



Z-DENS

Polypropylene Vent Systems
for High Efficiency Condensing Appliances



Single Wall Rigid
Flexible Liner
Concentric

Z-Flex® Joins Forces with Cox Geelen®

Z-Flex® North America's leading independent manufacturer of specialty venting systems for over 35 years; has joined forces with Cox Geelen®, one of Europe's leading innovators and manufacturers of polypropylene venting systems.

Cox Geelen's manufacturing roots date back over a century and are recognized today worldwide for their technical knowledge, OEM experience and environmentally responsible business philosophy in the polypropylene venting industry.

Z-Flex® is proud to offer this polypropylene venting system, branded Z-DENS, to our highly acclaimed product line-up which includes Z-VENT® and NovaVENT®.

Recent developments in flue systems for use with high efficiency heating appliances, combined with the increased familiarity of use and installer confidence in polypropylene venting systems, has led to the development and continuous improvement of the polypropylene Z-DENS system.

Designed and Tested Safe

Unlike most PVC and CPVC pipe:

- Z-DENS is specifically designed, tested and listed as a vent system.
- Z-DENS is manufactured from environmentally safe and sustainable fire retardant polypropylene, offering superior performance.
- Z-DENS does not require explosive or toxic cleaners, primers or cements; eliminating the safety and health concerns associated with these products.
- Z-DENS Self-Sealing design does not require any curing time, significantly reducing installation times and allows immediate system start up.
- Z-DENS can be used to vent appliances in New York City where PVC is **NOT PERMITTED**.

Z-DENS is available in diameters 2" (60 mm), 3" (80 mm), 4" (110 mm), 5" (125 mm), 6" (160 mm) and 8" (200 mm). Z-DENS is also fully compatible with Z-DENS FLEX and Z-DENS CONCENTRIC making for a complete and safe flue gas system.

Approvals

- Tested and Listed to ULC S636
- Conforms to the UL1738 requirements for category IV condensing appliances
- CE marked according to the European standard EN 14471
- Conforms to Gastec Qa 83-1

Recyclable

At the end of its life cycle, Z-DENS can be completely recycled.



Z-DENS
SINGLE WALL



Z-DENS
CONCENTRIC



Z-DENS FLEX

Z-DENS Direct Vent Applications*



Concentric Vertical



Vertical Vent and Air with Vertical Concentric Termination Kit



Vertical Vent and Horizontal Air with Vertical Termination



Vertical Flex Vent in Clean Unused Chimney with Chimney Cover and Horizontal Air



Concentric Horizontal



Horizontal Vent and Air with Horizontal Concentric Termination Kit



Horizontal Vent and Air - Same Pressure Zone



Horizontal Vent and Air - Different Pressure Zones



Z-DENS Single Wall

Z-DENS is certified for use with condensing gas and oil fired heating appliances having flue gas temperatures up to 230°F (110°C).

Specifications

- Specially developed, fire retardant Polypropylene
- ULC S636 certified for flue temperatures up to 230°F (110°C)
- Resistant up to a max flue temperature of 248°F (120°C)
- Cat II, IV Special Gas Vent
- Gas Vent BH, Class IIc
- Suitable for use with negative and positive pressure appliances
- Pressure tested to 20 inches W.C. (5000 pa, level H1)
- Available in appliance white finish in diameters 2" and 3"*
*UV stabilized parts available
- Available in UV stabilized grey finish in diameters 4", 5", 6" and 8"

Significant Advantages

- Vent system made from fire retardant polypropylene
- Long lasting and easy to install as no cure time is required
- Greater resistance to acidic flue gas condensate
- No leaching of chloride, as found in PVC and CPVC reducing boiler contaminates
- No primer or glue containing VOC's
- Environmentally friendly
- Recyclable and LEED compliant
- Non-toxic smoke or fumes if burned, compared to PVC and CPVC

Safety

All polypropylene material, including PPs, expands and contracts with temperature change. To ensure that the installation initially is and remains completely flue gas tight, it is necessary that the Z-DENS locking clamps and brackets are used. For the correct installation of the locking clamp and bracket, follow the instructions in the installation manual (download at www.z-flex.com). Only by following these instructions can Z-DENS guarantee a safe and flue gas tight installation. Use only Z-DENS lubricant when installing Z-DENS PPs to ensure a quick, reliable and safe connection.

Environment

During the production of PPs flue gas systems less CO₂ is produced than with the production of traditional metal flue gas systems.

Design Considerations

Greater system efficiencies and a more aesthetically pleasing installation can also be achieved by using Z-DENS Concentric.

Specification

Approved polypropylene vent manufacturers

Supplier	Model
Z-Flex U.S. Inc. 20 Commerce Park N, Bedford, NH, 03110 Ph. 800-654-5600	Z-DENS Single Wall, Flex, Concentric



Z-DENS Flex

The flexible polypropylene vent system is specifically designed for connection to condensing gas or oil fired heating appliances with a maximum flue temperature of 230°F (110°C)

Specifications:

- Made from flame retardant PP
- Resistant up to max flue temperature of 248°F (120° C)
- Operates in negative and positive pressure modes
- Pressure tested to 20" WC (5000 pa, level H1)
- Chimney termination is UV resistant, flex is not UV resistant
- Designed as a vertical flue system installation but is safe to run at angles up to 45° from vertical
- Available in white

Simple installation is ensured because:

- Flexible pipe can be cut to length on site
- Coupling connectors allow easy joining of shorter lengths which can virtually eliminate waste
- Lightweight flue system for ease of installation
- Compact packaging due to its great flexibility
- Wide range of accessories

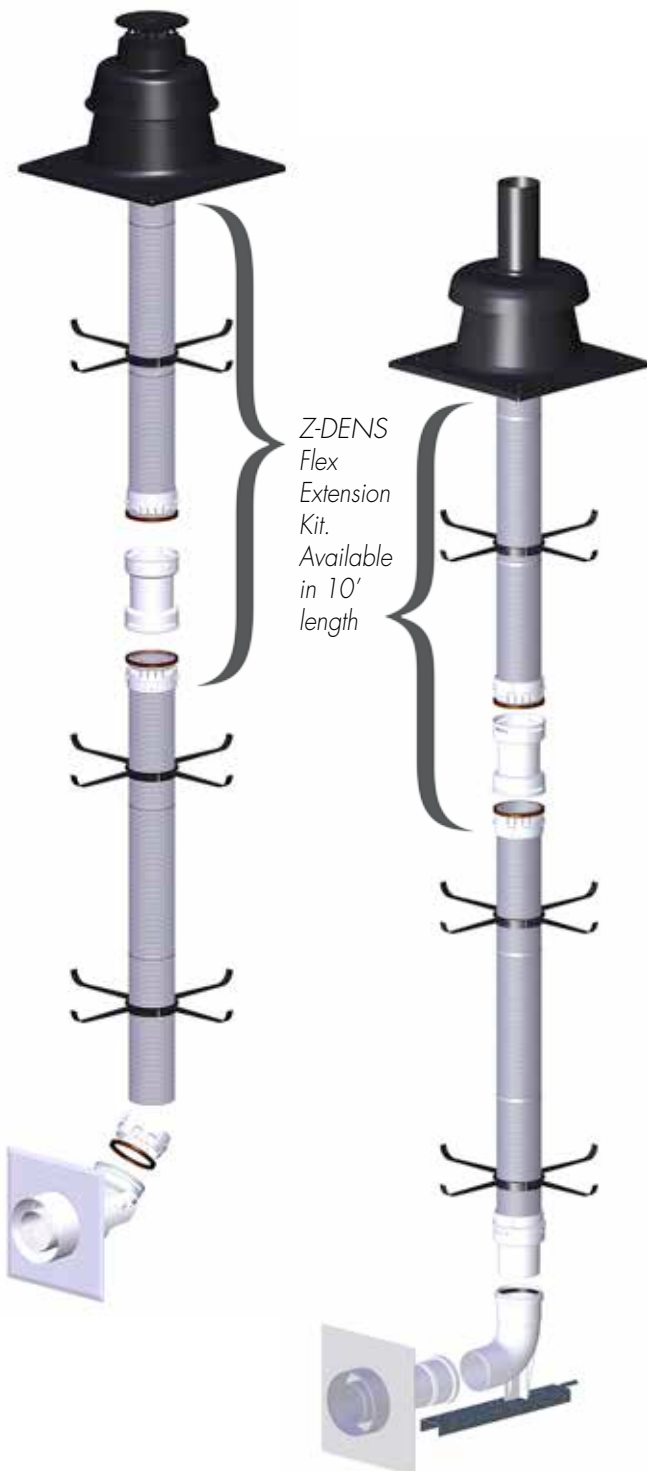
Installation

The installation manual of Z-DENS Flex shows just how simple it is to assemble and install the flexible vent system.

Z-DENS Flex installation instructions are available in the download section of our website at www.z-flex.com.

This flexible flue system is available in 3 diameters:

Nominal diameter	2" (Ø 60)	3" (Ø 80)	4" (Ø 110)



2" (60mm)
3" (80mm)

4" (110mm)

Z-DENS Flex Chimney Kits

- Available in 25' & 35' lengths

Z-DENS Concentric

Z-DENS CONCENTRIC is precisely designed for use with condensing gas and oil heating appliances.

Certified to ULC S636 and CE Marked to European standards EN 1856-1 and EN 14471.

Z-DENS CONCENTRIC, through continuous improvement, is engineered for optimum performance.

The outer pipe is aluminum and the inner flue pipe is manufactured with fire retardant polypropylene.

(Please Note: Z-DENS CONCENTRIC can only be selected for use with high efficiency/condensing appliances.)

The inner pipe is centred in the outer pipe by the patented connection (Patent number: NL C 1022411). This system is available in concentric diameter sizes 2"/4" (60/100), 3"/5" (80/125) and 4"/6" (110/160 mm). Colour of outer pipe is white (RAL9016).

Significant Advantages

- The system is easy to assemble
- The system is particularly rigid
- It is modern in appearance
- The same system can be used indoors as well as outdoors
- Patent number: NL C 1022411
- Certified to ULC S636 Gas Vent-BH Class II C - 110°C/ 230°F
- CE Marked according the European standards EN 1856-1 and EN 14471



Z-DENS CONCENTRIC The Next Generation in Flue Systems

2"/4" | 3"/5" | 4"/6" (60/100 | 80/125 | 110/160 mm)

Z-DENS CONCENTRIC designed for use with condensing heating appliances. The system has an inner PP flue outlet pipe which is centered in the outer aluminum air intake pipe by the patented CONNEX₇T[®]-connection. The system is available in the nominal concentric measurements 2"/4", 3"/5" and 4"/6" (60/100, 80/125 and 110/160 mm), in the colour white (RAL 9016).

Z-DENS Concentric



Z-DENS Parallel (Twin-Pipe)



Wall Terminal Fixed Length



Z-DENS Roof Terminals

The roof terminal is designed with exceptional features; modern in appearance, with outstanding technical qualities. Z-DENS roof terminals are specifically manufactured for connection to condensing appliances with a maximum flue temperature of 110°C (230°F).

Z-DENS roof terminals are available in two versions:

- Concentric and Parallel

Specifications

- Upper roof part of the Z-DENS roof terminal is made of UV resistant polypropylene for 2"/4" (60/100) and 3"/5" (80/125) or aluminum cap and galvanized outer air intake pipe for 4"/6" (110/160).
- Outer air intake pipe below roof is made of galvanized steel
- Flue pipe is PPs
- Upper roof part is black RAL 9005
- Outer air intake pipe below roof is white RAL 9016

Cap

The new design of cap introduces some interesting technical features.

Icicle-free

The cap allows some rainwater to enter vent reducing icicle formation and aids in diluting condensate.

Aerodynamics

Outstanding aerodynamic behaviour, with very low influence of wind.

Z-DENS Wall Terminals

Z-DENS wall terminals are designed with exceptional features; modern in appearance, with outstanding technical qualities.

Z-DENS wall terminal is easy to install and suitable for installation with any condensing appliance.

Nozzle

The specially designed end nozzle incorporates advanced technical qualities.

Aerodynamics

Outstanding aerodynamic behaviour, with very low influence of wind.

Water Outlet

Special design features of the end nozzle prevents ingress of rain. A collector with drip edge makes sure that rain water and condensation are drained directly to the ground and not down the wall.

Removing

The removal of the end section is simple, only a screwdriver is needed.

Z-FLEX®

The Engineered Venting Systems Specialists

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The NovaFlex Group® is a privately held company committed to continuous advancement in venting, HVAC, hose and connector solutions. NovaFlex® has one of the broadest product ranges available in the hose and ducting marketplace as well as in the HVAC, Industrial Venting and Hose Industries and in Commercial Exhaust Venting Systems.

It is impossible to test all NovaFlex® and Z-Flex® products under all of the conditions to which they might be subjected in the field. It is therefore the buyer and/or end users' responsibility to test all products under conditions that duplicate service conditions prior to installation. Due to continuous improvements, technical data in this brochure is subject to change without notice. It is incumbent on installer to determine suitability of product for application and adhere to all local building codes that may or are applicable.

Please defer to Novaflex & Z-Flex terms and conditions of sale located at: www.novaflex.com/TermsConditions/



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