Lite Rigid **(2) (3)** install to the base support elbow (see Vertical Installations [SW Rigid / Masonry Chimney or Chase]).
- Insert an end pipe **(8)** into the exhaust socket and terminate using a chimney cover **(11) (see Vertical Termination)**.



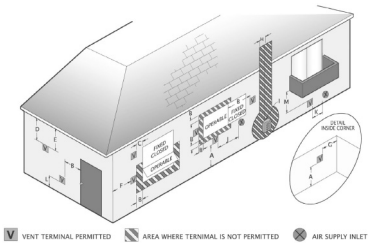
(Fig. 11)

Horizontal Vent Terminations (Fig. 12)

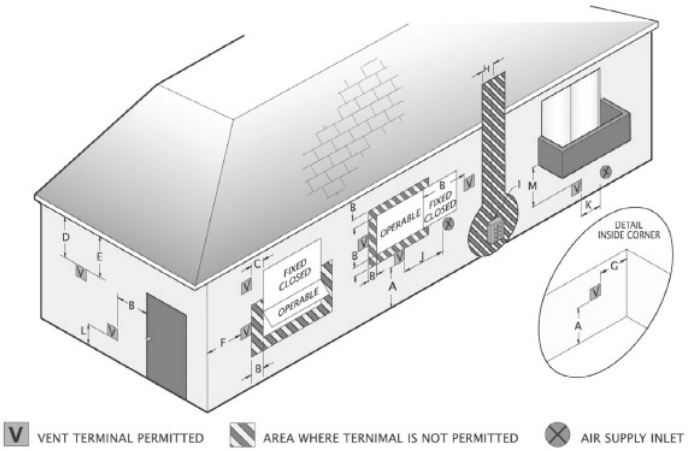
- If going straight through a wall, the vent cannot extend more than 12" (30.5cm) from the wall's exterior.
- Termination Tees, velocity cones, 45°, or 90° elbows may be used to direct flue gases in desired directions.
- Snorkel configurations may be used when wall penetration does not meet "V" location specifications.
- Any vertical portion of a vent or air intake that is outside the building must be secured to the building with Support Clamps.
- Install Bird Screens into any exterior vent or air intake opening (optional).
- The Concentric Wall Termination allows for a single wall penetration.
  ◊ Install a Twin Pipe to Concentric Adaptor to co-locate vent and air intake inside the building.
  ◊ Add a Concentric Wall Termination to go through the wall.
  ◊ See Concentric section for installation instructions.

CAUTION ⚠

Maintain 12" of clearance above the highest anticipated snow level or grade or whichever is greater. Please refer to your local codes for the snow level in your area.



(Fig. 12)



REF	Description	USA	CA
A	Clearance above grade, veranda, porch, deck, or balcony	12"	12" (30 cm)
B	Clearance to window or door that may be opened	• 6" Appliances ≤ 10 kBtu/hr • 9" Appliances > 10 & ≤ 50 kBtu/hr • 12" Appliances > 50 & ≤ 150 kBtu/hr	• 6" (15 cm) Appliances ≤ 10 kBtu/hr (3 kw) • 9" (23 cm) Appliances ≤ 10kBtu/hr (3 kw) & ≤ 50 kBtu/hr (15 kw) • 12" (30 cm) Appliances > 50 kBtu/hr (15 kw)
C	Clearance to permanently closed window		
D	Vertical clearance to ventilated soffit, eaves, or overhang		
E	Clearance to unventilated soffit, eaves, or overhang		
F	Clearance to outside corner		
G	Clearance to inside corner		
H	Clearance to each side of center line extended above meter/regulator assembly		36" (91 cm) within a height 15' (91 cm) above the meter/regulator assembly
I	Clearance to service regulator vent outlet		36" (91 cm)
J	Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	Same clearance as row B	
K	Clearance to forced air inlet into a building	36" above if within 10' horizontally	6' (1.83 m)
L	Clearance above paved sidewalk or paved driveway located on public property	7'	7' (2.13 m)
M	Clearance under deck, veranda, porch, or balcony (open on three sides)	12"	24" (60 cm)

*** For up to date clearances reference the most recent ANSI Z223.1/NFPA 54 or CGA-B149. For clearances not specified in ANSI Z223.1/NFPA 54 or CGA-B149, please use clearances in accordance with local installation codes and requirements or gas supplier.**

NORTH AMERICA

Centrotherm
Toll Free: 877 434 3432
Fax: 518 618 3166

info@centrotherm.us.com
www.centrotherm.us.com