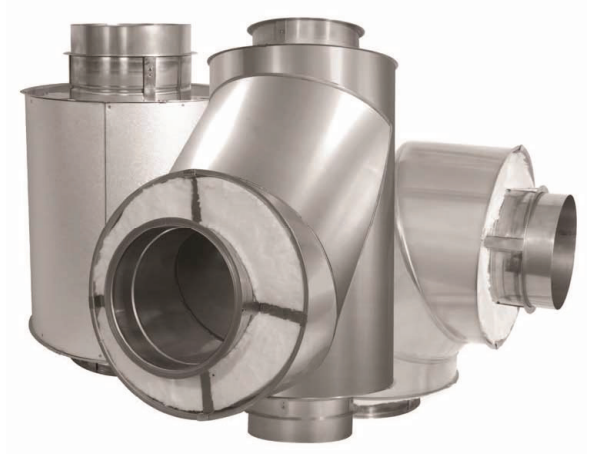


# DuraVent®

## SUBMITTAL RECORD

**ZERO CLEARANCE  
GREASE DUCT  
KITCHEN VENTILATION**

**MODEL DIS3Z**



	Listed to standards: UL 1978 UL 2221
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SUBMITTAL RECORD	
PREPARED FOR:	
REFERENCE:	
LOCATION:	
CONTACT:	
TELEPHONE:	FAX:
EMAIL:	
PREPARED BY:	

Material Selection	
FLUE (INNER WALL)	CASING (OUTER WALL)
304	304
316	GALVALUME

Reference to the Installation Instructions will enable you to obtain a safe, efficient and dependable installation of this vent system. Please read and understand these instructions before beginning your installation. Do not alter or modify the components of this vent system under any circumstances. Any modification or alteration of the vent system or approved accessories, including but not limited to the appliance it is connected to, may void the warranty, listings and approvals of this system and could result in an unsafe and potentially dangerous installation.

- A. Examine all components for possible damage prior to installation
- B. Proper joint assembly is essential for a safe installation. Follow the Installation Instructions exactly. Check the precision of the joints upon completion of assembly.
- C. This venting system must be free to expand and contract. This venting system must be supported in accordance with the Installation Instructions.
- D. Check for unrestricted vent movement through walls, ceilings, floors and roof penetrations.
- E. Different manufacturers have dissimilar joint systems and adhesives. Do not mix pipe, fittings or joining methods from other manufacturers.

# Model DIS3Z

## SECTION A – CODE COMPLIANCE

### UNDERWRITERS LABORATORIES LISTINGS

<b>Model DIS3Z</b> (Double wall, AES Insulation)	
UL 1978 - Grease Duct	5"- 36" ID
<b>UL 2221 - Fire Resistant Enclosure</b>	5"- 36" ID
ULC S662 - Grease Duct	5"- 36" ID

#### COMPLIES TO THE FOLLOWING:

National Fire Protection Association (NFPA)

- Complies with NFPA 96 – “Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations

International Code Congress (ICC)

- Complies with “International Mechanical Code” and “International Building Code” if applicable to the project or site

International Association of Plumbing and Mechanical Officials (IAPMO)

- Complies with “Uniform Mechanical Code” if applicable to the project or site

#### UL 2221 Listing:

DuraVent Model DIS3Z is classified in accordance with UL 2221 (Tests of Fire Resistive Duct Enclosure Assemblies) as an alternate to a 2-Hr. fire resistive shaft enclosure with a minimum zero clearance to combustibles (sizes 5” to 36” diameters). Model DIS3Z has been evaluated in accordance with the requirements for duct enclosure Condition A.

#### UL 1978 Grease Duct Listing:

DuraVent Model DIS3Z is listed for continuous temperatures of 500°F and intermittent temperatures of up to 2000°F, and are ideally suited for use in commercial cooking installations for the removal of smoke and grease laden vapors (Type I or Type II kitchen exhaust hood). Grease duct system size and capacity information may be obtained from the “ASHRAE Handbook – Fundamentals” or from the “Air Pollution Engineering Manual” of the “US Environmental Protection Agency.”

#### ULC S662 - Grease Duct

These requirements cover factory-built grease ducts and grease duct assemblies that are intended to be installed as alternatives to the grease ducts constructed of all welded 1.37 mm carbon steel or 1.09 mm stainless steel required by ULC-S650, Standard for the Installation and Performance of Ventilation and Fire Suppression Systems for Commercial and Institutional Cooking Equipment. Grease ducts covered by these requirements are intended to be installed in a fire rated enclosure when required by the provincial or territorial regulations or bylaws, or in the absence of those requirements by the National Building Code of Canada. Grease duct assemblies that penetrate fire rated assemblies which do not

require the protection of a fire rated enclosure are covered by the requirements contained in CAN/ULCS144, Standard Method of Fire Resistance Test - Grease Duct Assemblies.

### MIXING PARTS

Model DCL, DAS1, DIS1, DIS2, DIS4 and DIS3Z listed to UL 1978 may be intermixed within a system, assuming proper clearances are maintained for respective components. When penetrating a roof, appropriate roof penetration components must be used. Do not use Model SCL to penetrate through a wall, floor or roof. More information for these other models is available.

## SECTION B – GENERAL INFORMATION

### PART NUMBERS

This submittal identifies major model parts by name and part number.

#### Material Code Designation:

B = Type 316 Stainless Steel (SS)

C = Type 304 Stainless Steel (SS)

E = Aluminum Zinc Coating (GALVALUME)

#### Example:

DIS3Z – 36” length with inside diameter of 14” made of SS 316 inner flue and SS 304 outer casing; Code = **DIS3Z14L36BC**

DIS3Z	14	L36	BC
Model	Dia.	Part	Material

DIS3Z – 30° elbow with inside diameter 22” made of SS 304 inner flue and Galvalume outer casing; Code = **DIS3Z22E30CE**

DIS3Z	22	E30	CE
Model	Dia.	Part	Material

DIS3Z – Through Penetration Firestop Kit 18” diameter UL rated Firestop; Code = **DIS3Z18TPFKE**

DIS3Z	18	TPFKE	E
Model	Dia.	Part	Material

**Use only factory supplied components. Failure to do so will void the certification and the warranty of the chimney duct system.**

**EFFECTIVE LENGTH AND MATERIAL THICKNESS**

The effective length is the length of the part when it is assembled.

Effective Length	Thickness for 5" to 36" diameters
L36 = 36-1/8"	inner wall = 0.035"
L24 = 24-1/8"	outer wall = 0.024"
L18 = 17-5/8"	
L12 = 11-5/8"	

**CLEARANCE TO COMBUSTIBLE FIRE RATED UL 2221**

Model DIS3Z is equivalent to a 2 – Hour fire rated grease duct enclosure system.  
DIS3Z is "0" inch clearance to combustibles

CLEARANCE TO COMBUSTIBLE (from the outer band - BSE)	
DIS3Z – 5" TO 36"	0"

Table 1: DIS3Z Clearance to Combustible

Model DIS3Z may penetrate a combustible floor, wall or roof using the appropriate parts and opening sizes. Refer to the installation instructions for detailed information.

Whenever the DIS3Z grease duct passes through a fire rated wall or floor, a DIS3Z Ø TPFK must be used to maintain the fire rating.  
Fire resistance rating: 2 hours (F & T)

**FIRE RATED (2-HR) FLOOR PENETRATION**

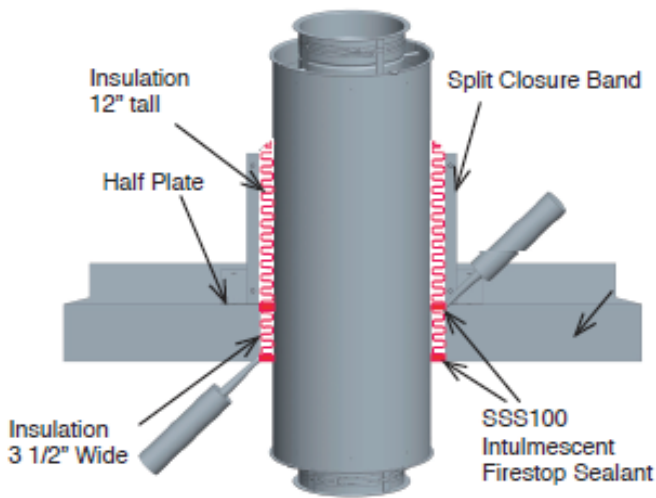


Fig. 1: Through Penetration Firestop fire-rated Floor Penetration

**NOTE:**  
Must use S-TPFS (Spec Seal Triple S Intumescent Firestop Sealant – SSS100). Ordered separately from DIS3ZØTPFK based on duct diameter. Refer to table XX for tube coverage.

**FIRE RATED (2-HR) WALL PENETRATION**

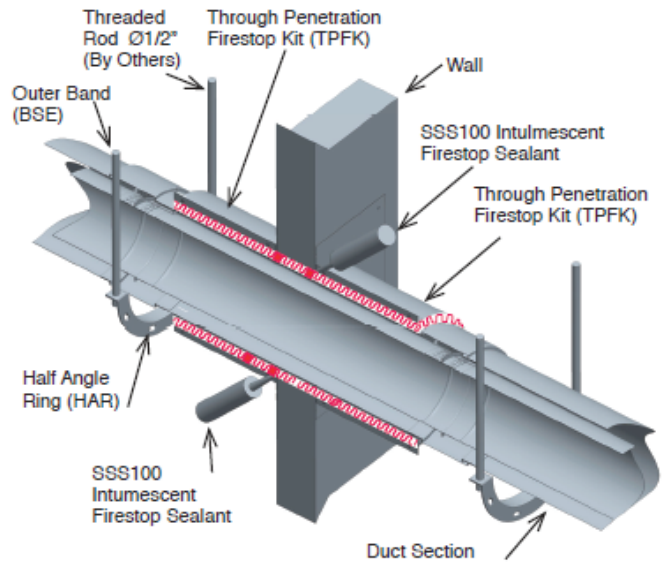


Fig. 2: Through a fire-rated Wall / requires 2 X DIS3ZØTPFK

Expected number of tubes of S-TPFS per hole Through a 2 – Hr. Fire Rated Wall or Floor	
Inner Duct Diameter	Number of Tube per hole
5	2 – ¼
6	2 – ½
7	2 – ¾
8	2 – ¾
9	3
10	3 – ¼
11	3 – ¼
12	3 – ½
13	3 – ¾
14	3 – ¾
16	4 – ¼
18	4 – ½
20	5
22	5 – ¼
24	5 – ½
26	6
28	6 – ¼
30	6 – ½
32	7
34	7 – ¼
36	7 – ¾

Table 2: required number of tubes S-TPFS

**CLEARANCE TO COMBUSTIBLE NON - FIRE RATED  
UL 1978 LISTING APPLICATION**

Model DIS3Z can be used for either combustible or non-combustible surroundings. When installed in an open room where enclosure is not required, the duct may be located at a minimum clearance to adjacent combustible walls

CLEARANCE TO COMBUSTIBLE (from the outer band - BSE)	
DIS3Z – 5" TO 36"	0"

Table 3: Clearance to Combustible (Unenclosed Surrounding).  
Grease Duct – UL1978

**UL 1978 LISTING APPLICATION WALL, FLOOR AND  
ROOF PENETRATION**

A chimney duct that must penetrate through a wall, floor or roof made of COMBUSTIBLE materials, must use a Wall Thimble (WT) or Roof Thimble (RT). The minimum air space clearance between the outer wall of the duct and the combustible material of the wall, floor or roof must always be respected.

**ROOF THIMBLE (RT)**

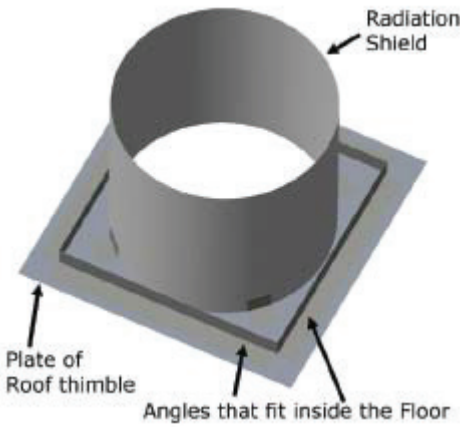


Figure 3: Roof Thimble (RT)

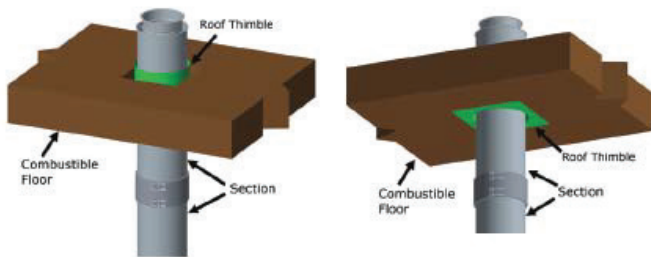


Figure 4: Visualization Roof Thimble Installed

**WALL THIMBLE (RT)**

The part consists of a roof thimble female half and a male roof thimble that slide in each other to adjust wall thickness from 8" to 12". The minimum air space clearance between the outer wall of the duct and the combustible material of the wall, floor or roof must always be respected. The duct must be well supported on both sides of the wall to prevent any load or offset of the duct in the Wall Thimble.

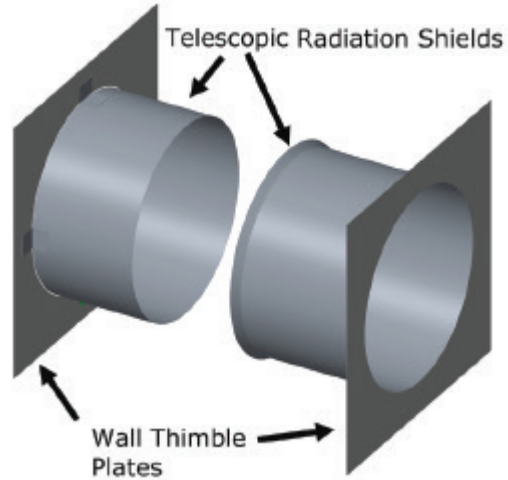


Figure 5: Wall Thimble (WT)

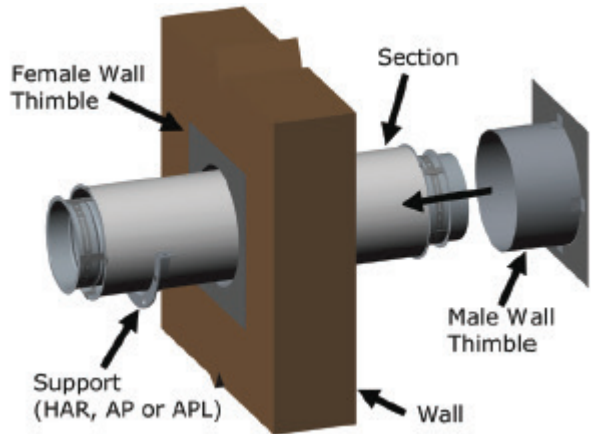


Figure 6: Visualization of Wall Thimble Installed

Minimum Square OPENINGS for NON-Fire-Rated Floor / Wall / Roof			
Model	Diameter	Through Combustible	Through Non-Combustible
DIS3Z	5" to 9"	ID + 6-3/4"	ID + 6-3/4"
DIS3Z	10" to 36"	ID + 6-3/4"	ID + 6-3/4"

Table 4: Openings for through Floor / Wall / Roof  
Grease Duct – UL1978





## PROPER STORAGE

All chimney duct components should be stored in a dry place until installed.

Sealant shall be stored in a location where it will not freeze.

## PRODUCT WEIGHT DIS3Z

The average weight of the duct, per foot of length, can be estimated using the following formula:

$$\text{DIS3Z: } 1.52 \text{ diameter in inches} = \text{lbs. per foot}$$

## SYSTEM SIZING

The Grease Duct system sizing should be done by an experienced person familiar with duct sizing. Not following the equipment manufacturer's instructions may result in inadequate duct performance and/or a violation of the equipment manufacturer's installation requirements.

## EXTERIOR CORROSION PROTECTION

It is recommended to apply an exterior grade high heat paint to any plate support, full/half angle rings, wall supports/guides, aluminized outer duct wall (Galvalume) corrosion protection against the elements. Rust-Oleum V200 series High Heat Industrial Aerosol is an example for proper protection of these components.

## THERMAL EXPANSION CALCULATIONS

Thermal expansion under normal operating temperatures can fatigue welds and joints causing leakage. To calculate the thermal expansion, use the following formula:

$$[\text{Length (ft.)} / 100] \times [\text{Temperature Rise Degrees F} / 100]$$

$$\text{Example: } [50' / 100] \times [75^\circ / 100] = .375'' \text{ Expansion}$$

If the computed expansion between the fixed points is greater than .375" DuraVent recommends an adjustable length be installed.

## SLOPE FOR GREASE DUCT

For DuraVent factory-built grease ducts listed to UL1978, install at a duct slope not less than 1/16" unit vertical slope in 12 units of horizontal toward the hood or toward the grease reservoir. When DuraVent grease duct listed to UL1978 exceed 75 feet in length, the slope shall not be less than 1/8" unit vertical slope in 12 units' horizontal. The minimum slope is a result of tests and/or analysis performed by Underwriters Laboratories, where factory-built grease duct was compared to rectangular field-applied grease duct for performance of flow characteristics. Consult with AHJ for acceptance of this alternate method.



## SEISMIC REQUIREMENTS

In certain areas of the country, local codes contain requirements to address Seismic risks. Seismic requirements for chimneys and Grease Duct usually include specifications for additional "sway bars" / bracing, or similar devices to help stabilize the system in the event of an earthquake.

Specific guidelines (including spacing, location, size and method of attachment of bracing / sway bars or other devices) for addressing seismic requirements may vary depending upon the adopted code, seismic zone, duct size, location in building, etc. and are not within the scope of this submittal.

Consult with a design professional to determine compliance options for these potentially complex requirements when this product is to be installed in a building where these additional requirements apply.

## PRODUCT LABELS

 <p><b>GREASE DUCT PART, FOR RESTAURANT COOKING APPLIANCE</b> LISTED IN ACCORDANCE WITH UL-1978 TEST STANDARD. GREASE DUCT FOR USE IN GREASE DUCT ASSEMBLIES, CLASSIFIED IN ACCORDANCE WITH UL-2221, SEE UL FIRE RESISTANCE DIRECTORY NO. R37874.</p> <p><b>CONDUIT D'ÉVACUATION POUR HOTTE DE CUISINE COMMERCIALE</b> LISTÉS SELON LA NORME UL-1978 ET CLASSIFIÉS SELON LA NORME UL-2221. VOIR LE RÉPERTOIRE SUR RÉSISTANCE AU FEU DE UL NO. R37874.</p>		
<b>MODEL</b>	<b>DIS3Z</b>	<b>MODÈLE</b>
<p>GREASE DUCT, FOR USE IN GREASE DUCT ASSEMBLY NO. G-20 CLASSIFIED AS AN ALTERNATE TO 2 HR. FIRE RESISTIVE SHAFT ENCLOSURE WITH A MINIMUM ZERO CLEARANCE (AIR SPACE) TO COMBUSTIBLES. FLUE DIAMETERS: 8" to 30"</p> <p>CLÉANCE TO COMBUSTIBLES: 0" (FOR ALL DIAMETERS)</p> <p>FOR GREASE DUCT SYSTEMS INSTALLED WITHOUT A CONTINUOUS FIRE-RATED ENCLOSURE, AN EVALUATED THROUGH-PENETRATION FIRESTOP ASSEMBLY SHALL BE USED. SEE THROUGH-PENETRATION FIRESTOP SYSTEM NO. C-AJ-7160 IN UNDERWRITERS LABORATORIES INC. FIRE RESISTANCE DIRECTORY FOR RATED INSTALLATIONS THAT REQUIRE PENETRATION OF RATED WALLS OR FLOOR/CILING.</p> <p><b>CAUTION:</b> RISK OF FIRE. DO NOT FULLY ENCLOSE WITH COMBUSTIBLE MATERIALS. <b>INSTALLED AND USE ONLY</b> IN ACCORDANCE WITH SECURITY CHIMNEYS INTERNATIONAL LTD GREASE DUCT INSTALLATION AND MAINTENANCE INSTRUCTIONS. SUITABLE FOR EXTERIOR AND INTERIOR INSTALLATION</p>		
<p>CONDUIT DE GREASSE, POUR UTILISATION D'ASSEMBLAGE DE CONDUITS DE GREASSE NO. G-20, CLASSÉ COMME ÉTANT UNE ALTERNATIVE À UN BOÎTIER RÉSISTANT AU FEU DURANT 2 HEURES INSTALLÉ AUTOUR DU CONDUIT AVEC UN DÉGAGEMENT MINIMALE DE ZÉRO POUCE AUX MATÉRIELUX COMBUSTIBLES. DIAMÈTRES DE LA PAROI INTÉRIEURE: 05" À 030"</p> <p>DÉGAGEMENT AUX MATÉRIELUX COMBUSTIBLES: 0" (TOUS LES DIAMÈTRES)</p> <p>POUR LES CONDUITS INSTALLÉS SANS ENCLUSE AVEC RÉSISTANCE AU FEU, UN COUPE-FEU CERTIFIÉ DOIT ÊTRE UTILISÉ. VOIR SYSTÈME DE COUPE-FEU POUR PÉNÉTRATION NO. C-AJ-7160 DANS LE RÉPERTOIRE DE RÉSISTANCE AU FEU DE UNDERWRITERS LABORATORIES INC. POUR LES INSTALLATIONS AYANT BESOIN DE PÉNÉTRER À TRAVERS UN MUR, PLANCHER OU PLAFOND AYANT UNE RÉSISTANCE AU FEU.</p> <p><b>ATTENTION:</b> RISQUE DE FEU. NE PAS ENFERMER DANS UNE ENCLUSE COMBUSTIBLE. <b>TOUJOURS SUIVRE ET INSTALLER SELON LE MANUEL D'INSTALLATION FOURNI PAR CHEMINÉES SÉCURITÉ INTERNATIONALE L.TÉE.</b> <b>POUR INSTALLATION EXTERIEURE ET INTERIEURE</b></p>		
<p style="text-align: center;">↑ UP HAUT ↓ FLOW DIRECTION ÉCOULEMENT</p>		
<p style="text-align: center;"> Laval, QC CANADA NP333 REV. 01</p>		

 <p><b>GREASE DUCT PART, FOR RESTAURANT COOKING APPLIANCE.</b> <b>CONDUIT D'ÉVACUATION POUR HOTTE DE CUISINE COMMERCIALE.</b></p>		
<b>ACCESSORIES</b>	<b>DIS3Z</b>	<b>ACCESSOIRES</b>
<p>FOR USE IN GREASE DUCT ASSEMBLY NO. G-20 CLASSIFIED IN ACCORDANCE WITH UL 1978 &amp; UL 2221 SEE UL FIRE RESISTANCE DIRECTORY NO. R37874</p> <p>SEE THROUGH-PENETRATION FIRESTOP SYSTEM NO. C-AJ-7160 IN UL FIRE RESISTANCE DIRECTORY</p> <p><b>INSTALLED AND USE ONLY</b> IN ACCORDANCE WITH SECURITY CHIMNEYS INTERNATIONAL LTD GREASE DUCT INSTALLATION AND MAINTENANCE INSTRUCTIONS SUITABLE FOR EXTERIOR AND INTERIOR INSTALLATION</p>		
<p>CONDUIT D'ÉVACUATION DE HOTTE DE CUISINE NO. G-20, SELON LES NORMES UL 1978 &amp; UL 2221. VOIR LE RÉPERTOIRE SUR RÉSISTANCE AU FEU DE UL NO. R37874.</p> <p>VOIR SYSTÈME DE COUPE FEU POUR PÉNÉTRATION NO. C-AJ-7160 DANS LE RÉPERTOIRE DE RÉSISTANCE AU FEU DE UL</p> <p><b>TOUJOURS SUIVRE ET INSTALLER SELON LE MANUEL D'INSTALLATION FOURNI PAR CHEMINÉES SÉCURITÉ INTERNATIONALE L.TÉE.</b> <b>POUR INSTALLATION EXTERIEURE ET INTERIEURE</b></p>		
<p style="text-align: center;"> Laval, QC CANADA NP334 REV. 01</p>		

## SUPPORT METHODS AND HEIGHT LIMITS

- Several support and guiding methods are used to anchor a chimney duct against upward, downward and angular displacement
- These supports and guides used with thermal expansion devices, prevent bending stresses on the chimney duct elbows and joints

**NOTE:**

All the weight of the section must be supported by the inner flue. Never support any chimney duct from the outer wall.

PARTS	DIAMETER	HEIGHT
ANCHOR PLATE (AP)	5" to 22"	70
	24" to 36"	42
ANCHOR PLATE with LENGTH (APL)	5" to 22"	74
	24" to 36"	45
BASE SUPPORT TEE (T90 or t45)	5" to 22"	27
	24" to 36"	16
WALL SUPPORT (WSHD)	5" to 22"	28
	24" to 36"	17
<b>WARNING: Do not attach any supports to combustible construction</b>		

Table 5: Support height limits

MODEL	HEIGHT (ft.)	HEIGHT (ft.)
DIS3Z Diameter (in.)	MVS*	H**
5	20	6'
6	20	6' - 9"
7	20	7'
8	20	7' - 3"
9	20	7' - 6"
10	20	7' - 9"
11	20	8'
12	20	8' - 3"
13	20	8" - 6"
14	20	9'
16	20	9' - 6"
18	20	10'
20	20	10' - 9"
22	20	11'
24	20	11' - 6"
26	20	12'
28	20	12' - 3"
30	20	12' - 9"
32	20	13' - 3"
34	20	13' - 6"
36	20	13' - 9"
*MVS: Maximum Vertical Spacing between two guides or support and guide in a vertical position		
**H: Maximum Freestanding height above the roof. Limited due to wind loads		

Table 6: Support height limits

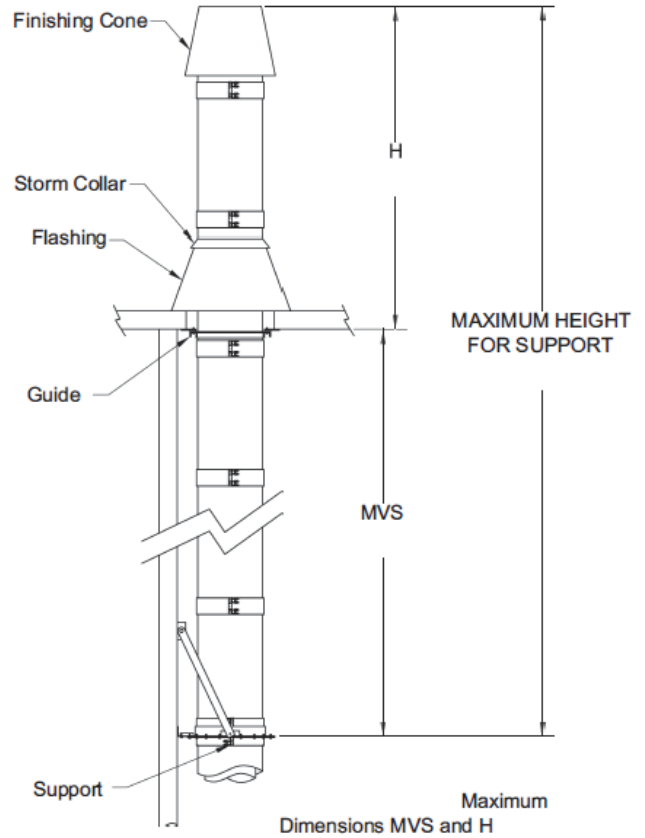


Figure 8: MVS and H limits

PARTS	DIAMETER (in.)	DISTANCE (ft.)
Half Angle Ring (HAR)	5" to 12"	12'
Full Angle Ring (FAR)		
Anchor Support (AP)	14" to 24"	10'
Anchor Plate with Length (APL)	26" to 36"	8'
Heavy Duty Wall Guide (HDWG)		
<b>NOTE: The Half Angle Ring (HAR) and Full Angle Ring (FAR) used in Horizontal installations must be installed with threaded rod having a minimum of 1/2" or with structural steel provided by others</b>		

Table 7: Maximum Horizontal Spacing between Guides / Supports

## SECTION D – PIPE & FITTING JOINT ASSEMBLY

The ends of each inner pipe are made of flanges (1/2"). All the joints between sections are a flange-to-flange connection of the inner pipe.

### SPECIAL FEATURE

All sections have an unattached "Alignment Sleeve". The alignment sleeve facilitates centering of adjacent sections and provides backing for the sealant applied to the flange keeping the sealant in the intended location. Typically, it is inserted in the downstream end but may be removed. Although not required, it aids in easier assembly, better sealing and adds strength to the section joint.

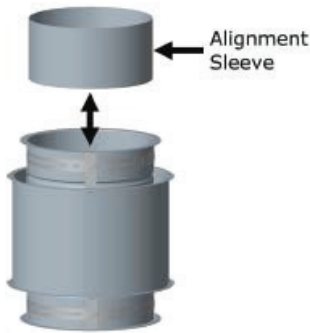


Figure 9: Feature of the Alignment Sleeve

### JOINT ASSEMBLY

#### STEP 1:

Fill the channel of the inner V-band with S-650 sealant supplied by DuraVent and place below the flange of the first section.



Figure 10: Joint Assembly Step 1

#### STEP 2:

Apply a small continuous bead of S-650 sealant approximately 3/16" wide to one of the flanges to be joined.

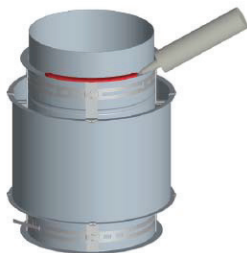


Figure 11: Joint Assembly Step 2

#### STEP 3:

Join the two flanged ends of the duct section together and rotate slightly to ensure complete coverage of the sealant on flanges.

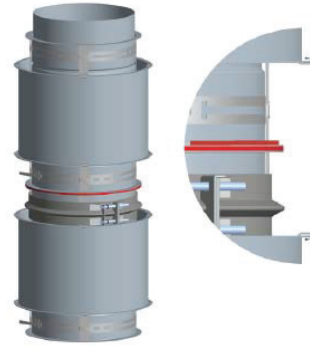


Figure 12: Joint Assembly step 3

#### STEP 4:

Install the V-band around the flanges making sure the flanges are located within the V-Clamp.

NOTE: do not locate V-band hardware at the bottom side of horizontal ducts

NOTE: light tapping with a hammer all around the band while tightening bolts helps align and pull flanges together.



Figure 13: Joint Assembly step 4

#### STEP 5:

Install the supplied AES insulation strips between sections to ensure that all gaps are filled. Be sure that insulation is tightly packed and completely fills the void between flue and closure band when assembled.



Figure 14: Joint Assembly step 5



**STEP 6:**

Secure the Outer Casing with the Outer Band (BSE).  
Joint installation is complete.



Figure 15: Joint Assembly step 6

**NOTE:**

Seal the BSE band (top) with S-375 sealant if exposed to weather.

**SEALANT USAGE**

Part No. S-650

(Permatex® Red High Temp Silicone) is red and is one of our UL approved sealants for temperatures up to (650°F / 344°C). Can also be used for weathering/sealing on outdoor seams and channel bands where necessary.

Part No. S-375

(Nuflex 302 General Purpose) is a low temperature grey silicone (450° / 232°C) only for weathering/sealing on outdoor seams and Outer Band (BSE) where necessary.

Expected number of tubes per joint assembly for S-650 or S-375	
Flue Diameter (in.)	Number of tubes per Joint
5 to 10	1 / 5
11 to 16	1 / 4
18 to 22	1 / 3
24 to 28	1 / 2
30 to 32	2 / 3
34 to 36	3 / 4

Table 8: Tubes per Joint

**SECTION E – COMPONENTS**

**LENGTH (L)**

Used as standard duct lengths.  
Available in diameters 5” to 36”

**L12, L18, L24 and L36**



Figure 16: Standard Length

**ADJUSTABLE LENGTH (LA) – THERMAL EXPANSION AND ODD LENGTH**

Adjust to fit odd lengths and compensate for Thermal Expansion

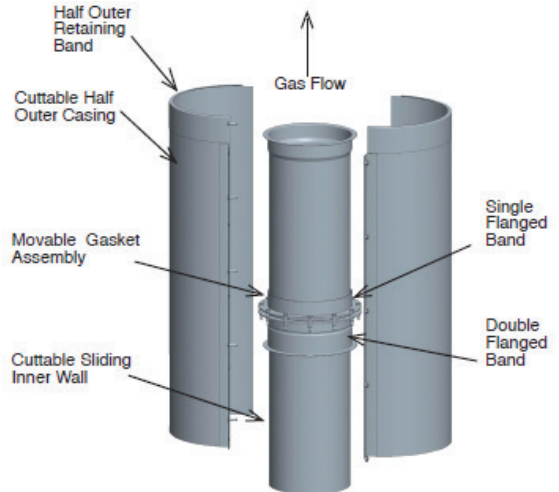


Figure 17: Adjustable Length

**VARIABLE LENGTH (LA) – ODD LENGTH - NO THERMAL EXPANSION**

Adjust to fit odd lengths only. Primarily used for space between elbow offset when an odd length is required.

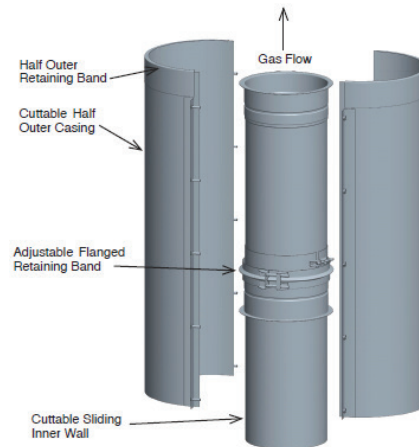


Figure 18: Variable Length

**DRAIN LENGTH (DL) – VERTICAL**

Used to drain grease or condensate from the inner wall on vertical runs. There is a channel inside the inner wall for directing the flow. A 1" NPT nipple is provided.



Figure 19: Vertical Drain Length

**DRAIN LENGTH (HDL) – HORIZONTAL**

Used as a horizontal drain in grease duct applications. There is a DAM inside the inner wall for directing the grease to the drain. A 1" NPT nipple is provided.



Figure 20: Horizontal Drain Length

**NOZZLE LENGTH (NL)**

Used to insert a fire-suppression or wash down nozzle. A 1" NPT nipple is provided.



Figure 21: Nozzle Length

**NO TOOL ACCESS DOOR (ADL)**

Used for inspection and cleaning. Greaseproof and fire-tight seal. Available in two lengths: 26" and 36" to accommodate spaces.

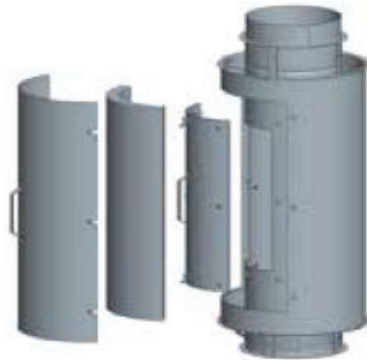


Figure 22: No Tool Access Door

**NO TOOL ACCESS TEE CAP (NTTC)**

Used to close and seal unused tee ports. Provides easy access for inspection.



Figure 23: No Tool Tee Cap

**ELBOWS – E3, E15, E30, E45 and E90**

Used to change direction of the duct or to provide an offset. Available in 3°, 15°, 30°, 45° and 90° configurations. Elbows are not designed to take bending loads or thermal expansion.

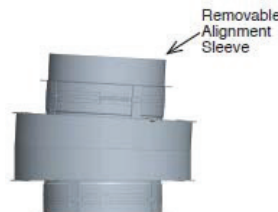


Figure 24: 3° elbow

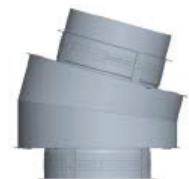


Figure 25: 15° elbow

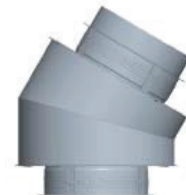


Figure 26: 30° elbow

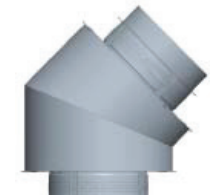


Figure 27: 45° elbow

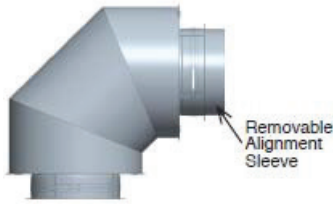


Figure 28: 90° elbow

**OFFSETS**

Various elbows will create a different configuration for the offset and rise. The chart below (Table 9) provides information for back-to-back elbows



Figure 24A, 25A, 26A, 27A, 28A: Offset of 2 elbows

DIS3Z - Minimum (2) Elbows Offsets					
Diameter	3°	15°	30°	45°	90°
5	1/2	2 - 5/8	5 - 3/4	9 - 3/8	22 - 1/2
6	1/2	2 - 5/8	5 - 7/8	9 - 5/8	23 - 1/2
7	1/2	2 - 3/4	6	9 - 7/8	24 - 1/2
8	1/2	2 - 3/4	6 - 1/8	10 - 1/4	25 - 1/2
9	1/2	2 - 3/4	6 - 3/8	10 - 1/2	26 - 1/2
10	1/2	2 - 3/4	6 - 1/2	10 - 3/4	27 - 1/2
11	1/2	2 - 7/8	6 - 5/8	11 - 1/8	28 - 1/2
12	1/2	2 - 7/8	6 - 3/4	11 - 3/8	29 - 1/2
13	1/2	2 - 7/8	6 - 7/8	11 - 5/8	30 - 1/2
14	1/2	2 - 7/8	7	12	31 - 1/2
16	1/2	2 - 1/2	7 - 1/4	12 - 1/2	33 - 1/2
18	1/2	3 - 1/8	7 - 1/2	13 - 1/8	35 - 1/2
20	1/2	3 - 1/8	7 - 3/4	13 - 3/4	37 - 1/2
22	1/2	3 - 1/4	8 - 1/8	14 - 1/4	39 - 1/2
24	1/2	3 - 1/4	8 - 3/8	14 - 7/8	41 - 1/2
26	1/2	3 - 3/8	8 - 5/8	15 - 1/2	43 - 1/2
28	1/2	3 - 3/8	8 - 7/8	16	45 - 1/2
30	1/2	3 - 1/2	9 - 1/8	16 - 5/8	47 - 1/2
32	1/2	3 - 1/2	9 - 3/8	17 - 1/4	49 - 1/2
34	1/2	3 - 5/8	9 - 5/8	17 - 3/4	51 - 1/2
36	1/2	3 - 5/8	9 - 7/8	18 - 3/8	53 - 1/2

Table 9: Offset chart of elbows

**TEES - 90° TEES (T90) and 90° TEES with DAM (T90D1 or T90D2)**

Used to change direction at 90° breaching. Can be used as an inspection access in horizontal runs. An optional DAM can be ordered in position #1 or #2 for protection against fluids running out.

Available with smaller snout (branch)

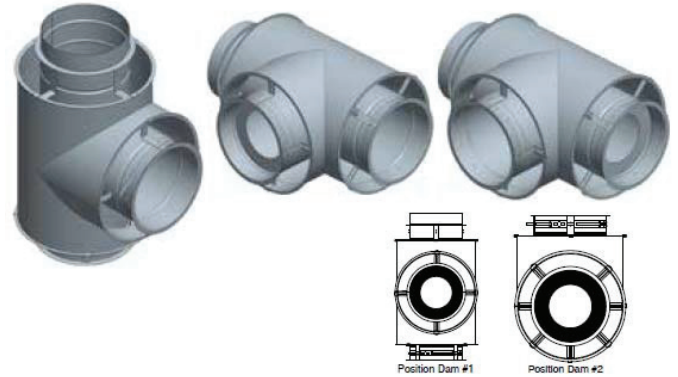


Figure 29: 90° Tee and 90° Tee with DAM

**TEES - 90° TEES with NOZZLE (T90N)**

Used to change direction at 90° breaching and provides access for installation or inspection of a sprinkler head.

Available with smaller snout (branch)



Figure 30: 90° Tee with NOZZLE

**TEES - 45° TEES (T45)**

Used to change direction at 45° breaching at low resistance flow.

Available with smaller snout (branch)



Figure 31: 45° Tee

**DOUBLE 45° TEE, AVAILABLE with SMALLER SNOOT (TD45)**

Used to centrally connect two appliance manifolds to a common duct.

Available with smaller snout (branch)



Figure 32: Double 45° Tee

**Y TEE (TY)**

Used to provide low-pressure drop joining two appliances. Can be used as a single clean out toward each 90° direction change. Offers the same diameter on all branches but is available with a smaller snout (branch)



Figure 33: Y Tee

**LATERAL TEE (BT)**

NOTE: The lateral tee is only available up to 24" diameter. For sizes 26" to 36" use a combination of 45° Tee and 45° elbow.

Used to change direction at 90° at a lower resistance flow.



Figure 34: Lateral Tee

**TEE CAP (TC)**

Used to close, seal or provide access for unused tee ports.



Figure 35: Tee Cap

**DRAIN TEE CAP (DTC)**

Used to close and seal unused tee ports and to provide a drain port for grease or condensate at the base of a vertical duct. A 1" NPT nipple is provided



Figure 36: Drain Tee Cap

**DRAIN BUCKET (DB)**

Used at the base of a vertical riser as a drain reservoir and to provide cleanout access. A 1" NPT nipple is provided.



Figure 37: Drain Bucket

**TAPERED INCREASER (TIN)**

Used when a pipe diameter change is required. Tapered Increases are typically used to provide an increase in duct size, but they may also be used (in the opposite orientation) to reduce the size of the duct. Caution should be exercised in reducing duct sizes due to the resultant increase in flow resistance.

NOTE: typically used in vertical applications to allow grease / condensate flow.



Figure 38: Tapered Increaser

**ECCENTRIC TAPERED INCREASER (ETIN)**

Used when a pipe diameter change and a flat bottom on horizontal runs is required.



Figure 39: Eccentric Tapered Inserter

**ROUND FLANGED HOOD ADAPTER (RFHA)**

Used to connect the first duct section to the hood. Can be field welded or supplied to the HOOD manufacturer for installation (by others)



Figure 40: Round Flanged Hood Adapter

**SQUARE TO ROUND ADAPTER – CUSTOM PART**

Used to connect a round duct to a hood with a square/rectangular collar or to connect to a square duct.

STR's are a custom component and all requests need to go through the DuraVent Design Group at [layouts@duravent.com](mailto:layouts@duravent.com).



Figure 41: Square to Round Adapter

**ECCENTRIC SQUARE TO ROUND ADAPTER – CUSTOM PART**

Used to connect a round duct to a hood with a square/rectangular collar or to connect to a square duct.

ESTR's are a custom component and all requests need to go through the DuraVent Design Group at [layouts@duravent.com](mailto:layouts@duravent.com).



Figure 42: Eccentric Square to Round Adapter

**SECTION F – SUPPORTS**

Refer to Table 5 for MAXIMUM HEIGHT / SPACING

**HALF ANGLE RING (HAR)**

Used for supporting and guiding the duct in horizontal runs. Hardware by others.



Figure 43: Half Angle Ring

**FULL ANGLE RING (FAR)**

Used for guiding on a vertical run and allows movement for thermal expansion.



Figure 44: Full Angle Ring

**LENGTH ANCHOR PLATEE (APL)**

Used for supporting the duct in vertical or horizontal runs and to provide a fixed point for thermal expansion consideration. Must not be in contact with combustibile material.



Figure 45: Length Anchor Plate

**ANCHOR PLATEE (AP)**

Used for supporting the duct in vertical or horizontal runs and to provide a fixed point for thermal expansion consideration. Must not be in contact with combustibile material.



Figure 46: Anchor Plate

### WALL SUPPORT HEAVY DUTY (WSHD)

Used for supporting the vent in vertical runs and to provide a fixed point for thermal expansion consideration. It can maintain a clearance from the outer wall of the vent from 2-1/2" to 10".



Figure 47: Wall Support Heavy Duty

### WALL GUIDE HEAVY DUTY (WGHD)

Used for guiding in vertical installation attached to the wall. It can maintain a clearance to the outer wall of the vent from 2-1/2" to 10".



Figure 48: Wall Guide Heavy Duty

### FLOOR GUIDE HEAVY DUTY (FGHD)

Used for guiding in vertical installation when passing through a floor or roof. Must not be in contact with combustible material.



Figure 49: Floor Guide Heavy Duty

## SECTION G – 2-HOUR FIRESTOP

### THROUGH PENETRATION FIRESTOP KIT (TPFK)

Used to maintain the fire resistance rating of a floor or a wall when the grease duct DIS3Z is penetrating a 2-hour fire-rated floor or wall (UL System No. C-AJ-7160). One kit required for a floor penetration and two kits required for a wall penetration. Diameter of penetration is outer casing + 2" ( $\varnothing$  ID + 8"). Must use the firestop caulking S-TPFS (Spec Seal Triple S Intumescent Firestop Sealant – SSS100). Refer to Table 2



Figure 50: Through Penetration Firestop

## SECTION H – FLASHING / STORM COLLAR

### FLASHING (F)

Used in conjunction with storm collar (included) for weatherization at the roof.

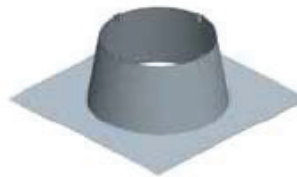


Figure 51: Flashing

### ADJUSTABLE FLASHING (F30)

Used in conjunction with storm collar (included) for weatherization at the roof 5° to 30° pitch.

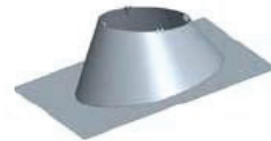


Figure 52: Adjustable Flashing

### STORM COLLAR (SC)

Used above the Flashing or Adjustable Flashing for complete weatherization above the roof. To be sealed with outer joint sealant (ordered separately).



Figure 53: Storm Collar



## **SECTION I – TERMINATIONS**

### **FAN ADAPTER (FAN)**

Used to connect to the inlet of an UPBLAST fan.

NOTE: Plate size (A B) must be specified. Hardware for connection is not included and is by others.



Figure 54: Fan Adapter

### **CONE RAIN CAP (CRC) / CONE RAIN CAP with BIRDSCREEN (CRCB)**

Used to provide the greatest degree of rain protection for a standard vertical termination without fan.



Figure 55: Cone Rain Cap

### **MITER CUT (MC)**

Used for horizontal exhaust with INLINE fan.



Figure 56: Miter Cut

This DuraVent Limited Lifetime Warranty warrants your DIS3Z grease duct system to be free from defects in material and workmanship at the time of manufacture when properly connected to and included as a part of a code-compliant commercial kitchen ventilation system for cooking appliances. This Limited Lifetime Warranty includes all components and fittings. After installation, if covered components manufactured by DuraVent are found to be defective in materials or workmanship during the Limited Lifetime Warranty period and while the Product remains at the site of the original installation, DuraVent will replace the covered components. DuraVent reserves the right to replace covered components with an equivalent product and the replacement must be carried out in accordance with DuraVent recommendations. If replacement is not commercially practical, DuraVent will, at its option, refund the purchase price or wholesale price of the DuraVent Product, whichever is applicable. Labor or freight costs to remove or replace DuraVent components are not included. THERE ARE EXCLUSIONS AND LIMITATIONS to the Limited Lifetime Warranty as described herein.

#### Coverage Commencement Date

Warranty coverage begins on the date of shipment from DuraVent.

#### Exclusions and Limitations

This Limited Lifetime Warranty applies only if the Product is installed in the United States or Canada and only if used for the application for which it was designed and intended. The Product must be installed and maintained in accordance with the design, installation and maintenance instructions for the Product and in compliance with all applicable installation and building codes and high-quality, industry accepted trade practices.

This warranty is non-transferable and extends to the original owner only. The Product must be purchased through an DuraVent Agent/Representative and proof of purchase must be provided.

#### Components and fittings (excludes labor):

Year 1-10 – Replacement of all components and fittings.

Year 11-15 – Replacement at 75% off of the prevailing list price in effect at the time of replacement (25% of the retail list price paid by the consumer).

Year 16+ – Replacement at 50% off of the prevailing list price in effect at the time of replacement (50% of the retail list price paid by the consumer).

DuraVent will not be responsible for: (a) damages caused by normal wear and tear, corrosion from salt air, accident, riot, fire, flood, high wind or acts of God; (b) damages caused by abuse, negligence, misuse, or unauthorized alteration or repair of the Product affecting its stability or performance; (c) damage resulting from failure to reasonably clean, care for or maintain products in accordance with the printed design, installation and maintenance instructions for the Product; (d) damages caused by failing to provide proper maintenance and service in accordance with the design, installation and maintenance instructions for the Product, including damage to the finish of the Product caused by the use of improper solvents/chemicals or improper cleaning methods; (e) damages, repairs or inefficiency resulting from faulty installation or application of the Product; (e) replacement of system sealants as a result of improper installation or a system grease fire.

This Limited Lifetime Warranty covers only parts as provided herein. DuraVent's entire liability is limited to the purchase price of this Product. In no case shall DuraVent be responsible for materials, components or construction which are not manufactured or supplied by DuraVent or for the labor necessary to install, repair or remove such materials, components or construction. All replacement or repair components will be shipped F.O.B. from the DuraVent manufacturing facility.

#### Limitation on Liability

It is expressly agreed and understood that the sole obligation of DuraVent and the purchaser's exclusive remedy under this warranty, under any other warranty, expressed or implied, or in contract, tort or otherwise, shall be limited to replacement, repair, or refund, as specified herein.

In no event shall DuraVent be liable for any incidental or consequential damages caused by defects in the Product, whether such damage occurs or is discovered before or after replacement or repair, and whether such damage is caused by DuraVent negligence. DuraVent makes no expressed warranties except as stated in this Limited Lifetime Warranty. The duration of any implied warranty is limited to the duration of this expressed warranty. No one is authorized to change this Limited Lifetime Warranty or to create for DuraVent any other obligation or liability in connection with the Product. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. The provisions of this Limited Lifetime Warranty are in addition to and not a modification of or subtraction from any statutory warranties and other rights and remedies provided by law.

#### Investigation of Claims Against Warranty

DuraVent reserves the right to investigate any and all claims against this Limited Lifetime Warranty and to decide, in its sole discretion, upon the method of settlement. DuraVent shall in no event be responsible for any warranty work done by a contractor that is not approved without first obtaining DuraVent's prior written consent.

For the most up-to-date installation instructions, see [www.duravent.com](http://www.duravent.com)

REV 8.30.2016

Manufactured in Laval, Quebec

## **WARRANTY**

This product has a 15 year limited warranty. Please read the warranty to be familiar with its coverage.

Retain this manual. File it with your other documents for future reference.

## **PRODUCT REFERENCE INFORMATION**

Please contact DuraVent for the phone number of your nearest DuraVent dealer who will answer your questions or address your concerns.

Normally, all parts should be ordered through your Security Chimneys International distributor or dealer. Parts will be shipped at prevailing prices at time of order.

When ordering repair parts, always give the following information:

1. The model number of the vent system.
2. The part number.
3. The description of the part.
4. The quantity required.
5. The installation date of the chimney system.

If you encounter any problems or have any questions concerning the installation or application of this system, please contact your dealer.

# **DuraVent®**

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800-835-4429; [www.DuraVent.com](http://www.DuraVent.com)

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DuraVent reserves the right to make changes at any time, without notice, in design, materials, specifications, prices.  
Consult your local distributor for chimney system code information.