

Z-DENS™ Single Wall Rigid Z-DENS™ Flexible Liner Z-DENS™ 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 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 properties.

The Self-Sealing design significantly reduces installation times and allows immediate system start up. Unlike PVC and CPVC, Z-DENS™ does not require glue and catalyst, eliminately costly cure times.

Z-DENS™ is available is diameters 2" (60 mm), 3" (80 mm), 4" (110 mm), 5"(125 mm), 6" (160 mm), 8" (200 mm) and 10" (250mm). 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 $^{\text{\tiny{M}}}$ can be completely recycled.



Z-DENS™ FLEX

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/Cox Geelen							



Z-DENS™ Single Wall

Z-DENS™ is certified for use with condensing oil and gas fired heating appliances having flue gas temperatures up to 248°F (120°C).

Specifications

- Specially developed, fire retardant Polypropylene
- ULC S636 certified for flue temperatures up to 230°F (110°C)
- Guaranteed up to a max flue temperature of 230°F (110°C)
- Cat II, IV Special Gas Vent
- Gas Vent BH, Class IIc
- Suitable for use with negative and positive pressure appliances.
- Available in appliance white finish in diameters 2" and 3".
 Diameters 4", 5", 6", 8"and 10" supplied in UV stabilized* grey finish.
- Pressure tested to 20 inches W.C. (5000 pa, level H1).

Significant Advantages

- Complete vent system made from fire retardant polypropylene.
- Long lasting and easy to install, no cure time required.
- Resistant to acidic flue gas condensate reducing boiler contamination.
- In the event of expansion and contraction of the venting run,
 Z-DENS™ eliminates the inherent dangers found with PVC/
 CPVC glued pipe joints.
- Special ingredients in the material composition of Z-DENS™ ensure a fire retardant system and therefore is safer to use than other standard polymeric flue gas venting systems.

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™ bracket is used. For the correct installation of the 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. Exclusive use of Z-DENS™ lubricant when installing Z-DENS™ PPs, ensures that a reliable and safe connection is guaranteed.

Environment

During the production of PPs flue gas systems less CO_2 is produced than with the production of traditional metal flue gas systems. *UV stabilized parts available.

Design Considerations

Greater efficiencies and a more aesthetically pleasing presence can also be achieved by using $Z\text{-DENS}^{\mathsf{TM}}$ as the fresh air inlet.



THINNET & VENTING SOLOTIONS							
	PPs Pipe	DI	L1	X1	D1	L1	X1
	· ·	2 (60)	9.8 (250)	7.6 (194)	4.3 (110)	9.8 (250)	7.6 (194)
		2 (60)	19.7 (500)	17.5 (444)	4.3 (110)	19.7 (500)	17.5 (444)
		2 (60)	39.4 (1000)	37.2 (944)	4.3 (110)	39.4 (1000)	37.2 (944)
		2 (60)	76.8 (1950)	74.6 (1894)	4.3 (110)	76.8 (1950)	
		3 (80)	9.8 (250)	7.6 (194)			
		3 (80)	19.7 (500)	17.5 (444)			
340.4		3 (80)	39.4 (1000)	37.2 (944)			
ום		3 (80)	76.8 (1950)	74.6 (1894)			
	PPs Adjustable pipe	DI	LI	X1	X2		
		2 (60)	10 (255)	2.5 (64.5)		_	
		3 (80)	10 (255)	2.5 (64)	7.9 (200)		
ZZ 7						_	
Ę DI		4 (110)	10 (255)	3.1 (78)	7.9 (200)		
	PPs Elbows		DI	L1	L2	X1	
		900	2 (60)	4.7 (120)	4.3 (110)	2.6 (65)	_
[x 1]			3 (80)	4.7 (120)	4.7 (120)	3.1 (77.5)	
	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\						
			4 (110)	4.7 (120)	4.7 (120)	3.1 (77.5)	_
		45°	2 (60)	3.7 (95)	2.8 (70)	1.0 (25)	_
2 2			3 (80)	4.3 (110)	3.5 (90)	1.4 (35)	
DI	DI		4 (110)	4.3 (110)	3.5 (90)	1.4 (35)	_
	le de la constant de	30°	2 (60)	3.7 (95)	3.3 (85)	1.6 (40)	
			3 (80)	4.3 (110)	3.9 (100)	2.2 (55.5)
	the state of the s		4 (110)	4.3 (110)	3.9 (100)	1.6 (40)	_
The state of the s	0 -/-	15°	2 (60)	3.7 (95)	3.3 (85)	1.6 (40)	
	1/21-17		3 (80)	4.3 (110)	3.9 (100)	2.2 (55)	_
			4 (110)	4.3 (110)	3.9 (100)	2.0 (50)	_
2 10	21		4 (110)	4.3 (110)	3.7 (100)	2.0 (30)	
D1	Support Bracket						
1-01-1		D1	_				
		2 (60)					
		3 (80)	_				
		4 (110)					
	D . D .						
	Bracing Bracket	DI	LI	L2			
	- 1	2 (60)	1.9 (47)	4.7 (120)	_		
					_		
	L DI	3 (80)	1.9 (47)	4.9 (125)	_		
(C. C. C		4 (110)	2.4 (60)	5.4 (138)			

Z-DENS™

	-							
		Chimney elbow 87°	D1	LI	L2	L3	X1	X2
		with support	2 (60)	5.8 (148)	7.1 (180)	13.8 (350)	4.3 (110)	2.6 (65)
	28		3 (80)	6.7 (169)	8.3 (210)	13.8 (350)	4.7 (120)	3.0 (75)
			4 (110)	6.9 (175)	9.1 (230)	13.8 (350)	4.3 (110)	2.8 (70)
	40 X1 X1							
		PPs Condensation						
		drain	D1	L1	X1	X2		
			2 (60)	7.9 (200)	5.7 (145.5)	4.1 (105)		
	7×		3 (80)	6.3 (160)	4.2 (105.5)	2.6 (65)		
	×		4 (110)	5.9 (150)	3.5 (90)	2.2 (55)		
	D1							
	D2	PPs Increaser	DI	D2	LI	Χ1		
	1		2 (60)	3.1 (80)	6.9 (175)	4.5 (114)		
	477-		3 (80)	4.3 (110)	6.5 (165)	4.3 (110)		
			4 (110)	4.3 (110)	6.3 (160)	4.1 (104)		
			4 (110)	4.5 (110)	0.5 (100)	4.1 (104)		
	DI							
	u u	PPs Inspection						
	X2	T-piece	_D1	LI	X1	X2		
			2 (60)	9.8 (250)	3.9 (100)	4.7 (120)		
			3 (80)	10.2 (260)	4.7 (120)	4.6 (118)		
	*		4 (110)	9.6 (245)	5.5 (140)	4.5 (114)		
	LØDI							
	2501							
		PPs Inspection piece	DI	LI				
			2 (60)	9.8 (250)	1			
1	-,5		3 (80)	10.6 (270)				
			4 (110)	10.7 (273)	'			
	DI							
	The state of	Chimney cover	D1	LI	L2			
			2 (60)	14.2 (360)	5.5 (140)	-		
			3 (80)	14.2 (360)	5.5 (140)			
	1		4 (110)	14.6 (370)	5.5 (140)	-		
		Stainless steel terminal guard	D1	L	Х			
		ieriiiiai godid	2 (60)	4.7 (120)	1.9 (47)	•		
			3 (80)	4.9 (125)	1.9 (47)			
	mm ~ +		4 (110)	5.4 (138)	2.4 (60)	•		
300	4 - 4							



Z-DENS™ FLEX

Z-DENS™ Flex is a polypropylene flue system with special design features.

Z-DENS[™] Flex is a flexible flame retardant Polypropylene flue system, specially designed for connection to condensing gas or oil fired heating appliances. Moreover it is ideal for use within service ducts or existing chimney shafts where internal angles or bends exist in the vent routing.

Diameters

Z-DENSTM Flex is available in the following nominal diameters: 2'', 3'' and 4'' (60, 80 and 110).

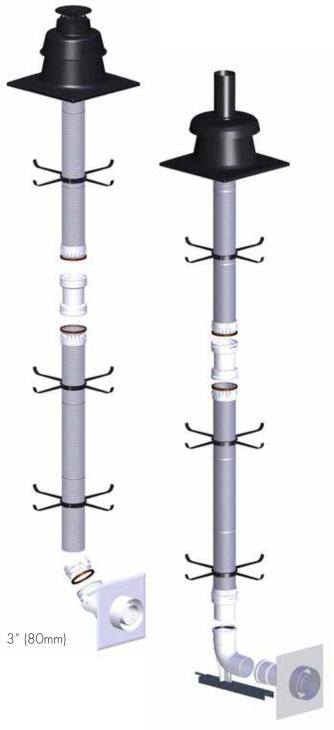
Approval

- ULC S636
- CE marked according to the European standard EN 14471 and conforms to the principles of CE EN 483.
- Conforms to Gastec Qa 83-1.

Recyclable

At the end of its life-cycle the Z-DENS $^{\!\scriptscriptstyle\mathsf{TM}}$ Flex vent system can be completely recycled.

Z-DENS™ Flex 2" (60) 3" (80) 4



2" (60mm) 4" (110mm)

Z-DENS™ FLEX

Z-DENS™ FLEX

Z-DENS[™] Polypropylene Flex System is engineered for ease of installation and time savings. No cure times required before appliance start-up. By using the pull-in tool, the flexible one piece liner can be installed quickly and easily. In order to assure a perfect position within the chimney, bracing brackets are used. The brackets are fitted to the flexible pipe at 6.5 feet (2 m) spacing.

*Z-Flex(US)® recommends that Z-DENSTM be stored above 32°F (0°C) and the material temperature be above 32°F (0°C) during installation.

Z-DENS[™] flex is a flexible polypropylene vent system specially designed for connection to condensing gas or oil fired heating appliances with a maximum flue temperature of 248°F (120°C)

Specifications:

- Made from flame retardant PP.
- Resistant up to temperature of 248°F (120° C).
- Operates in negative and positive pressure modes.
- 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.
- Pressure tested to 20" WC (5000 pa, level H1)

Simple installation is ensured with:

- 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.

This flexible flue system is available in 3 diameters:

Nominal diameter	2"(Ø 60)	3"(Ø 80)	4"(Ø 110)
Inside diameter (mm)	2"(Ø 50.2)	3"(Ø 77)	4"(Ø 101)
Outside diameter (mm)	2.3"(Ø 58.4)	3.5"(Ø 88.1)	4.5"(Ø 113)
Weight (kg/meter)	<0.4(< 0.2)	<1(< 0.5)	<1.2(< 0.6)

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



			(
		3" Starter Kit Fle	X			
	Z-DENS™ Chimney cover for flexible pipes 2" and 4"	D1 2 (60) 4 (110)	L1 14.6 (370) 14.6 (370)	L2 5.7 (145) 5.7 (145)	L3 13.8 (350) 13.8 (350)	
	ECONEXT® Flex Chimney Cover 3" for masonry chimneys	D1 3 (80)	L1 11 (280)	L2 4.7 (120)	L3 13.8 (350)	L4 9.7 (245)
D1 D2	ECONEXT® Chimney Cover 3" for stoneware chimney pot	D1 3 (80)	D2 9.7 (245)	L1 9.1 (230)	-	
	Z-DENS™ Flex – flexible pipe	DN 2 (DN60) 2 (DN60) 3 (DN80) 3 (DN80) 3 (DN80) 4 (DN110) 4 (DN110)	D1 2 (50.2) 2 (50.2) 3 (77) 3 (77) 3 (77) 4 (101) 4 (101)	D2 2.3 (58.4) 2.3 (58.4) 3.5 (88.1) 3.5 (88.1) 3.5 (88.1) 4.5 (113) 4.5 (113)	L1 41 (12.5m) 82 (25m) 41 (12.5m) 82 (25m) 164 (50m) 2.62 (80m) 41 (12.5m) 82 (25m)	

Z-DENS™ FLEX

E.C.	12 0 =	Wall plate B2 single pipe with integrated chimney elbow	2 (60) 3 (80)	9.8 (250) 9.8 (250)	9.8 (250) 9.8 (250)			
E Marie Control	5 8 5	Wall plate B3 concentric with integrated chimney elbow	D1 2 (60) 3 (80)	D2 3.9 (100) 4.9 (125)	9.8 (250) 9.8 (250)	L2 11.8 (300) 11.8 (300)		
Car	12 08 5	Wall plate C9 twin pipe with integrated chimney elbow	D1 2 (60) 3 (80)	L1 7.1 (180) 7.1 (180)	L2 11.8 (300) 11.8 (300)			
You	0,85	Wall plate C9_x concentric with integrated chimney elbow	D1 2 (60) 3 (80)	D2 3.9 (100) 4.9 (125)	9.8 (250) 9.8 (250)	L2 11.8 (300) 11.8 (300)		
	D1 D2	Ceiling plate C9_x with integrated flex connection	D1 2 (60) 3 (80)	D2 3.9 (100) 4.9 (125)	L1 6.1 (155) 6.1 (155)	9.8 250 9.8 250	X1 2.4 (60) 2.4 (60)	
	12 Si =	Telescopic ceiling plate C9_x concentric with integrated flex connection	D1 3 (80)	D2 4.9 (125)	L1 14 (355)	L2 9.8 (250)	X1 2 (50)	
	D1 3	Ceiling plate B2 single pipe with integrated flex connection	D1 2 (60) 3 (80)	L1 6.1 (155) 6.1 (155)	L2 9.8 (250) 9.8 (250)	X1 2 (60) 2 (60)		
	12 14	PPs chimney elbow 87° with galvanized support	D1 2 (60) 3 (80) 4 (100)	4.7 (120) 5.1 (130) 4.7 (120)	L2 4.3 (110) 4.7 (120) 4.3 (110)	L3 7.1 (180) 8.3 (210) 9.1 (230)	L4 15.4 (390 15.4 (390 15.4 (390	X1 2.6 (65) 3 (75) 2.6 (65)



		PPs coupling flex-flex				
			D1	L1	X1	
			2 (60)	5.5 (140)	2.8 (70)	
			3 (80)	5.5 (140)	2.8 (70)	
	DI		4 (110)	5.5 (140)	21.8 (70)	
	- La	PPs coupling flex-rigid				
			DI	L1	X1	
	Fig 5		2 (60)	4.3 (110)	2 (50)	
	×		3 (80)	4.3 (110)	2 (50)	
	D1		4 (110)	4.3 (110)	2 (50)	
		PPs adapter flex for	DI	L1	X1	
		chimney elbow	2 (60)	3.9 (100)	2.4 (60)	
	<u>×</u> , ,		3 (80)	3.9 (100)	2.4 (60)	
	DI		4 (110)	3.9 (100)	2.4 (60)	
		PPs bracing bracket	D	L1	L2	
	1/2 12	flex	2 (60)	1.8 (45)	15.8 (400)	
			3 (80)	1.8 (45)	15.8 (400)	
			4 (110)	1.8 (45)	15.8 (400)	
		PPs inspection piece flex	D	L1	Χ1	
			2 (60)	12.4 (315)	240	
100			3 (80)	13.2 (335)	240	
1			4 (110)	13.4 (340)	260	
			1	L1	L2	
	DI		3 (80)	4.9 (125)	13 (330)	
		Stainless Steel terminal	DI	L1	X1	
		guard	2 (60)	4.7 (120)	1.9 (47)	
	₹.		3 (80)	4.9 (125)	1.9 (47)	
UPUPU	DI		4 (110)	5.4 (138)	2.4 (60)	
D	0	Pull-in tool for flex				
<u> </u>	1/4		D1	L1		
	5		2 (60)	3.7 (95)		
0			3 (80)	3.7 (95)		
-	1		4 (110)	3.7 (95)		
<i>B</i> ₃	C ₄ _x	Wall plate concentric				
		Wall plate single wall				
B ₂						

Z-DENS™ CONCENTRIC

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

Certified to ULC S636 and CE Marked to the 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 in fire retardant polypropylene. Please note that $Z\text{-DENS}^{\text{TM}}$ 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

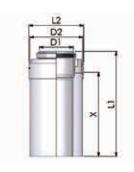
- The system is easy to assemble.
- The system is particularly rigid.
- It is modern in appearance.
- The same system can be used indoors as well as outdoors.
- Patent number: NLC 1022411.
- Certified to ULC S636 Gas Vent-BH Class II C 110°C/230°F.
- CE Marked according the European standards EN 1856-1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





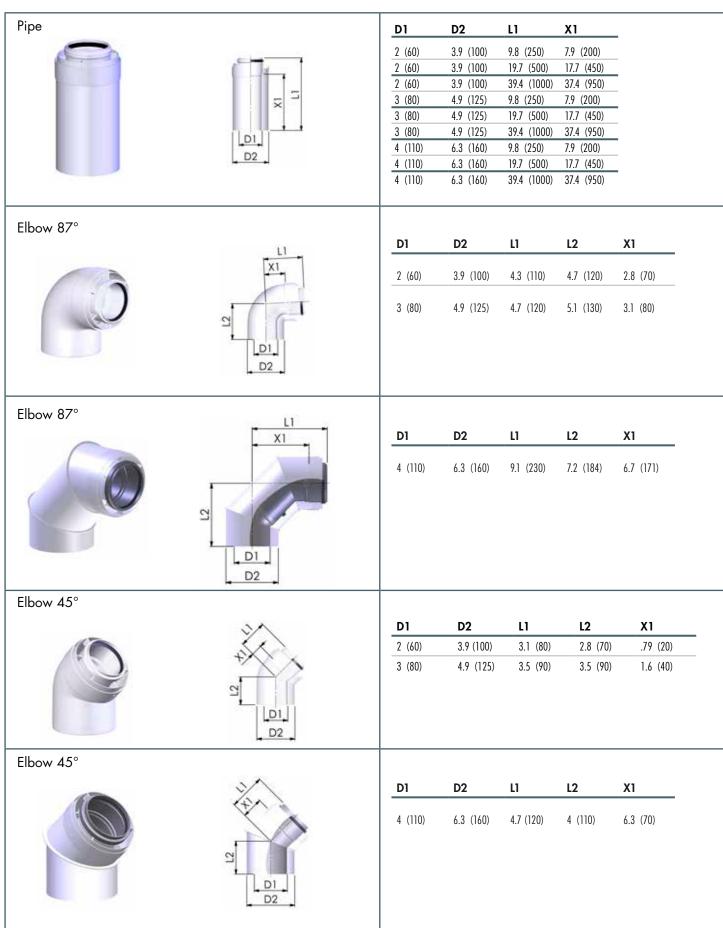
Z-DENS™ CONCENTRIC





D1	D2	LI	L2	Х
2 (60)	3.9 (100)	9.8 (250)	4.1 (105)	7.9 (200)
2 (60)	3.9 (100)	19.7 (500)	4.1 (105)	17.7 (450)
2 (60)	3.9 (100)	39.4 (1000)	4.1 (105)	37.4 (950)
3 (80)	4.9 (125)	9.8 (250)	3.1 (130)	7.9 (200)
3 (80)	4.9 (125)	19.7 (500)	3.1 (130)	17.7 (450)
3 (80)	4.9 (125)	39.4 (1000)	3.1 (130)	37.4 (950)
4 (110)	6.3 (160)	9.8 (250)	6.5 (165)	7.9 (200)
4 (110)	6.3 (160)	19.7 (500)	6.5 (165)	17.7 (450)
4 (110)	6.3 (160)	39.4 (1000)	6.5 (165)	37.4 (950)

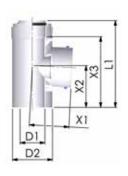




Z-DENS™ CONCENTRIC

Inspection Piece

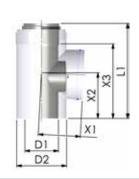




D1	D2	LI	X1	X2	хз
2 (60)	3.9 (100)	9.8 (250)	3.9 (100)	4.7 (120)	7.9 (200)
3 (80)	4.9 (125)	10.6 (270)	4.7 (120)	5.1 (130)	8.67 (220)

Inspection Piece

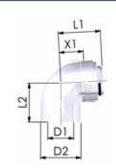




DI	D2	LI	X1	X2	Х3
4 (110)	6.3 (160)	11.9 (303)	5.5 (140)	5.5 (140)	9.5 (244)

Inspection Elbow 87°

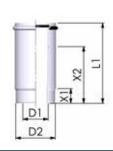




D1	D2	LI	L2	Х1
2 (60)	3.9 (100)	4.7 (120)	4.3 (110)	2.8 (70)
3 (80)	4.9 (125)	5.1 (130)	4.7 (120)	3.1 (80)

Adjustable Pipe





D1	D2	L1	X1	X2
2 (60)	3.9 (100)	10 (255)	1.6 (40)	8.09 (205.5)
3 (80)	4.9 (125)	10 (255)	1.6 (40)	8.09 (205.5)

Adjustable Pipe



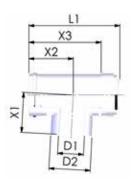


DI	D2	LI	X1	X2
4.3 (110)	6.3 (160)	10.8 (275)	3.3 (85)	8.88 (225.5)



Inspection Piece

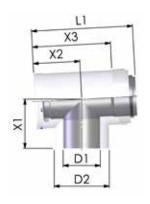




D1	D2	LI	X1	X2	Х3
2 (60)	3.9 (100)	9.8 (250)	3.9 (100)	4.7 (120)	7.9 (200)
3 (80)	4.9 (125)	10.6 (270)	4.7 (120)	5.1 (130)	8.67 (220)

Inspection T-Piece

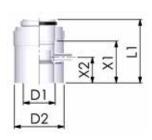




DI	D2	LI	X1	X2	Х3
4.3 (110)	6.3 (160)	11.57 (294)	5.62 (143)	5.2 (132)	9.6 (244)

Condensation Drain

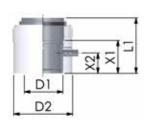




D1	D2	LI	X1	X2
2 (60)	3.9 (100)	6.9 (175)	4.9 (125)	3.1 (80)
3 (80)	4.9 (125)	6.3 (160)	4.3 (110)	2.6 (65)

Condensation Drain





D1	D2	L1	X1	X2	
4.3 (110)	6.3 (160)	5.9 (150)	3.9 (100)	2.2 (55)	

Z-DENS™ CONCENTRIC



DI	D2	LI	X1	X2
2 (60)	3.9 (100)	6.9 (175)	4.9 (125)	3 (80)
3 (80)	4.9 (125)	6.3 (160)	4.3 (110)	2.2 (55)



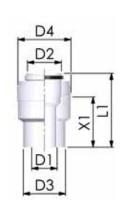




D1	D2	LI	X1	X2
4 (110)	6.3 (160)	6.9 (175)	4 9 (125)	31 (80)

Increaser

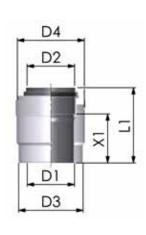




D1	D2	D3	D4	LI	X1
2 (60)	3.1 (80)	3.9 (100)	4.9 (125)	6 (175)	4.9 (125)

Increaser





DI	D2	D3	D4	L1	X1
4 (110)	4.3 (110)	5.9 (150)	6.3 (160)	6.9 (175)	40 (125)

Z-FLEX®

The Engineered Venting Systems Specialists

Z-FLEX®, part of the Novaflex Group of companies, is the leading manufacturer of specialty venting systems for furnaces, boilers, water heaters, oil heaters, fireplaces, and more.

Z-FLEX® has been providing flexible answers to gas, oil, pellet and wood venting applications since 1979. We have pioneered flexible chimney liner solutions and Special Gas Vent (ferritic stainless steel). A variety of innovations in materials and construction have led to products that deliver:

- Superior performance and increased efficiency
- Easier handling and faster, simpler installation
- Greater reliability, safety and increased service life

To that we add responsive customer service and expert technical support.

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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