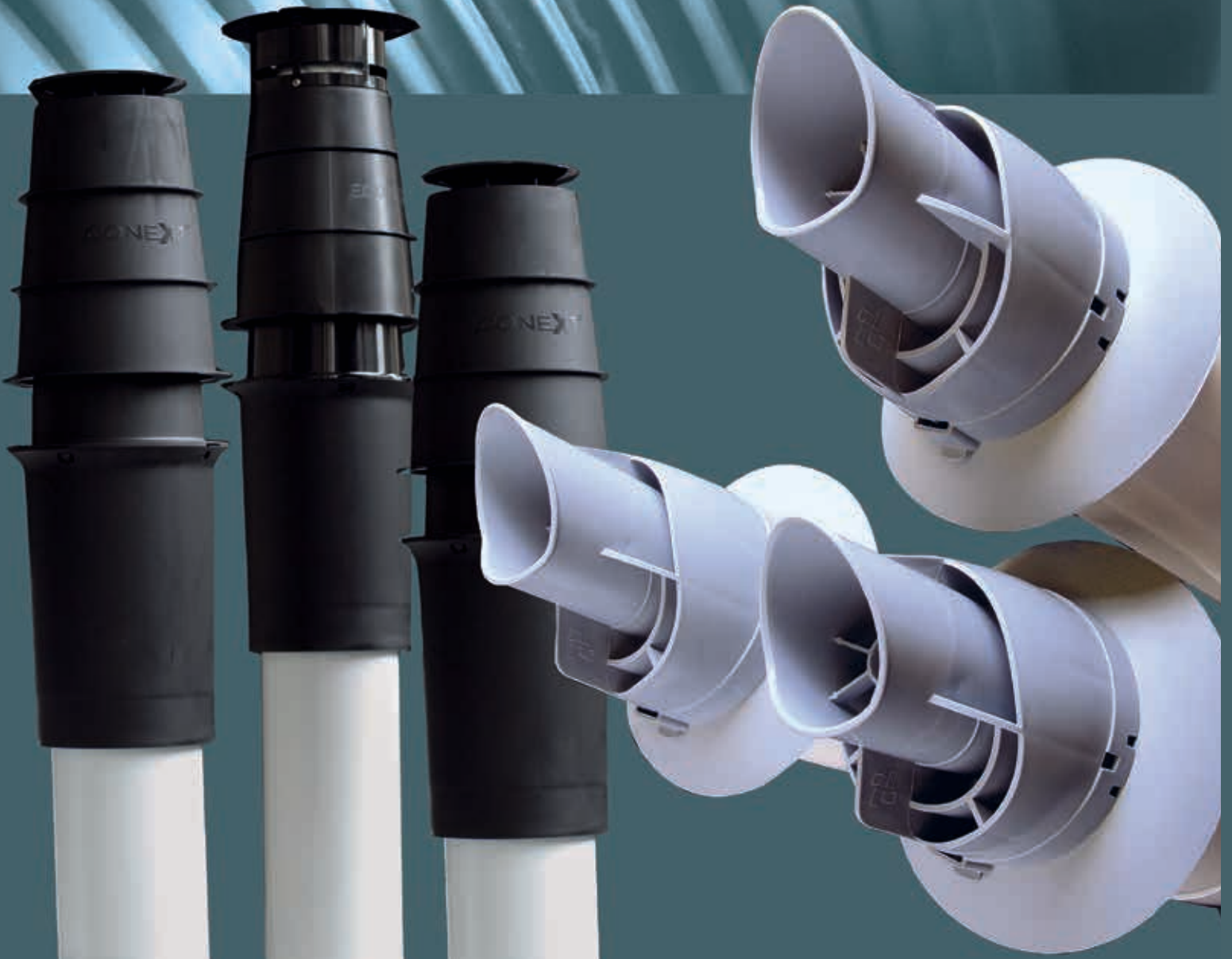


Z-FLEX[®]
Advanced Venting Solutions



Z-DENS[™]

Wall & Roof Terminals



**Polypropylene Vent Systems for
High Efficiency Boilers & Water Heaters**



Z-DENS™ Wall Terminals

The newly developed Z-DENS™ wall terminals are designed with exceptional features. Its appearance is modern, underlining advanced technical qualities. Z-DENS™ room-sealed wall terminal is easy to install and suitable for installation with any condensing boiler.

Telescopic

The telescopic feature enables you to adapt the length of the wall terminal to the thickness of the wall. No cutting is needed. Easy installation is guaranteed. The wall terminal is also available in fixed lengths.

Nozzle

The specially designed end nozzle incorporates advanced technical qualities.

Aerodynamics

	Flow	0 m/s	1 m/s	2 m/s	3 m/s
Own resistance (without wind)	DP in (Pa)		5,6	20	44,1
Pressure loss with 12 m/s wind	DPmax in (Pa)	5,0	17,0	41,0	70,0
	DPmin in (Pa)	-42	-21	5	46
Recirculation	Max. recirculation		0	2,6	0

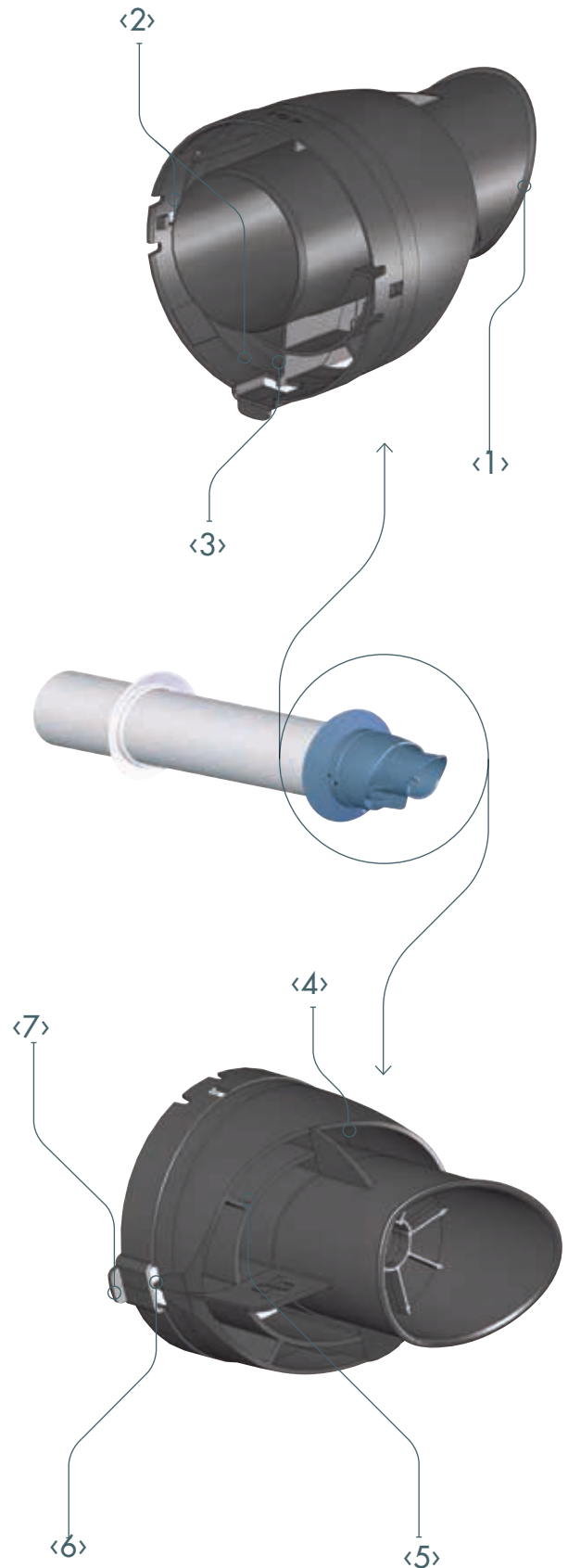
Water Outlet

- | | |
|-----------------------------|--------------|
| 1. Drip Lip | 5. Dam |
| 2. Water Funnel | 6. Collector |
| 3. Partitions With Overflow | 7. Drip Edge |
| 4. Covering-Over | |

Special design features of the end nozzle prevent ingress of rain and condensation into the wall terminal via the air inlet pipe: All these features (except 1) end up in the collector (6) with drip edge (7) making sure that rain water and condensation is being drained, not down the wall but directly to the ground.

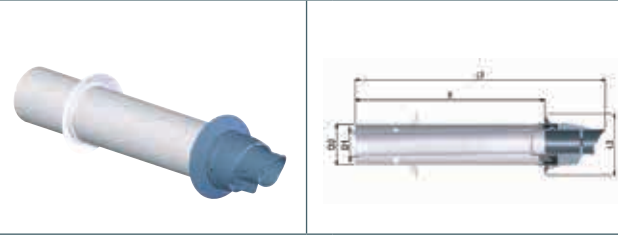
Removing

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



Z-DENS™ Wall Terminals

Wall Terminal Fixed Length



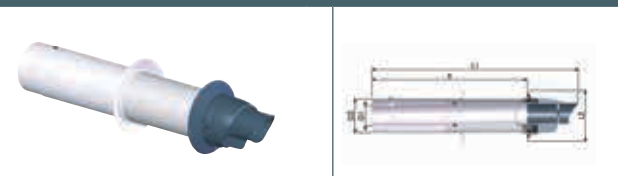
D1	D2	L1	L2	X
2 (60)	4 (100)	24 (620)	6.3 (160)	18.5 (470)
2 (60)	4 (100)	44 (1120)	6.3 (160)	35.7 (970)

Ref

AJCW.AA.6

AJCX.AA.6

Wall Terminal - Telescopic



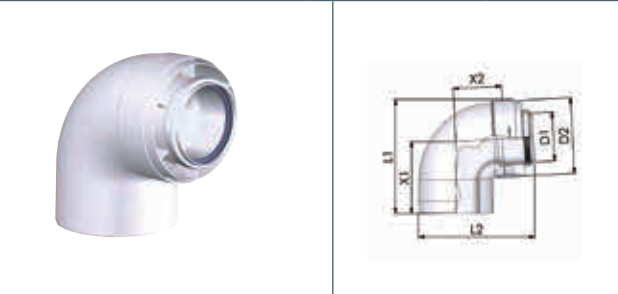
D1	D2	L1	L2	X
2 (60)	4 (100)	17.7-24 (450-610)	6.3 (160)	11.8-18.1 (300-460)
2 (60)	4 (100)	24-30.3 (610-770)	6.3 (160)	18.1-24.4 (460-620)

Ref

AJCY.AA.6

AJCZ.AA.6

Elbow 87° PPx/Alu with CONNEX₇T®



D1	D2	L1	L2	X
2 (60)	4 (100)	6.6 (167)	6.7 (171)	4.3 (110)

X2 Ref

2.75 (70) AEAH.AA.6

Z-DENS™ Wall Terminals

Z-DENS room sealed wall terminals are available as a telescopic version and in fixed lengths.

The telescopic horizontal flue terminals are available in 2 versions, a short and a long one:

- Telescopic L 12" (300 mm) – 18" (460 mm)
- Telescopic L 18" (460 mm) – 24.4" (620 mm)

Horizontal flue terminals with a fixed length are available in lengths 20" and 39" (500 and 1000 mm.)

Specifications:

- Flue pipe 2" (Ø60 mm) made of PPs
- Air inlet pipe 4" (Ø100) mm made of PVC in the colour RAL 9016
- Concentric measurement 2"/4" (60/100 mm)
- Nozzle is made of PP in the colour RAL 7001
- Sealing ring is made of EPDM
- Outside EPDM wall plate is in the colour RAL 7001
- Inside EPDM wall plate is in the colour RAL 9016

The standard Z-DENS® wall terminal kit includes:

- 1 wall terminal
- 1 PPs/Aluminum elbow 87° 2"/4" (60/100 mm) with CONNEX₇T® connection
- 2 EPDM wall plates 4" (Ø100 mm)
- An accessory pack
- Installation instructions

Important News:

The wall terminals all have the great advantage that they have an easy connection to a Vent Riser Kit as a standard. This means that at any moment it is possible to easily click a Vent Riser Kit at the mounted wall terminal. There is NO need to break the wall terminal away!

A Vent Riser can be mounted within minutes. For further details please see Vent Riser Kit - Z-DENS VRK.

Coming soon: wall terminal 3"/5" (80/125mm) with easy connection to Vent Riser Kit. Please contact us for further details.

Z-DENS[™] Vent Risers

Z-DENS[™] Vent Riser Kit (VRK)

It is advisable to install condensing boilers, because it helps to keep our environment green. However the position of the flue terminal often causes a plumbing problem, especially when you have a wall terminal going straight out through the wall. This problem can easily be solved by repositioning the flue outlet with a vent riser kit.

All Z-DENS[®] wall terminals are provided standard with a special nozzle. With this nozzle it is therefore possible to mount a Vent Riser Kit (VRK) in minutes, simply by removing the nozzle and easily clicking the Vent Riser Kit on to the system in any desired angle. *You are ready in only a few minutes...that matters.*

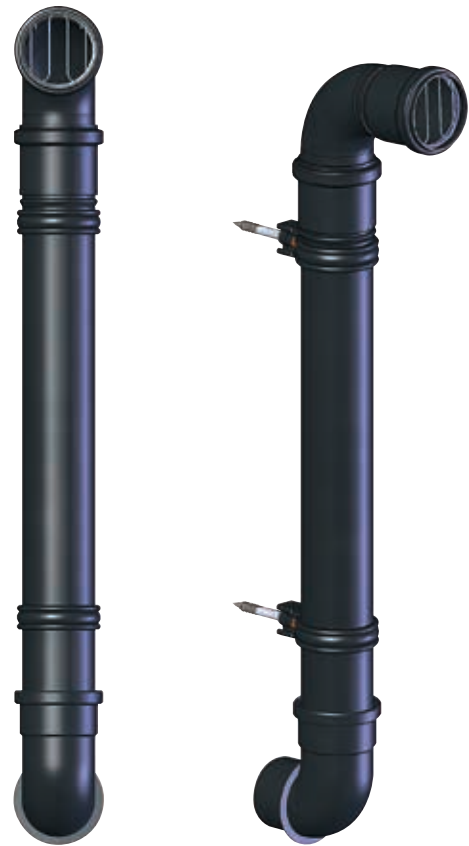
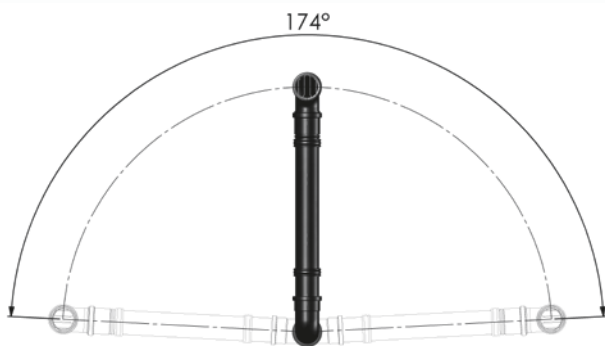
Z-DENS[®] VRK is made of PP in the colour black. The complete system is UV-resistant.

Standard Z-Dens[®] VRK Base Kit 2" Ø (60) includes:

- 1 Z-DENS[®] VRK elbow 90°
- 1 pipe length 500 mm
- 1 elbow 87°
- 1 stainless steel bird mesh/protection
- 2 PVC fixation brackets

Standard Z-DENS[®] VRK Extension Kit Ø 2" (60) includes:

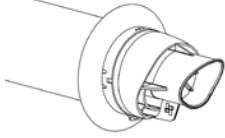
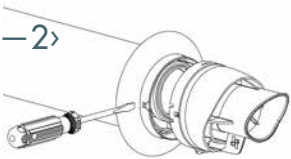
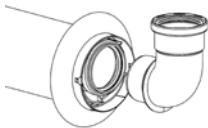

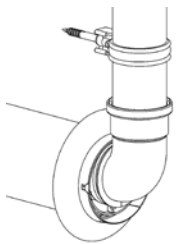

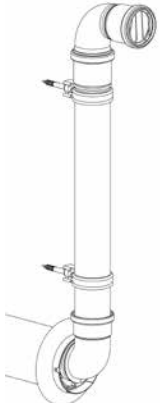
- 1 pipe length 40" (1000)
- 1 pipe length 20" (500)
- 1 elbow 87°
- 2 elbow 45°
- 2 fixation brackets



Z-DENS™ Vent Riser

Z-DENS VRK base kit in combination with the Z-DENS VRK extension kit gives you the following solutions:



- 1 > 	1. Start
- 2 > 	2. Remove the nozzle of the wall terminal with a tool (screwdriver)
- 3 > 	3. Mount the Z-DENS® VRK elbow 90°. Its main advantage is that you can install this elbow into the necessary angle by simply turning the outlet. Please do so.
- 4 > 	4. Connect the pipe to the VRK elbow.
- 5-6 > 	5. Brace this pipe with 2 fixation brackets to the wall. 6. Mount more pipes with brackets until the desired height is reached.
- 7 > 	7. Connect the 87° elbow with bird mesh to the last mounted pipe.
- 8 > 	8. You are done...that matters.



Z-DENS[™] Roof Terminals

The newly developed roof terminal is beautifully designed with some exceptional features. Its appearance is modern, underlining its technical qualities. There are roof terminals available for connection to condensing (W) and non-condensing (D) heating appliances.

Concentric and Parallel

All Z-DENS[™] roof terminals are available as concentric versions 2"/4" (60/100) and 3"/5" (80/125 mm) and as parallel (twin-pipe) in 2"/2" (60/60) and 3"/3" (80/80 mm).

Approvals

- ULC S636
- Conforms to Gastec Qa 83-1.
- CE marked according the European standards EN 1856-1 and EN 14989-1

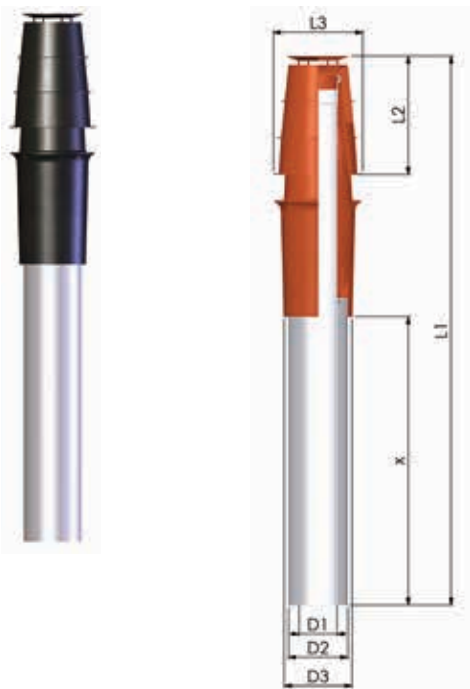
Recyclable

At the end of its life cycle the Z-DENS[®] roof terminal can be recycled completely.



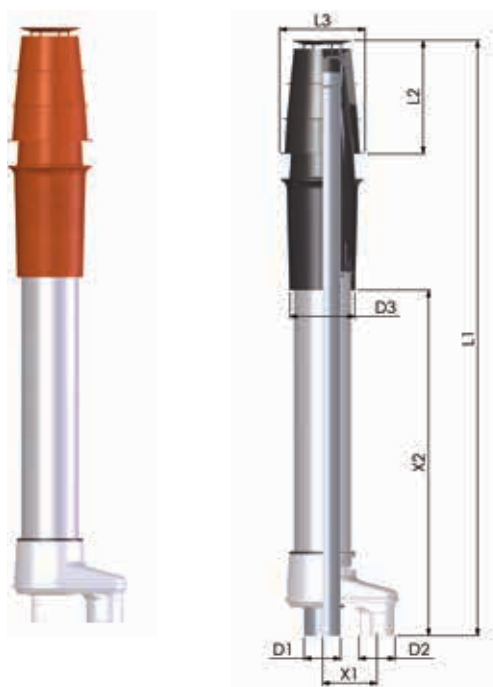
Z-DENS™ Roof Terminals

Z-DENS™ (W) Concentric



D1	D2	D3	L1	L2	L3	X
2 (60)	4 (100)	5.5 (141,5)	45 (1151)	9.5 (243)	7.5 (190)	24 (608)
3 (80)	5 (125)	5.5 (141,5)	45 (1158)	9.8 (250)	7.5 (190)	24 (608)

Z-DENS™ (W) Twin-Pipe Parallel



D1	D2	D3	L1	L2	L3	X1	X2
2 (60)	2 (60)	5.5 (141,5)	51 (1301)	9.5 (243)	7.5 (190)	4.7 (120)	30 (758)
3 (80)	3 (80)	5.5 (141,5)	51 (1308)	9.8 (250)	7.5 (190)	4.7 (120)	30 (758)

Z-DENS™ Roof Terminals

Z-DENS™(W) roof terminals are specially designed for connection to condensing boilers with a maximum flue temperature of +120°C (+248°F) (T120).

Z-DENS™ (W) roof terminals are available in two versions:

- Concentric 2"/4" (Ø60/100) and 3"/5" (80/125 mm.)
- Parallel (twin-pipe) 2"/2" (Ø60/60) and 3"/3" (80/80 mm).

Specifications:

- Upper roof part of the Z-DENS™ (W) roof terminal is made of plastic (UV resistant).
- Outer pipe below roof is made of galvanized steel.
- Flue pipe is available in PPs, aluminum and stainless steel.
- Upper roof part is available in the colours black RAL 9005 and terracotta RAL 8023.
- Outer pipe below roof is available in the colour white RAL 9016, other colours upon request.

Cap

The new design of cap introduces some interesting technical features.

Ice-free

The cap allows rainwater to come in. The advantages being:
prevents icicle formation,
allows dilution of condensate.

Aerodynamics

Its aerodynamic behaviour is outstanding!
Very low influence of wind on top of the K-value.
Suitable for all outlet areas.

2" (60) | 4"-2" (100 - 60) | 2" (60)

		Flue flow rate			
		0 m/s	1 m/s	2 m/s	3 m/s
Own resistance (without wind)	Δ P (Pa)		4,8	19,1	40
	Pressure loss with 12 m/s wind				
	Δ Pmax (Pa)	<0	-7	12	51
	Δ Pmin (Pa)	<0	-48	-23	-2
Recirculation of flue gases R < 10% at 45° at any wind velocity					

3" (80) | 5" -3" (125 - 80) | 3" (80)

		Flue flow rate			
		0 m/s	1 m/s	2 m/s	3 m/s
Own resistance (without wind)	Δ P (Pa)		4,6	19,1	39,3
	Pressure loss with 12 m/s wind				
	Δ Pmax (Pa)	<0	-1	22,78	45
	Δ Pmin (Pa)	<0	-40	-14	7
Recirculation of flue gases R < 10% at 45° at any wind velocity					

Z-DENS[™] Roof Terminals

Z-DENS[™] (D) roof terminals are especially designed for connection to non-condensing boilers with a maximum flue temperature of +160°C (+320°F) (T160).

Z-DENS[™] (D) roof terminals are available in two versions:

- Concentric 2"/3" (Ø60/100) and 3"/5" (80/125 mm).
- Parallel (twin-pipe) 2"/2" (Ø60/60) and 3"/3" (80/80 mm).

Specifications:

- Upper roof part of the Z-DENS[™] (D) roof terminal is made of plastic (UV resistant).
- The cover on top of the cap is made of aluminum.
- Outer pipe below is made of galvanized steel.
- Flue pipe is available in aluminum.
- Upper roof part is available in the colours black RAL 9005 and terracotta RAL 8023.
- Outer pipe below roof is available in the colour white RAL 9016, other colours upon request.

Cap

The newly designed cap introduces some interesting technical features.

Dry

The cap prevents rainwater coming in.

Aerodynamics

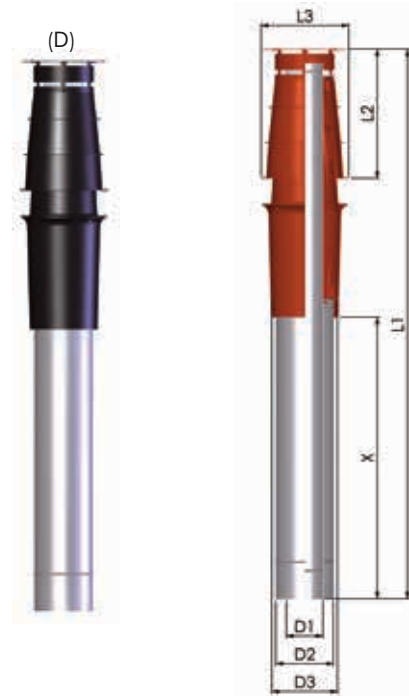
2" (60) | 4"-2" (100 - 60) | 2" (60)

		Flue flow rate			
		0 m/s	1 m/s	2 m/s	3 m/s
Own resistance (without wind)	Δ P (Pa)		4	16	33
Pressure loss with 12 m/s wind	Δ Pmax (Pa)	<0	-5	18	43
	Δ Pmin (Pa)	<0	-45	-28	-10
Recirculation of flue gases R < 10% at 45° at any wind velocity					

3" (80) | 5" - 3" (125 - 80) | 3" (80)

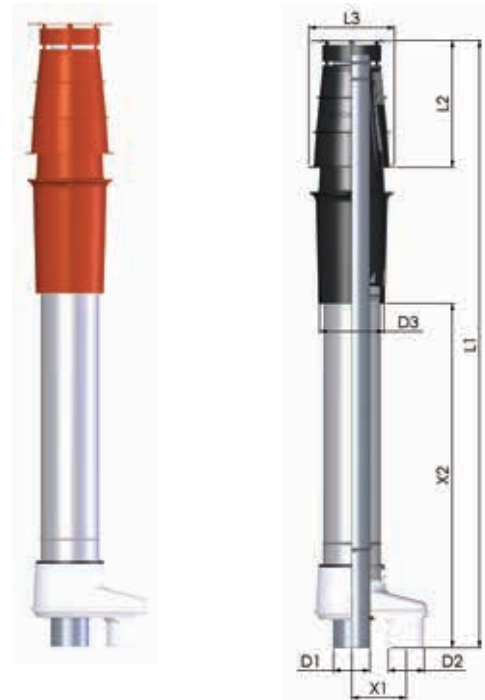
		Flue flow rate			
		0 m/s	1 m/s	2 m/s	3 m/s
Own resistance (without wind)	Δ Pmax (Pa)		5	20	39
Pressure loss with 12 m/s wind	Δ Pmax (Pa)	<0	0	21	48
	Δ Pmin (Pa)	<0	-47	-25	0
Recirculation of flue gases R < 10% at 45° at any wind velocity					

Z-DENS[™] Concentric



D1	D2	D3	L1	L2	L3	X
2 (60)	4 (100)	5.5 (141,5)	47 (1189)	11 (280)	7.5 (190)	609
3 (80)	5 (125)	5.5 (141,5)	47 (1189)	11 (280)	7.5 (190)	609

Z-DENS[™] (D) Twin-Pipe



D1	D2	D3	L1	L2	L3	X1	X2
2 (60)	2 (60)	5.5 (141,5)	1289	11 (280)	7.5 (190)	4.7 (120)	30 (759)
3 (80)	3 (80)	5.5 (141,5)	1339	11 (280)	7.5 (190)	4.7 (120)	30 (759)

Z-DENS™ Roof Terminals

Adjustable tile with lead flashing (ex. swivel) > 6



5° - 25° / 25° - 45° / 35° - 45°



* Clamp bracket for wires, needed with an upper roof extension pipe of 40" (1000 mm).

Swivel



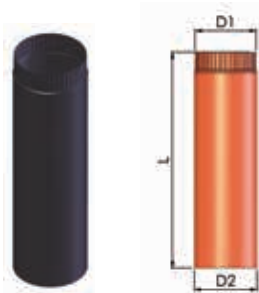
Aluminum flat flashing



Aluminum flashing for flat angled roof incl. swivel



Extension pipe upper roof



D1	D2	L
5.5 (140)	5.6 (144)	20 (500)
5.5 (140)	5.6 (144)	40 (1000*)

Extension pipe under roof

Aluminum flue pipe




D1	D2	L	X
2 (60)	4 (100)	20 (500)	18 (450)
2 (60)	4 (100)	40 (1000)	37 (950)
3 (80)	5 (125)	20 (500)	18 (450)
3 (80)	5 (125)	40 (1000)	37 (950)

PPs flue pipe




D1	D2	L	X
2 (60)	4 (100)	20 (500)	18 (450)
2 (60)	4 (100)	40 (1000)	37 (950)
3 (80)	5 (125)	20 (500)	18 (450)
3 (80)	5 (125)	40 (1000)	37 (950)







A



B $\varnothing = 2\text{''}/4\text{''}, 3\text{''}/5\text{''}$ (60-100 & 80-125)
 $L = 20\text{''}$ & 40'' (500 & 1.000)




C 3 x C (+ 3 x C)
 $\varnothing 3,5 \times 9,5$

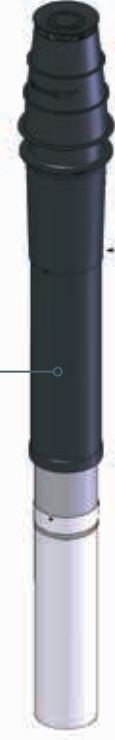




1

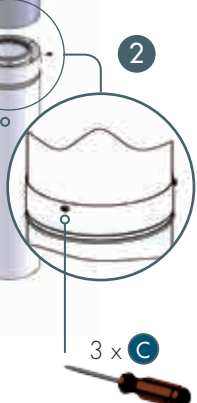


3



B

2



A

3 x **C**



$L = 48\text{''}$ (1.000 mm)



Z-DENS™ Roof Terminals

Z-CENTRIC™ with CONNEX₃T®

The Next Generation in Flue Systems

2"/4" | 3"/5" | 4"/6"

60/100 | 80/125 | 110/160 mm

Z-CENTRIC especially designed for use with condensing and non-condensing heating appliances.

The system has an inner flue outlet pipe (material as desired) which is centered in the outer air inlet pipe by the patented CONNEX₃T®-connection.

The system is available in the nominal concentric measurements 2"/4", 3"/5", 4"/6" (60/100, 80/125 and 110/160 mm), in the colour bright white (RAL 9016)

Z-CENTRIC™ WITH CONNEX₃T®

2"/4" (60/100 mm)

Especially designed for use with condensing and non-condensing heating appliances.

The outer pipe of the system is made of plastic. The inner flue pipe is available in thick-walled aluminum, thin-walled aluminum and in PPs.

The system is available in the nominal concentric measurement 2"/4" (60/100 mm), in the colour white.

The product range contains pipes lengths 10", 20", 40" (250, 500 and 1000 mm), elbows (45° and 87°) and a 87° elbow with test port for connection to the heating appliance.



Z-FLEX®

The Engineered Venting Systems Specialists

Z-Flex® for over 35 years North America's leading independent manufacturer of specialty venting systems 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.

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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