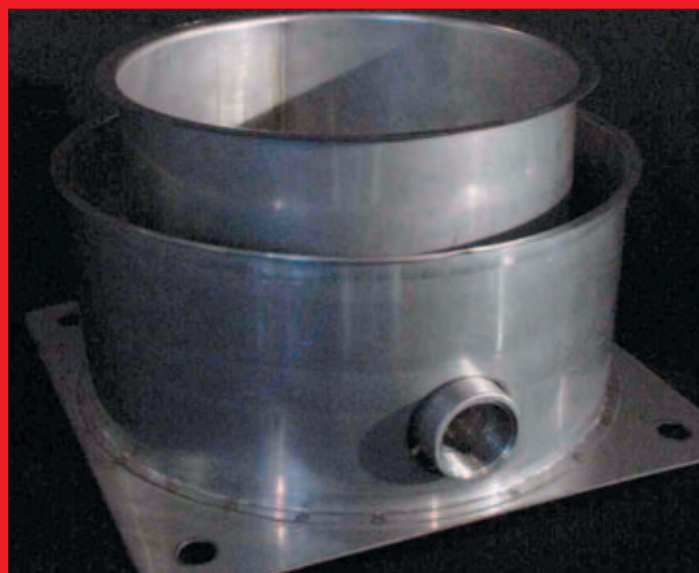
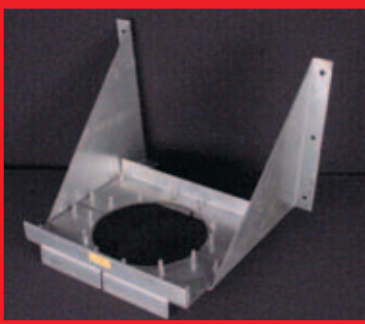


# MODEL DW

**UL 103 FACTORY-BUILT CHIMNEYS FOR  
BUILDING HEATING APPLIANCES AND  
GREASE DUCTS, UL 1978**







## Versatility in Applications

For over 60 years, Van-Packer has been supplying the Commercial and Industrial market with venting products. From our Model DW (Double Wall Stainless Steel) to Refractory Lined, to Free Standing Engineered Chimneys, Van-Packer is the only “one-stop shopping company” that offers a product to fit your exact requirements.

**UNDERWRITERS LABORATORIES LISTING** – Van-Packer Model DW series products are “Listed” by UL (under file number MH 11435, UL 103) as a “1400° Fahrenheit Chimney” for continuous operation at 1400°F (760°C) and intermittent operation at 1800°F (983°C). The Model DW series is also suitable for use as a “Building Heating Appliance Chimney” for continuous operation at 1000°F (538°C) and intermittent operation at 1400°F (760°C). For Grease Laden Vapors (UL 1978) 500°F (260°C) continuous to 2000°F (1093°C) intermittent operation.

**PROFESSIONAL ENGINEERING AND TECHNICAL SUPPORT** Van-Packer welcomes the opportunity to assist you with your design or will design a system that provides you maximum performance and longevity. From sizing calculations to a fully designed exhaust system, our staff will provide you with: a Designed System, Chimney Sizing, Thermal Analysis, Corrosion Analysis, complete Bill-of-Materials and Free CAD drawings. Van-Packer is the only company who can meet your exact specifications!

**MODEL DW AND DWplus** – The most versatile product offered in the industry, with tees, elbows, supports, guying and transitions, nothing is left for field fabrication. Inside diameters of 6" through 36" come standard with 20-gauge type 304 stainless steel inner liners. Inside diameters of 38" through 48" come standard with 18-gauge type 304 stainless steel inner liners. Outside diameters of 8" through 26" come standard with 24-gauge aluminized steel and sizes 28" through 56", 20-gauge aluminized steel outer shells. Optional materials such as 316 stainless steel for inner liner and outer shell as well as other materials and gauges are available upon request. Model DW is standard with 1" air space between the liner and shell. Optional material insulation of 1", 2", 3" or 4" thickness is available for Model DWplus.

- Standard sizes of 6"-48" diameters, other diameters available upon request
- Materials are shipped fully enclosed until needed and palletized for ease of on-site handling
- 10-year Factory Warranty available
- Quick Factory Delivery
- Factory Trained Representatives
- Toll-Free consultation and assistance – 1-888-VPSTACK (877-8225)

**ENCLOSURES** – The Model DW Series Chimney is intended to be installed unenclosed or within non-combustible enclosures. The Model DW Series Chimney is not for use in one or two-family residences. **CAUTION** – Do not enclose the Model DW Series Chimney in a passageway or chase constructed of combustible material such as wood. When the chimney extends through any zone or story above that on which the connected appliance is located, it is to be provided with an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes. (**NOTE** – Always check with local building code authorities having jurisdiction for material with appropriate fire resistance rating.) If a portion of the Model DW series chimney is placed between a dropped ceiling and roof, that portion should be enclosed in an appropriate fire rated enclosure. The Model DW series is NOT intended to pass through a combustible wall, but any wall, which the chimney passes through, must be of non-combustible construction.

**TERMINATION HEIGHT ABOVE ROOF** – All vents shall terminate above the roof surface through the roof flashing no lower than three feet. The height of a chimney above the roof through which it passes and any surrounding equipment should be determined based on the appliance type. See NFPA 211 for appliance categories and their requirements. Consideration should also be given to local building codes, fire codes, and air pollution regulations. The appliance manufacturer's recommendations for minimum heights for the operating draft needs of that particular appliance must also be taken into account.

CLEARANCES			
Model DW		1400°F (760°C)	1000°F (538°C)
Combustible	All Sizes	6" (152mm)	4" (102mm)
Non-Combustible	18"ID or Less	2" (51mm)	2" (51mm)
Non-Combustible	Over 18"ID	4" (102mm)	4" (102mm)
<b>Model DWplus Series</b>			
Combustible	All Sizes	4" (102mm)	2" (51mm)
Non-Combustible	18"ID or Less	2" (51mm)	2" (51mm)
Non-Combustible	Over 18"ID	4" (102mm)	2" (51mm)

**NOTE:** Clearance in a non-combustible interior chase shall be as necessary for installation or access.

GREASE DUCT CLEARANCE CHART				
Model	DW	DWplus & plus2	DWplus3	DWplus4
Section ID (Inches)	(Inches, mm)	(Inches, mm)	(Inches, mm)	(Inches, mm)
6	7 / 178	4 / 102	2 / 51	10 / 254
8	8 / 203	5 / 127	2 / 51	10 / 254
10	8 / 203	5 / 127	2 / 51	12 / 305
12	9 / 229	5 / 127	2 / 51	13 / 330
14	10 / 254	6 / 152	3 / 76	14 / 356
16	10 / 254	6 / 152	3 / 76	15 / 381
18	10 / 254	6 / 152	3 / 76	16 / 406
20	11 / 279	7 / 178	4 / 102	17 / 432
22	11 / 279	7 / 178	5 / 127	17 / 432
24	12 / 305	7 / 178	5 / 127	18 / 457
26	12 / 305	8 / 203	5 / 127	18 / 457
28	12 / 305	8 / 203	6 / 152	18 / 457
30	13 / 330	9 / 229	6 / 152	18 / 457
32	13 / 330	9 / 229	6 / 152	18 / 457
34	14 / 356	9 / 229	7 / 178	18 / 457
36	14 / 356	10 / 254	7 / 178	18 / 457
38	15 / 381	10 / 254	8 / 203	18 / 457
40	15 / 381	10 / 254	8 / 203	18 / 457
42	16 / 406	11 / 279	9 / 229	18 / 457
44	16 / 406	11 / 279	9 / 229	18 / 457
46	17 / 432	11 / 279	9 / 229	18 / 457
48	17 / 432	11 / 279	9 / 229	18 / 457

**MODEL DW/DWplus PARTS IDENTIFICATION** – All part numbers have a “D” prefix for Model DW. All part numbers have a “+” (+2, +3, +4) prefix for the Model DWplus, followed by the section ID, part description, liner/shell designation and a special qualifier code. The qualifier code is used to denote section length on straight sections, projection ID on tee sections and the larger ID on increasers. The part number for a Model DW 8"ID straight section with type 304 stainless steel liner and aluminized steel shell 18 inches long is:

D08STRA18

D = Model DW Code  
 08 = Section ID  
 STR = Part Code  
 A = Shell/Liner Code  
 18 = Qualifier Code

STEEL SHELL / LINER	
CODE	DESCRIPTION
A	Type 304 SS liner w / aluminized shell
B	Type 316 SS liner w / aluminized shell
C	Type 316 SS liner with type 316SS shell
D	Type 304 SS liner with type 304SS shell
E	Type 316 SS liner with type 304SS shell
F	Type 304 SS liner with type 316SS shell

**LIMITATIONS** – Offered as guidelines only. Please refer to installation instruction sheets, or ask your area representative or Van-Packer technical services for further details.

**MODEL DW SERIES LIMITATIONS** – Maximum height above top lateral brace/guy:

6"ID – 12"ID: 10 feet

14"ID – 48"ID: 15 feet

Maximum space between lateral brace/guy equals 30 feet. Maximum height above the following named components is based upon the chimney diameters; Straight Sections, Tee Sections, and Plate Support Assemblies (see following page).

Maximum spacing between breaching supports:

6"ID - 12"ID: 10 feet

14"ID - 48"ID: 15 feet

The Adjustable Expansion Section (ADJ) and the Variable Length Section (VLS) are non-load bearing. Adjustable Expansion Sections and Variable Length Sections may require field cutting for proper fit.

**APPLICATIONS** – For venting boilers, kilns, incinerators, grease ducts, emergency generators, caustic air, and fumes.

**FUEL TYPES** – LP gas, #2, #4, #5, or #6 fuel oils\*, wood\*, coal\*, grease vapors, caustic fumes, and particles. (\*It is recommended that 316 stainless steel liner be specified when using these types of fuels.)

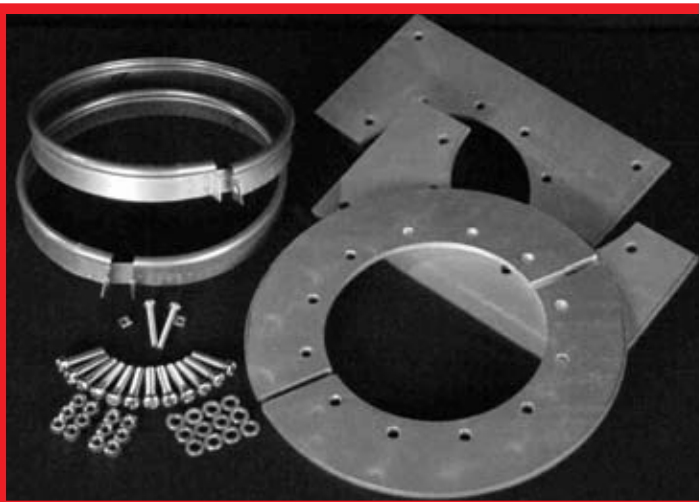
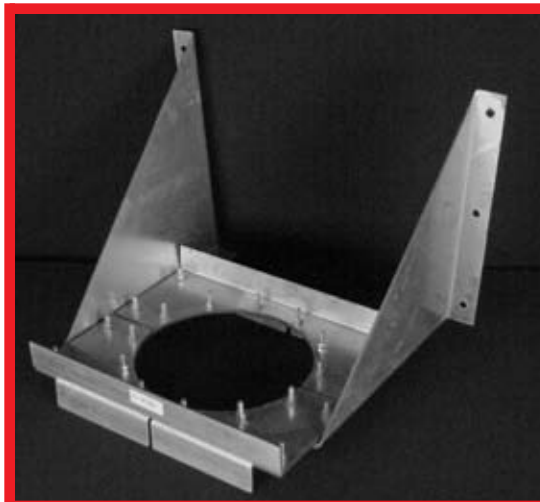
**EXHAUST PRESSURE** – Neutral, negative, or positive.

**INSTALLATION RECOMMENDATION** – One prime coat and one finish coat of paint is recommended on exterior installations when outer shells are constructed of aluminized steel.

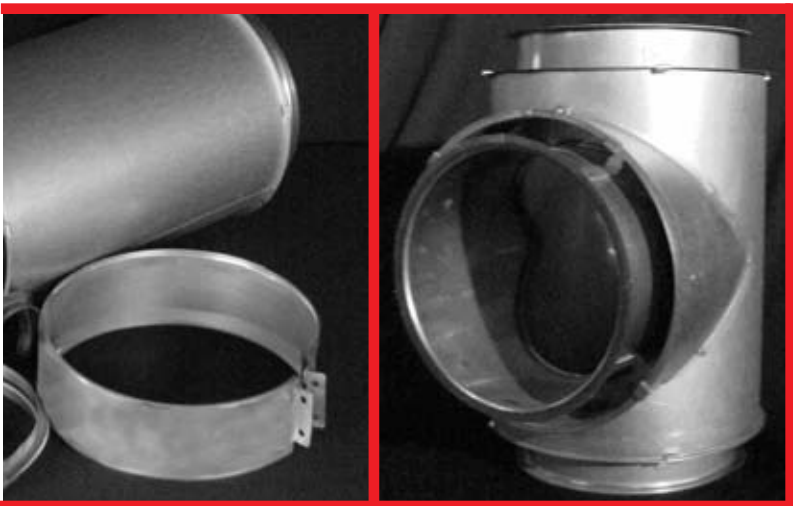
Approximate Weight Per Foot (lbs)					
ID	DW	DW+	DW+2	DW+3	DW+4
6"	6.5	7.5	9	11	13.2
8"	7.7	8.8	10.7	12.9	15.4
10"	8.6	10	12.2	14.6	17.3
12"	9.2	10.6	13.4	16.1	19.1
14"	12.2	14.4	16.9	19.9	23.1
16"	12.8	14.9	17.9	21.2	24.7
18"	14.3	16.8	20	23.5	27.3
20"	15.3	18	21.5	25.3	27.3
22"	17.1	20.1	23.9	27.9	32.3
24"	18.5	21.7	25.8	30.1	34.6
26"	19.3	22.9	27.1	31.6	36.5
28"	20.4	24.2	28.7	33.5	38.6
30"	21.6	25.6	30.4	35.5	40.8
32"	22.8	27.1	32.1	37.5	48.4
34"	25.1	29.6	35	45.9	52
36"	28.1	32.9	43.8	49.9	56.3
38"	31	36.1	44.9	51.3	58.7
40"	34.4	39.7	46.1	52.8	59.7
42"	39.3	45	51.6	58.5	65.7
44"	46.5	52.3	60.2	66.5	73.8
46"	53.3	59.2	66.6	74	81.7
48"	59.6	66	73.4	81.1	89.1

The following chart shows the allowable lengths supported by the Wall Support Assembly (WSA), Wall Flange Assembly (WFA), Plate Support Assembly (PLS), Straight Section (STR), Ventilated Roof Support (VRS), and the Tee Section (90T).

ALLOWABLE HEIGHT (Feet)																				
Inside Diameter	Model DW						Model DWplus						Model DWplus2						WSA	
	WSA	WFA	PLS	VRS	STR	90T	WSA	WFA	PLS	VRS	STR	90T	WSA	WFA	PLS	VRS	STR	90T		
6"	201	201	284	103	225	89	174	174	235	89	189	76	145	145	189	74	152	62	119	
8"	170	167	284	95	225	89	149	146	235	82	189	76	122	120	189	68	152	62	101	
10"	152	146	284	88	225	89	131	126	235	75	189	76	107	103	189	63	152	62	89	
12"	142	134	284	80	225	89	123	116	235	68	189	76	97	92	189	57	152	62	81	
14"	107	99	272	72	213	89	91	84	225	62	179	76	77	71	182	52	144	62	65	
16"	102	92	260	64	201	89	88	79	215	55	169	76	73	66	174	46	137	62	61	
18"	91	88	248	57	189	82	78	69	205	48	159	70	65	58	167	41	129	57	55	
20"	85	74	235	49	177	75	72	63	195	41	148	64	61	52	160	35	121	53	51	
22"	76	64	223	47	165	68	65	55	185	40	138	57	54	46	152	34	114	47	47	
24"	70	58	211	45	153	60	60	50	175	38	128	51	50	42	145	32	106	42	43	
26"	67	54	199	43	150	53	57	46	165	37	126	45	48	39	135	31	102	37	41	
28"	64	50	186	42	147	46	54	42	155	35	123	39	45	36	125	30	98	33	39	
30"	60	46	174	40	144	39	51	39	145	34	120	33	43	33	115	28	94	28	36	
32"	57	43	162	38	141	31	48	36	135	32	118	27	40	30	105	27	91	23	34	
34"	50	38	149	35	138	24	42	32	125	29	115	20	36	27	95	25	87	17	27	
36"	42	34	137	32	135	17	36	29	115	27	113	14	27	21	85	23	83	10	24	
38"	37	30	125	28	129	15	32	26	105	24	107	13	25	21	79	20	81	11	22	
40"	32	27	113	25	123	15	27	23	95	22	102	13	23	20	73	18	78	11	20	
42"	26	23	101	22	117	15	23	20	85	19	96	13	20	18	67	16	76	11	17	
44"	21	19	88	19	112	15	19	17	75	16	90	13	16	15	60	14	74	11	15	
46"	17	17	76	15	106	15	16	15	65	14	85	13	14	13	54	11	71	11	12	
48"	15	15	64	12	100	15	13	13	55	11	79	13	12	12	48	9	69	11	11	



Model DWplus3					Model DWplus4					
WFA	PLS	VRS	STR	90T	WSA	WFA	PLS	VRS	STR	90T
119	156	61	125	52	99	99	130	51	105	44
99	156	56	125	52	85	83	130	47	105	44
86	156	52	125	52	75	72	130	44	105	44
76	156	47	125	52	68	64	130	40	105	44
60	151	43	119	52	56	52	126	36	101	44
55	145	38	113	52	53	47	122	32	96	44
49	140	34	107	48	48	42	118	29	92	41
44	134	29	102	44	44	38	114	25	87	38
39	129	28	96	40	40	34	110	24	83	34
36	123	27	90	36	37	31	106	23	78	31
33	115	26	87	32	35	29	99	22	76	27
30	106	25	84	28	33	26	92	20	73	24
28	98	24	81	24	32	24	85	19	71	21
25	90	23	78	20	27	20	79	18	68	15
21	81	21	75	13	24	18	72	17	66	11
19	73	19	72	9	21	17	65	16	63	8
18	68	17	70	10	19	16	61	14	62	9
17	63	16	68	10	18	15	56	13	60	9
15	58	14	66	10	15	14	52	12	59	9
13	53	12	65	10	13	12	47	11	58	9
12	48	9	63	10	11	11	43	9	56	9
11	43	8	61	10	10	10	38	8	55	9



## ENGINEERING DATA

- the 350° and 500° temperatures were calculated with 17 fps flue gas velocity
- the 1000° and 1400° temperatures were calculated with 25 fps flue gas velocity
- all were calculated with 70°F ambient and 5 fps air velocity

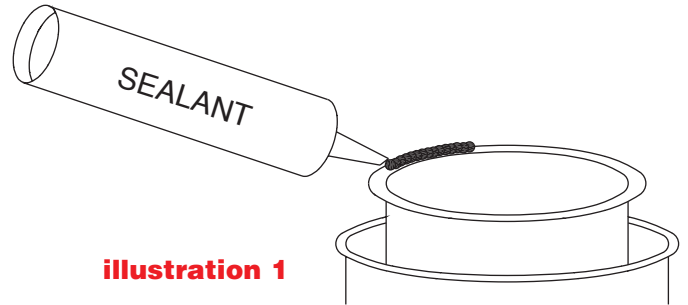
Comparative Surface Temperatures					
Flue Temperature °F					
ID	MODEL	350	500	1000	1400
Surface Temperature °F					
6"	DW	170	220	397	520
	DW+	119	145	251	352
	DW+2	104	122	196	267
	DW+3	97	111	169	224
	DW+4	91	103	149	194
12"	DW	180	234	421	554
	DW+	119	145	260	369
	DW+2	102	119	198	274
	DW+3	95	108	169	228
	DW+4	90	101	150	197
18"	DW	187	245	445	588
	DW+	121	148	268	386
	DW+2	103	120	200	280
	DW+3	95	108	169	231
	DW+4	90	101	150	201
24"	DW	192	253	469	622
	DW+	124	153	277	403
	DW+2	104	122	202	287
	DW+3	95	109	169	235
	DW+4	90	102	151	204
30"	DW	196	260	481	638
	DW+	127	156	286	417
	DW+2	104	122	202	287
	DW+3	95	109	169	235
	DW+4	91	102	154	209
42"	DW	203	270	504	671
	DW+	131	163	303	444
	DW+2	108	127	217	313
	DW+3	97	111	176	247
	DW+4	92	104	160	218
48"	DW	206	274	515	687
	DW+	133	166	312	457
	DW+2	109	129	222	322
	DW+3	98	114	183	260
	DW+4	93	105	163	223





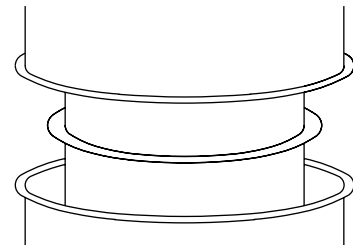
## Fast, on site assembly, no need for welding or special tools!

Components are joined together with a vee band, which is fitted over the flanges of the adjoining inner liner and bolted in place. A draw band is then fitted over the outer shell. Supports and other accessories are just as easy to install. No welding or special tools are ever required.



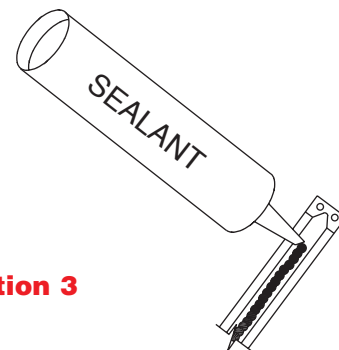
**illustration 1**

- 1.** Apply a continuous bead of the proper sealant to one of the flanges to be joined.



**illustration 2**

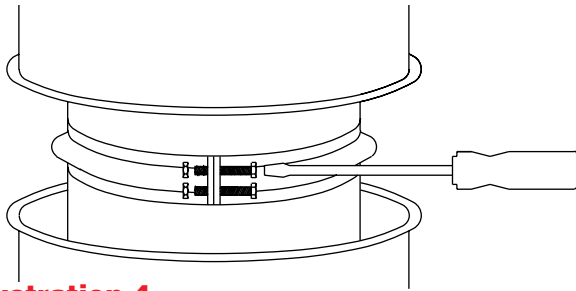
- 2.** Join the two flanged ends of the pipe sections together.



**illustration 3**

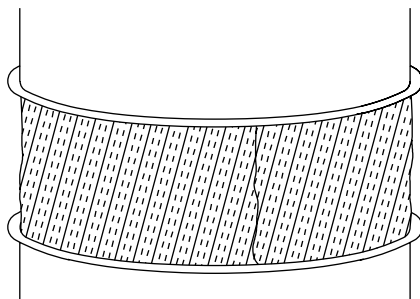
- 3.** Fill the groove of the vee band with the proper sealant for positive pressure applications.





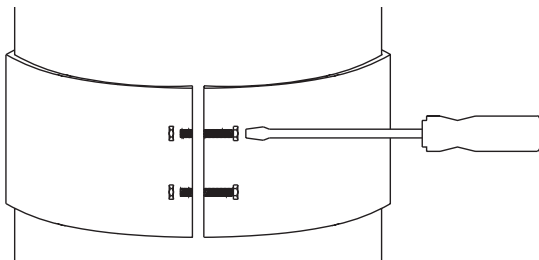
**illustration 4**

- 4.** Install vee band around flanges. On large diameters it may be necessary to tap the band while tightening; this will ensure a snug fit.



**illustration 5**

- 5.** Install insulation strips to ensure all air gaps are filled, if installing Model DWplus.



**illustration 6**

- 6.** Secure the outer shell with the draw band. It is recommended that silicone sealant be applied around the top of the draw band to prevent moisture from entering between the chimney walls. This should be done on all components exposed to the atmosphere.

A special heat resistant sealant must be used when assembling. Van-Packer's Sealant Part #101087A is used for flue temperatures up to 600°F. Sealant Part #101091F is to be used when temperatures exceed 600°F.



## Adjustable Expansion Section

### Part ADJ

Use the Adjustable Expansion Section for thermal expansion. Part includes: 3/8" hi-temp packing rope, vee band, slip liner, and a cover band. Length adjusts from 1 1/2" to 19 1/2" and may require field trimming. The Model DWplus Series includes a wide strip of insulation.

Flow resistance factor:

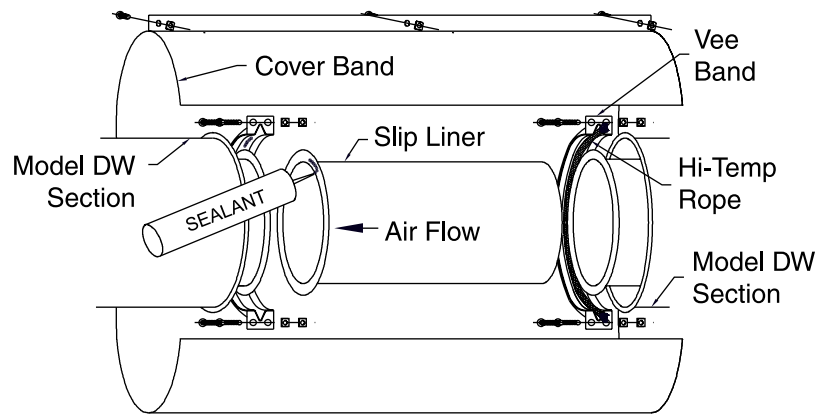
$$ID \leq 18": K = .40 L/D$$

$$ID > 18": K = .30 L/D$$

Flow resistance factor for diesel/turbine exhausts and grease ducts:  $K = .25 L/D$

L = pipe length in feet

D = pipe diameter in inches



## Variable Length Section

### Part VLS

The VLS used for custom length sections. Length ranges from 4 1/2" to 19 1/2". Part includes: locking collar, vee band, slip liner, and cover band. Model DWplus Series includes a wide strip of insulation.

Flow resistance factor:

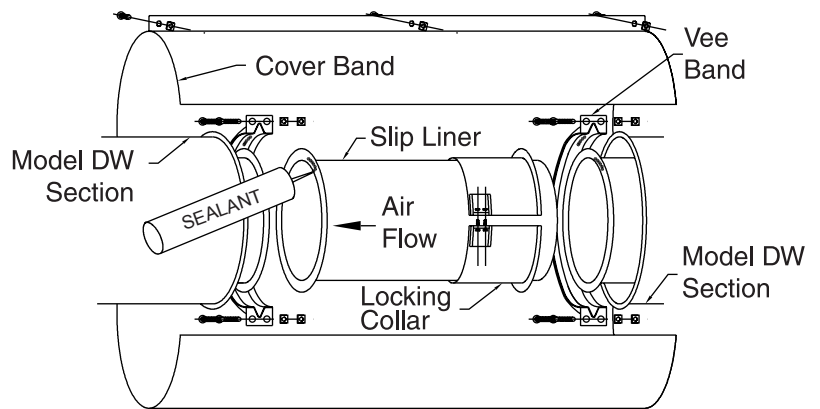
$$ID \leq 18": K = .40 L/D$$

$$ID > 18": K = .30 L/D$$

Flow resistance factor for diesel/turbine exhausts and grease ducts:  $K = .25 L/D$

L = pipe length in feet

D = pipe diameter in inches

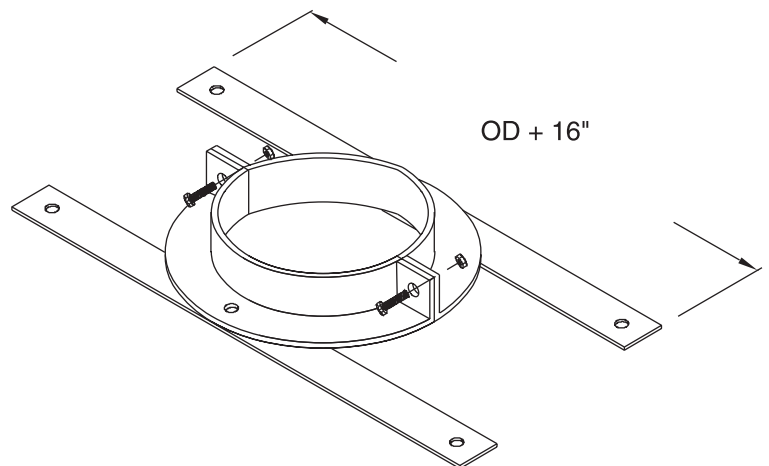


Note: Reverse the Slip Liner for Engine Exhaust Applications such as Generators.

## Floor Guide Assembly

### Part FGA

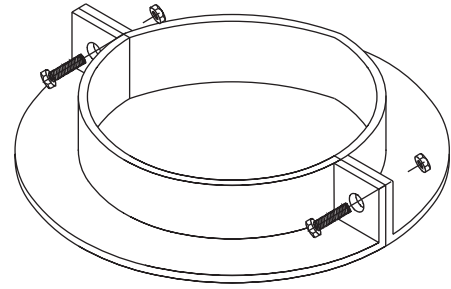
Use the Floor Guide Assembly when penetrating floors. The floor guide rests on the floor and the struts that attach to the lateral support are lagged into the framing around the chimney vent. Fasteners supplied by installer. Part includes: two struts and one split full angle ring, with nuts and bolts.



## Full Angle Ring

### Part FAR

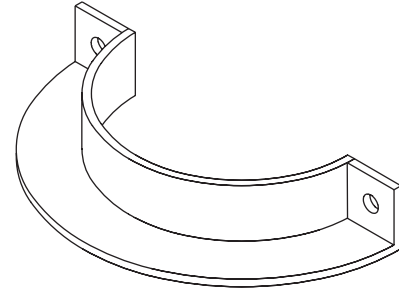
The FAR supports horizontal and lateral lengths of pipe in all diameters, models, and exhaust types. Part includes: one 2-piece angle ring, 1/2 inch nuts and bolts.



## Half Angle Ring

### Part HAR

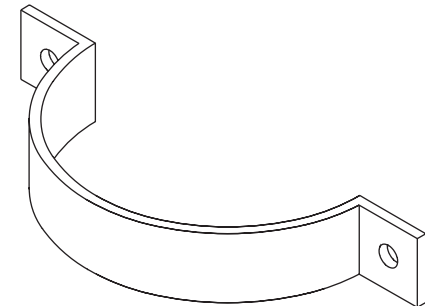
The HAR supports horizontal lengths of pipe 24"ID and under. Use on Models DWplus2, 3, and 4. Not for use on engine exhaust systems. Part includes: one half angle ring.



## Breaching Hanger Band

### Part BHB

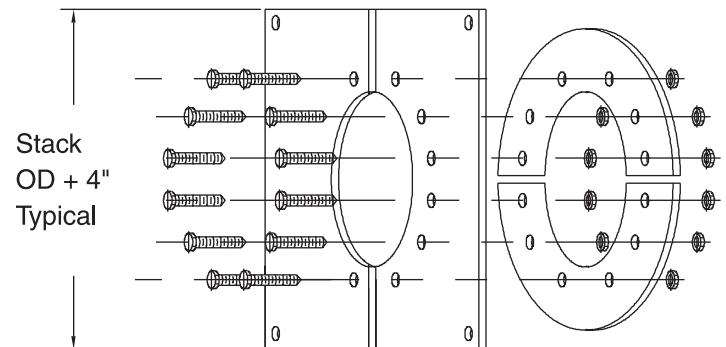
The BHB supports horizontal lengths of pipe 24"ID and under. For Models DW and DWplus; not for use on engine exhaust systems. Part includes: one hanger band.



## Plate Support Assembly

### Part PLS

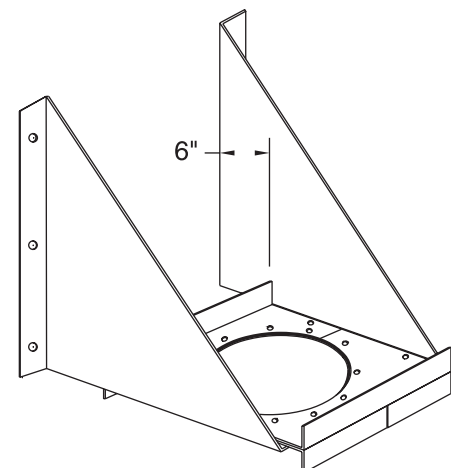
The PLS consists of one square 2-piece support plate (S/P), one round 2-piece clamp flange (C/F), two half draw bands, 3/8 inch bolts and nuts. The PLS in conjunction with field fabricated support members provides support for the chimney.



## Wall Support Assembly

### Part WSA

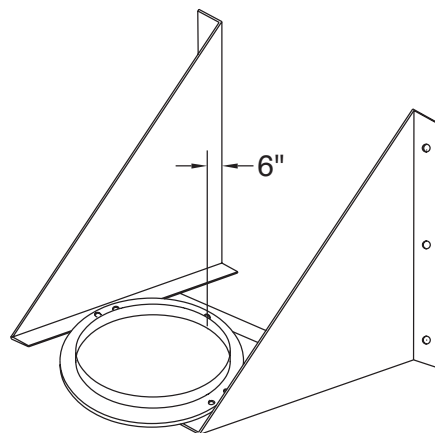
Use the WSA to support vertical lengths of chimney along a wall or chase. The Wall Support Assembly consists of: left and right wall bracket, 2-piece bottom support plate, 2-piece top support plate, 3/8 inch bolts and nuts and two half draw bands. 1/2 inch anchor bolts by installer.



## Wall Guide Assembly

### Part WGA

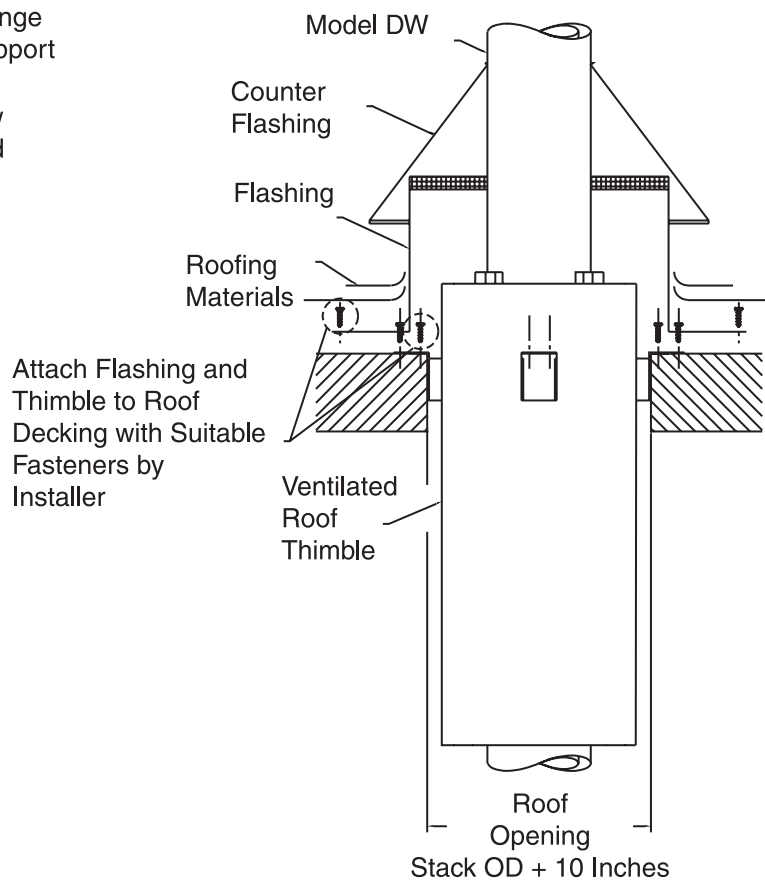
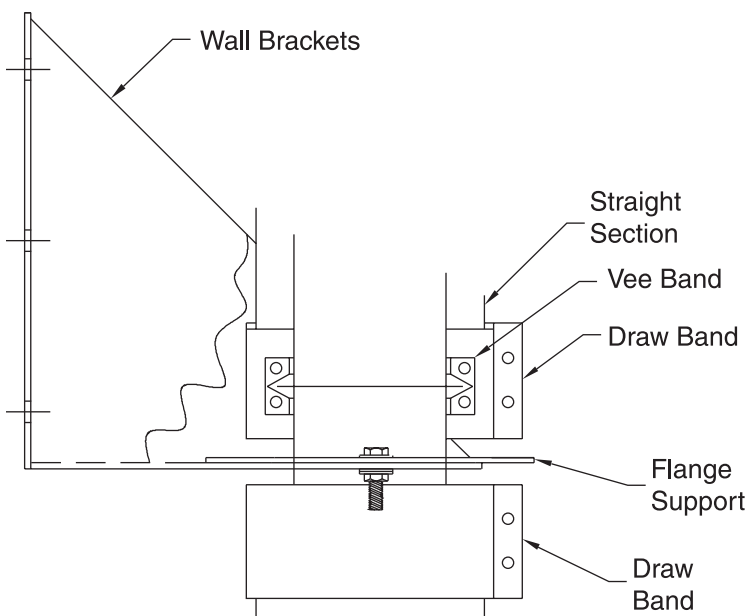
Used for lateral support, the Wall Guide Assembly attaches to a wall or chase. The Wall Guide Assembly consists of: left and right wall brackets, two half angle rings, 1/2 inch bolts and nuts. 1/2 inch anchor bolts by installer.



## Wall Flange Assembly

### Part WFA

Use the WFA to support vertical lengths of chimney along a wall or chase. The Wall Flange Assembly consists of: left and right wall brackets, flange assembly, vee band, draw band, bolts and nuts. 1/2 inch anchor bolts by installer.



## Ventilated Roof Penetration Assembly

### Part RPA

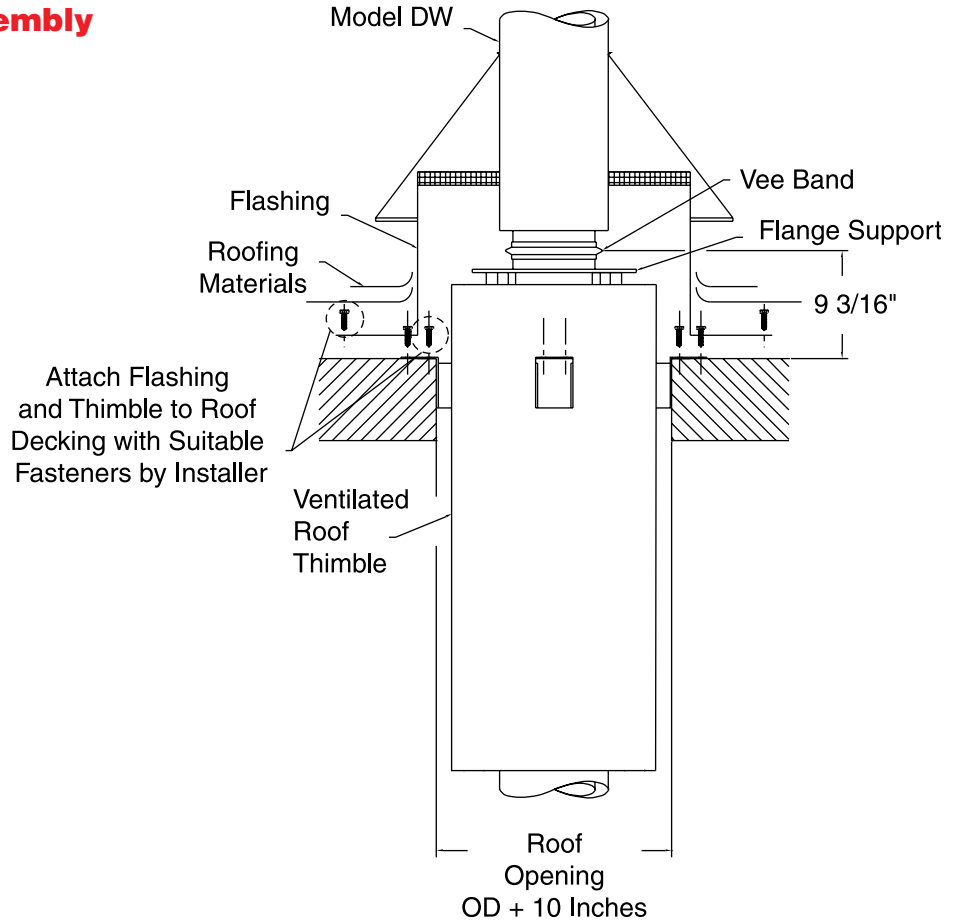
The Ventilated Roof Thimble (part VRT) used in conjunction with the flashing (part FLS) and the counter flashing (part CFL) for passage through a combustible roof structure. These three components are used for a standard flat roof penetration.



## Ventilated Roof Support Assembly

### Part VRS

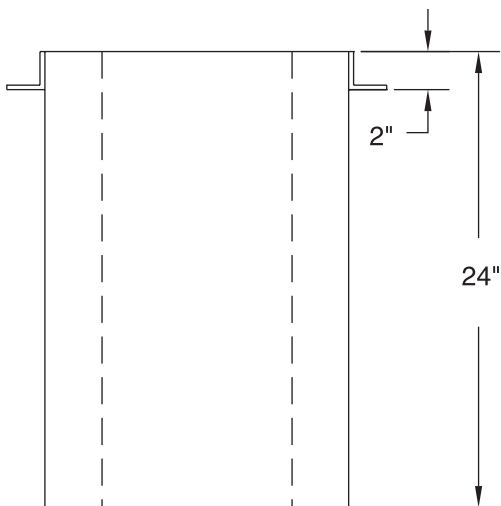
The Ventilated Thimble (part VRT) used in conjunction with the flange support assembly (FSA), flashing (part FLS), and the counter flashing (part CFL) for passage through a combustible roof structure. Use these four components for a standard flat roof support assembly.



## Insulated Roof Thimble

### Part THM

Use the Insulated Roof Thimble on Model DW and DWplus Series components.

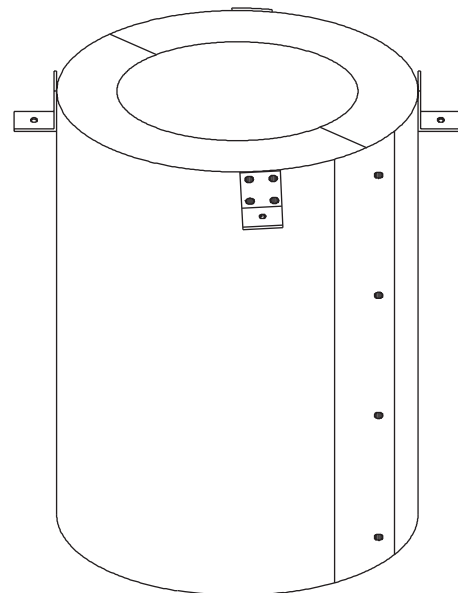


Roof Opening Equals  
8 1/2" + Chimney OD

## 2-Piece Insulated Roof Thimble

### Part THM-2PC

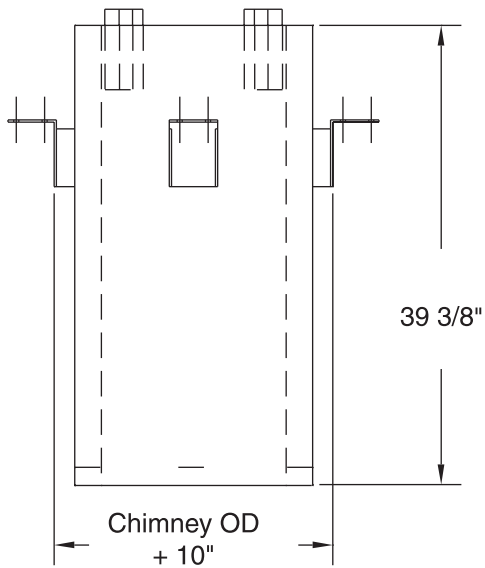
Use the 2-Piece Insulated Roof Thimble when complications arise, such as the chimney already exists. Thimble is 24" long. Roof opening equals 8 1/2" plus chimney outside diameter.



## Ventilated Roof Thimble

### Part VRT

Use the Ventilated Roof Thimble for Model DW and DWplus Series components. Standard is 20-gauge aluminized.

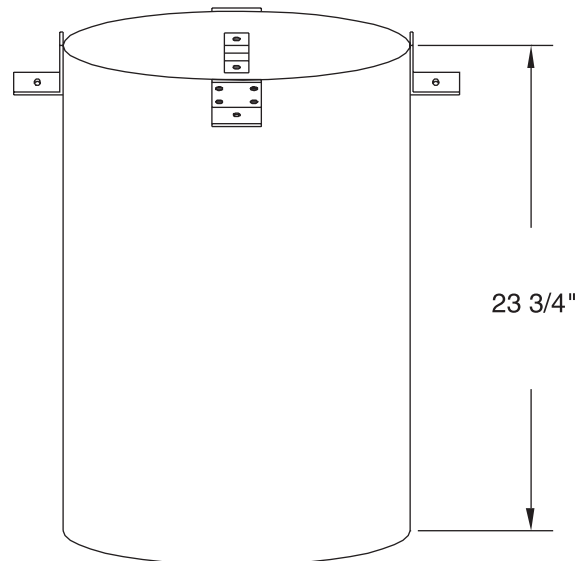


Ventilated Roof Thimble

## Heat Shield

### Part HTS

Use the Heat Shield on Model DWplus Series components for "1000°F Building Heating Appliance Chimneys" only. Roof opening equals chimney OD plus 4-1/2".

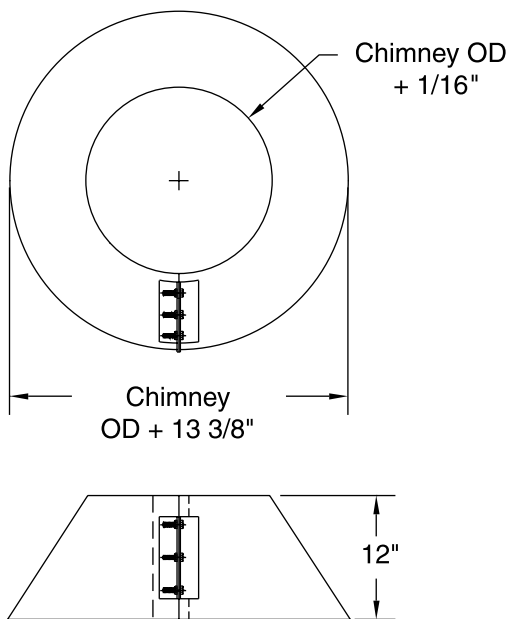


Heat Shield

## Counter Flashing

### Part CFL

A counter flashing is installed above the flashing to provide rain protection. Sealant should be applied to prevent leakage. Standard is 24-gauge aluminized, stainless steel optional.

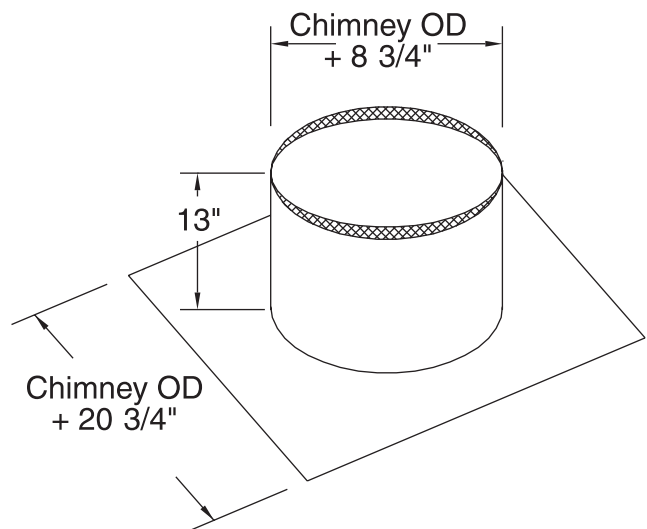


Counter Flashing

## Flashing

### Part FLS

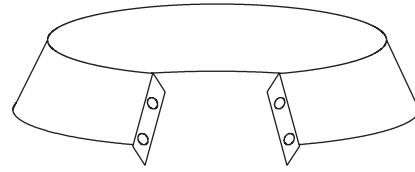
Use when the exhaust system is penetrating a roof structure. 24-gauge aluminized steel is standard; stainless steel is optional.



## Open Top Closure

### Part OTC

The OTC is for vertical terminations. The open top closure closes the gap between the liner and the shell providing a weatherproof seal. Part includes: open top closure, nuts and bolts.

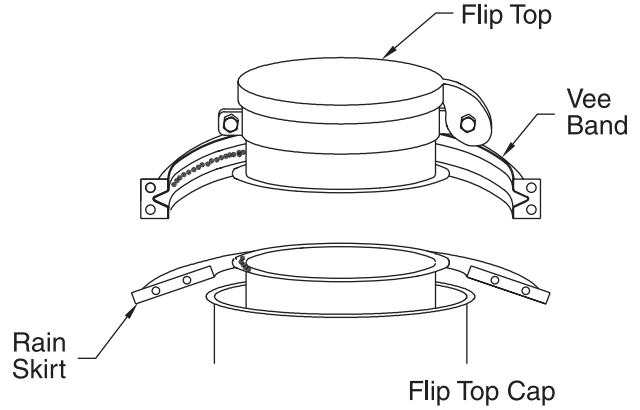


Open Top Closure

## Flip Top Cap

### Part FTCB

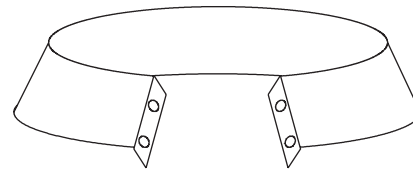
The FTCB is used to prevent rain from entering generator exhaust pipe. Opens with internal pressure. Part includes: counter balanced flip-top cap, vee band and rain skirt.



## Rain Skirt

### Part RSK

This component closes off the gap between the liner and shell, protecting the air gap or insulation from the outdoor elements. Part includes: rain skirt, nuts and bolts.

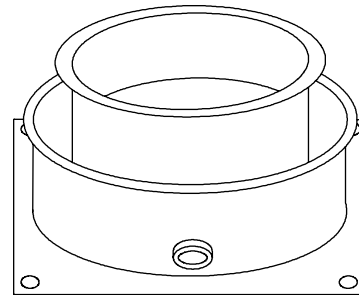


Rain Skirt

## 6" Long Base Drain Section

### Part BDS

Use this component on vertical chimney installations when supports are not feasible. The BDS permits drainage of rain and or condensation. Completely closes off base of stack. Supplied with a 1 inch NPT coupling. Allowable height is equal to a straight section (Part: STR). 1/2 inch anchor bolts by installer.

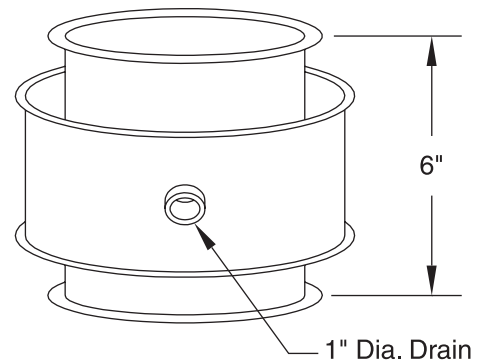


Base Drain Section

## In-Line Drain Section

### Part D/S

Used in instances where rain or condensate removal is critical. The In-Line Drain Section should be located below the roofline, preferably as close to the appliance as possible, to prevent freezing. Part includes: in-line drain, vee band and draw band.



In-Line Drain Section

Flow resistance factor:

$K = .25$

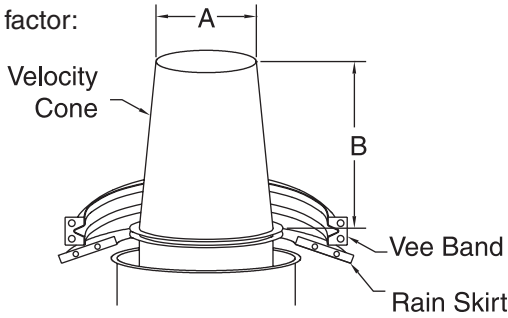
## Velocity Cone

### Part CON

This component is used to increase velocity of exiting flue gases. Part includes: velocity cone, vee band and rain skirt.

Flow resistance factor:

$$K = 1.25$$



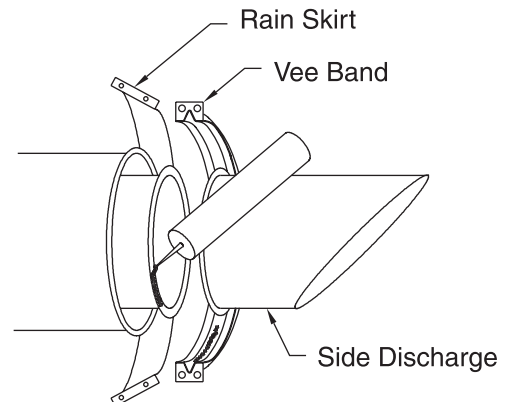
Velocity Cone Chart (Inches)		
Section ID	A	B
6	4 1/2	7 1/2
8	6 1/2	7 1/2
10	8	7 1/2
12	10	7 1/2
14	11 1/2	7 1/2
16	13	7 1/2
18	14 1/2	7 1/2
20	16	7 1/2
22	18	7 1/2
24	19 1/2	8 3/8
26	21 1/4	8 7/8
28	22 1/2	10 1/4
30	24 1/2	10 1/4
32	26	11 1/4
34	27 1/2	12 1/8
36	29 1/2	12 1/8
38	31	13
40	32 1/2	14
42	34 1/4	14 1/2
44	36	14 7/8
46	37 1/2	15 7/8
48	39 1/4	16 3/8

## Engine Exhaust Side Discharge

### Part ESD

Used to horizontally terminate engine/turbine exhaust systems. Part includes: side discharge section, vee band and rain skirt. This component is available with a bird screen upon request. Part number for a bird screen is SDS.

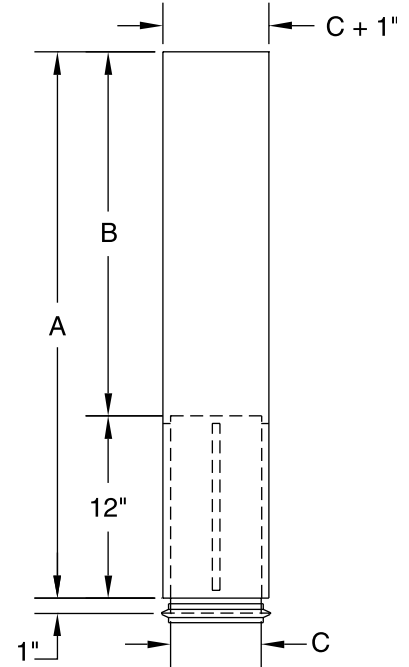
Flow resistance factor is same as pipe.



## Low Loss Rain Cap

### Part LLR

Used for vertical flue terminations. The length of the upper cap is related to rain protection. Rain enters top of cap, runs along inside of jacket and exits at the bottom of the jacket releasing it back into the atmosphere. Part includes: low loss section, vee band and rain skirt.



Low Loss Rain Cap (Inches)			
Section ID	A	B	C
6	36	24	6
8	44	32	8
10	52	40	10
12	60	48	12
14	68	56	14
16	76	64	16
18	84	72	18
20	92	80	20



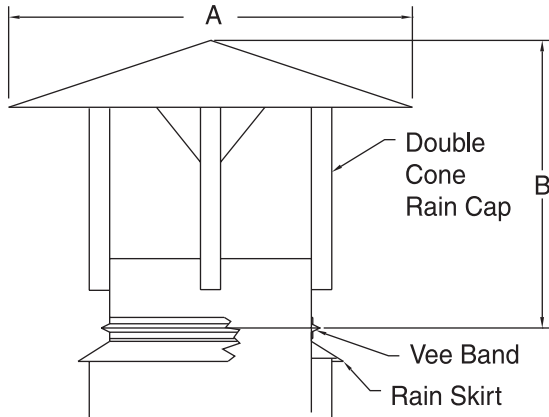
## Double Cone Rain Cap

### Part DCR

The DCR is for vertical terminations. The Double Cone Rain Cap comes with or without a screen. The part number for a rain cap with screen is RCS. Part includes: double cone rain cap, vee band and rain skirt.

Flow resistance factor:

$K = .50$

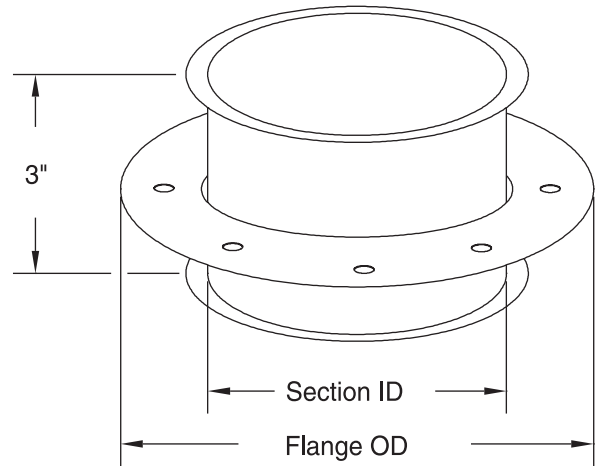


Double Cone Rain Cap Chart (Inches)		
Section ID	A	B
6	12	9 15/16
8	16	12 1/8
10	20	14 1/4
12	24	16 7/16
14	28	18 5/8
16	32	20 3/4
18	36	22 15/16
20	40	25 1/8
22	44	27 1/4
24	48	29 7/16
26	52	31 5/8
28	56	33 3/4
30	60	35 15/16
32	64	38 1/8
34	68	40 1/4
36	72	42 7/16
38	76	44 5/8
40	80	46 3/4
42	84	48 15/16
44	88	51 1/8
46	92	53 1/4
48	96	55 7/16

## Flange Adapter Kit

### Part FAKB

Use the FAKB when the appliance has a 125# drilling (bolt hole pattern). Bolts and nuts supplied by installer. Part includes: 3/8 inch thick van-stone type flange with a starter section.

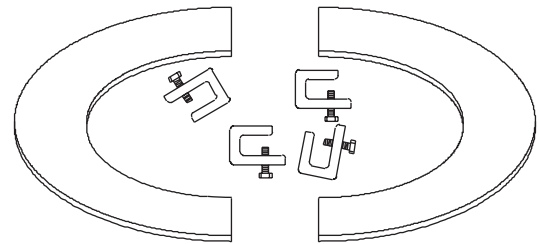


Flange Adapter Chart (Inches)				
Section ID	Flange OD	Bolt Circle	Bolt Holes	
			Qty	Dia
6	11	9 1/2	8	7/8
8	13 1/2	11 3/4	8	7/8
10	16	14 1/4	12	1
12	19	17	12	1
14	21	18 3/4	12	1 1/8
16	23 1/2	21 1/4	16	1 1/8
18	25	22 3/4	16	1 1/4
20	27 1/2	25	20	1 1/4
22	29 1/2	27 1/4	20	1 3/8
24	32	29 1/2	20	1 3/8
26	34 1/4	31 3/4	24	1 3/8
28	36 1/2	34	28	1 3/8
30	38 3/4	36	28	1 3/8
32	41 3/4	38 1/2	28	1 5/8
34	43 3/4	40 1/2	32	1 5/8
36	46	42 3/4	32	1 5/8
38	48 3/4	45 1/4	32	1 5/8
40	50 3/4	47 1/4	36	1 5/8
42	53	49 1/2	36	1 5/8
44	55 1/4	51 3/4	40	1 5/8
46	57 1/4	53 3/4	40	1 5/8
48	59 1/2	56	44	1 5/8

## Boiler Adapter Flange

### Part BAFA

Use the BAFA when the appliance has a blank flanged outlet. Part includes: one 2-piece ring and “C” clamps.

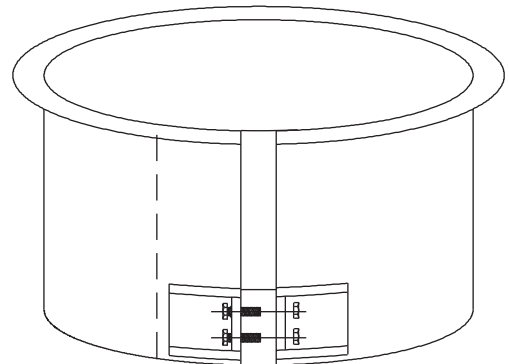


Boiler Adapter Flange

## Flangeless Outlet Adapter

### Part FOAB-1

Use the FOAB-1 on appliance collars without a flange. Part includes: flangeless outlet adapter, vee band and draw band.

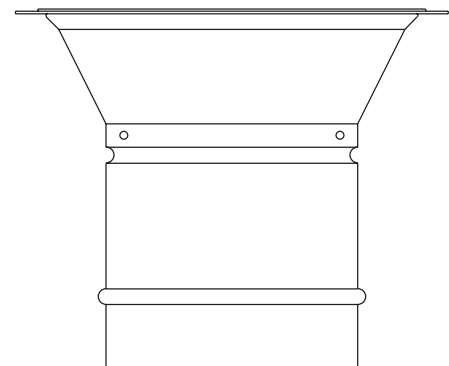


Flangeless Outlet Adapter

## Transitional Outlet Adapter

### Part TOA

Use as a transition between the appliance outlet and the vent pipe. Part includes: transitional adapter, vee band and draw band. Available in sizes 3" to 6", 4" to 6", 5" to 6", 7" to 8" and 9" to 10".



Transitional Outlet Adapter

## DW Lifting Device

### Part L/D

This device is designed to lift flue in a vertical position only and is not intended to lift flue from a horizontal position (see installation instructions). The following heights are not to be exceeded. Note: this is not a UL listed component.

#### ■ Model DW

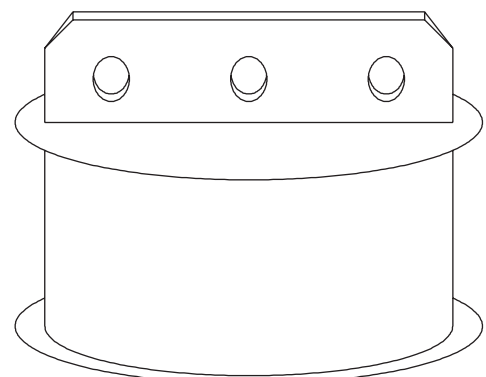
- DW = 67 feet maximum
- DWplus = 58 feet maximum
- DWplus2 = 48 feet maximum
- DWplus3 = 39 feet maximum
- DWplus4 = 33 feet maximum

#### ■ Model SW

- SW = 180 feet maximum

#### ■ Model ES

- ES = 22 feet maximum

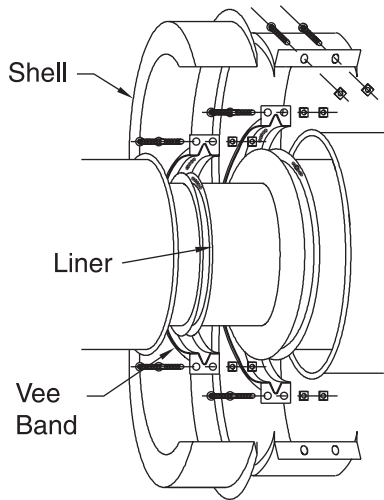


Lifting Device

## Abrupt Transition

### Part ATS

The ATS is a 3 inch long component designed for changes in diameters. The component consists of a liner, shell, and a small vee band. The ATS does not provide any type of load bearing support. The ATS must always be isolated from loads. Do this by installing a support next to the ATS.



## Straight Section

### Part STR

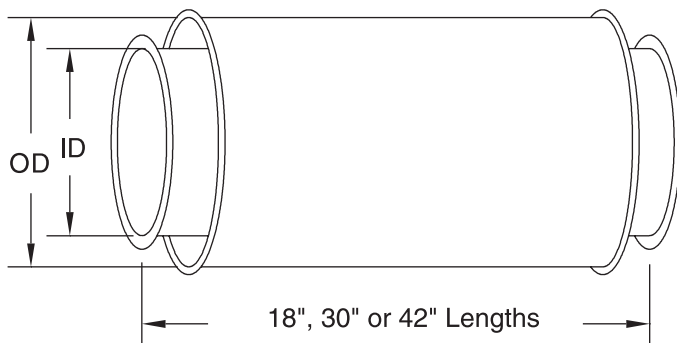
Straight section features flanges for ease of installation in both vertical and horizontal runs. Part includes: one 18", 30", or 42" length\* section, vee band and draw band. Available in sizes 6" through 48" ID.

Flow resistance factor:

ID ≤ 18": K = .40 L/D

ID > 18": K = .30 L/D

Flow resistance factor for diesel/turbine exhausts and grease ducts: K = .25 L/D

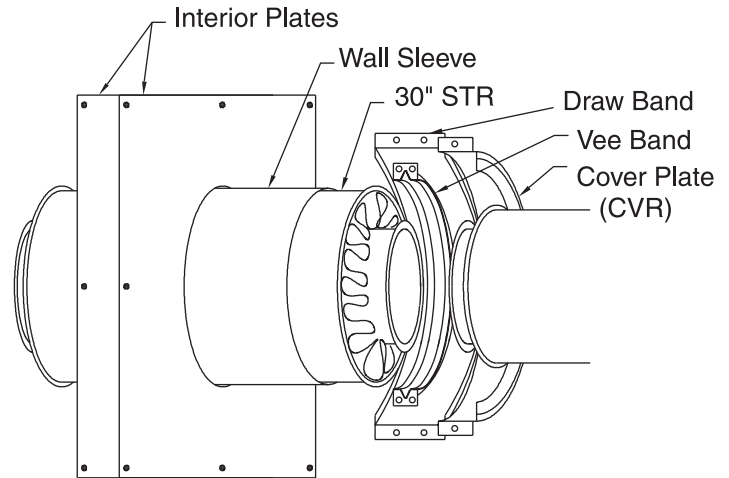


\* 42" length only available through 44" O.D.

## Wall Penetration Assembly

### Part WPA

Use on interior walls for added insulation protection. Parts include: Model DWplus2 30" long straight section, two interior plates, vee bands, draw bands, two CVRs, and a wall sleeve. This is a non-UL listed component.



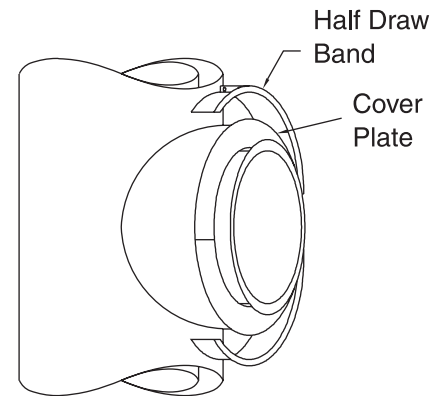
Straight Section Chart

Section	DW/DW+	DW+2	DW+3	DW+4
ID	O.D.	O.D.	O.D.	O.D.
6"	8"	10"	12"	14"
8"	10"	12"	14"	16"
10"	12"	14"	16"	18"
12"	14"	16"	18"	20"
14"	16"	18"	20"	22"
16"	18"	20"	22"	24"
18"	20"	22"	24"	26"
20"	22"	24"	26"	28"
22"	24"	26"	28"	30"
24"	26"	28"	30"	32"
26"	28"	30"	32"	34"
28"	30"	32"	34"	36"
30"	32"	34"	36"	38"
32"	34"	36"	38"	40"
34"	36"	38"	40"	42"
36"	38"	40"	42"	44"
38"	40"	42"	44"	46"
40"	42"	44"	46"	48"
42"	44"	46"	48"	50"
44"	46"	48"	50"	52"
46"	48"	50"	52"	54"
48"	50"	52"	54"	56"

## Cover Plate

### Part CVR

Used as an optional component, the Cover Plate (Part CVR) closes off the space between the liner and the shell. Use the cover plate for a uniform outside appearance or to hide insulation and liners from sight.



## Lined Bellows Expansion Joint

### Part LBJ

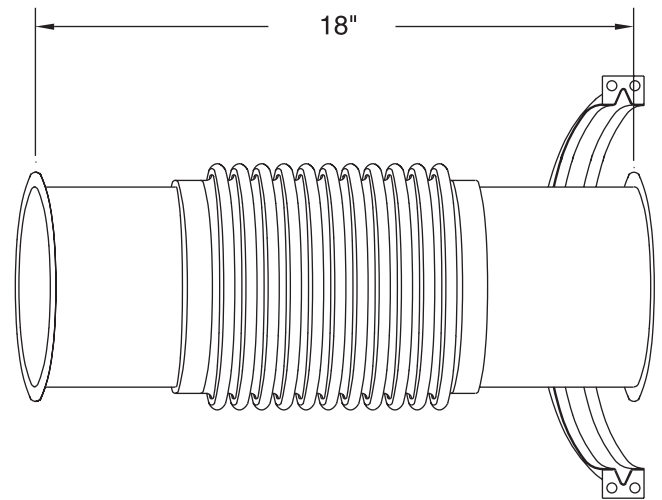
Used as an expansion joint designed to compensate for thermal expansion for high-pressure applications. Maximum compressive travel is 3" for diameter 6"-18" and 3 1/2" for diameter 20"-48". Part includes corrugated bellows with liner and vee band.

Flow resistance factor:

ID ≤ 18": K = .40 L/D

ID > 18": K = .30 L/D

Flow resistance factor for diesel/turbine exhausts and grease ducts: K = .25 L/D



## Unlined Bellows Expansion Joint

### Part BEJ

Used as an expansion joint designed to compensate for thermal expansion for high-pressure applications. Maximum compressive travel is 3" for diameter 6"-18" and 3 1/2" for diameter 20"-48". Part includes corrugated bellows without liner and vee band.

Flow resistance factor:

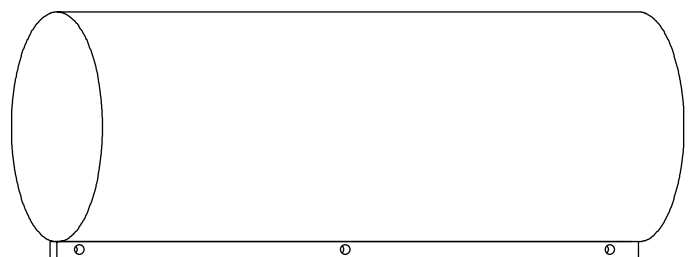
ID ≤ 18": K = .44 L/D

ID > 18": K = .33 L/D

## Bellows Expansion Cover

### Part BEC

The Optional Bellows Expansion Cover is used to shield lined and unlined bellow joints. Part includes: 1-piece cover band, nuts and bolts.

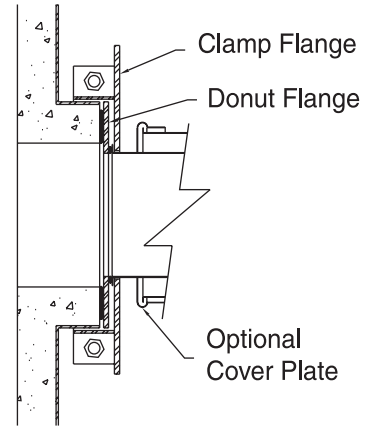




## HT / DW Adapter

### Part H/D-6

Use the H/D-6 to connect Model DW Series to Model HT components. Part includes: 2-piece donut flange, 2-piece clamp flange, and an optional cover plate.



## Fan and Hood Transition

### Part FHT

Used to connect grease duct to fans and hoods. Part includes: fan/hood transition and vee band.

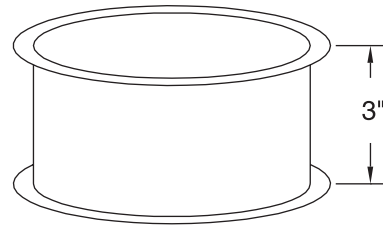
Flow resistance factor:

ID ≤ 18": K = .44 L/D 18/D

ID > 18": K = .33 L/D 18/D

Flow resistance factor for diesel/turbine exhausts:

K = .25 L/D



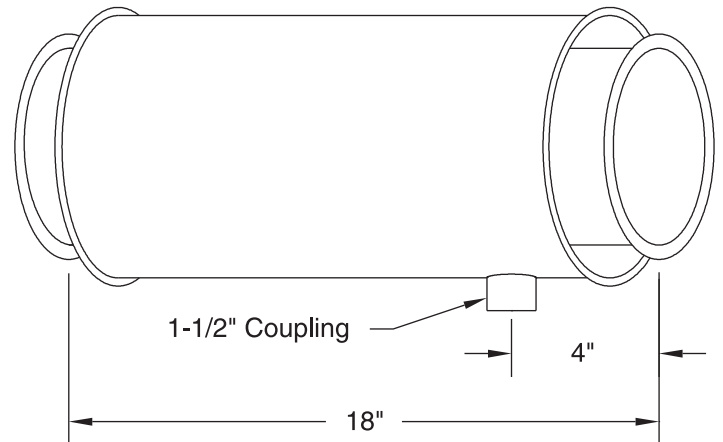
## Duct Coupling Section

### Part DCS

Used for exhaust sampling. On grease duct applications allows access for automatic wash down, fire detection and fire prevention equipment. Part includes: duct coupling section, vee band and draw band.

Flow resistance factor:

K = .40 L/D



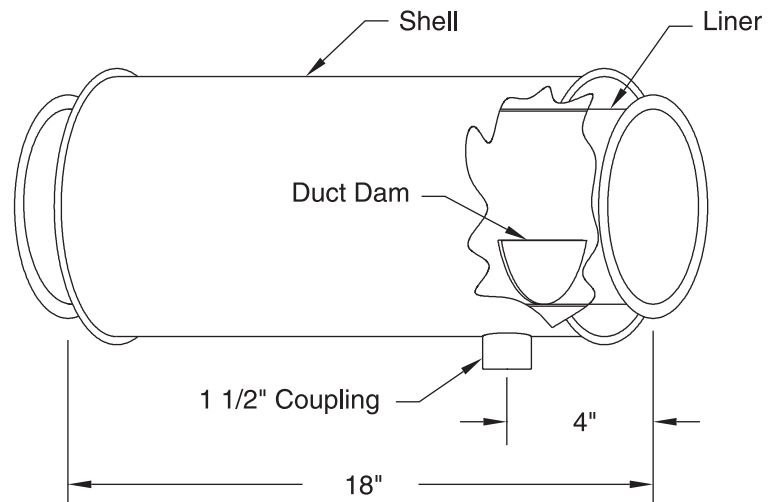
## Duct Drain Section

### Part DDS

Use the Drain Section to trap grease or condensation in a horizontal grease duct application. Part includes: duct-drain section, vee band and draw band.

Flow resistance factor:

K = .40 L/D



## 45° Elbow

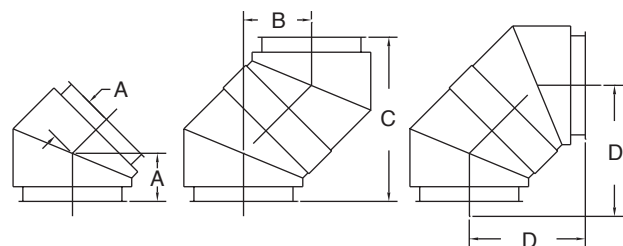
Part 45E

Part includes: one 45° elbow, one vee band and one draw band.

Flow resistance factor:

$$K = .15$$

45° Elbow & Offsets (Inches)					
ID	OD	A	B	C	D
6	8	4 1/32	5 11/16	13 25/32	9 3/4
8	10	4 7/16	6 1/4	15 3/16	10 3/4
10	12	4 13/16	6 13/16	16 7/16	11 3/4
12	14	5 1/4	7 7/16	17 15/16	12 3/4
14	16	5 11/16	8 1/16	19 7/16	13 3/4
16	18	6 1/8	8 11/16	20 15/16	14 3/4
18	20	6 1/2	9 3/16	22 3/16	15 3/4
20	22	6 15/16	9 13/16	23 11/16	16 3/4
22	24	7 11/32	10 3/8	25 3/32	17 3/4
24	26	7 3/4	11	26 1/2	18 3/4
26	28	8 3/16	11 9/16	27 15/16	19 3/4
28	30	8 19/32	12 5/32	29 11/32	20 3/4
30	32	9	12 3/4	30 3/4	21 3/4
32	34	9 13/32	13 5/16	32 9/16	22 3/4
34	36	9 27/32	13 15/16	33 19/32	23 3/4
36	38	10 3/16	14 7/16	34 13/16	24 3/4
38	40	10 21/32	15 1/16	34 13/32	25 3/4
40	42	11 1/16	15 21/32	37 25/32	26 3/4
42	44	11 1/2	16 1/4	39 1/4	27 3/4
44	46	11 29/32	16 27/32	40 21/42	28 3/4
46	48	12 5/16	17 13/32	42 1/16	29 3/4
48	50	12 3/4	18 1/32	43 17/32	30 3/4



## 30° Elbow

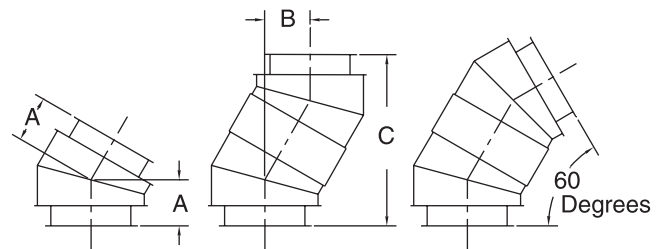
Part 30E

Part includes: one 30° elbow, one vee band and one draw band.

Flow resistance factor:

$$K = .12$$

30° Elbow & Offset (Inches)				
ID	OD	A	B	C
6	8	3 7/16	4	12 7/8
8	10	3 23/32	4 9/32	13 7/8
10	12	4	4 19/32	14 7/8
12	14	4 1/4	4 29/32	15 7/8
14	16	4 1/2	5 7/32	16 7/8
16	18	4 25/32	5 17/32	17 7/8
18	20	5 1/16	5 27/32	18 7/8
20	22	5 5/16	6 5/32	19 7/8
22	24	5 19/32	6 15/32	20 7/8
24	26	5 7/8	6 3/4	21 7/8
26	28	6 1/8	7 1/16	22 7/8
28	30	6 13/32	7 3/8	23 7/8
30	32	6 21/32	7 11/16	24 7/8
32	34	6 15/16	8	25 7/8
34	36	7 3/16	8 5/16	26 7/8
36	38	7 15/32	8 5/8	27 7/8
38	40	7 3/4	8 15/16	28 7/8
40	42	8	9 1/4	29 7/8
42	44	8 1/4	9 9/16	30 7/8
44	46	8 17/32	9 7/8	31 7/8
46	48	8 13/16	10 5/32	32 7/8
48	50	9 3/32	10 15/32	33 7/8



## 15° Elbow

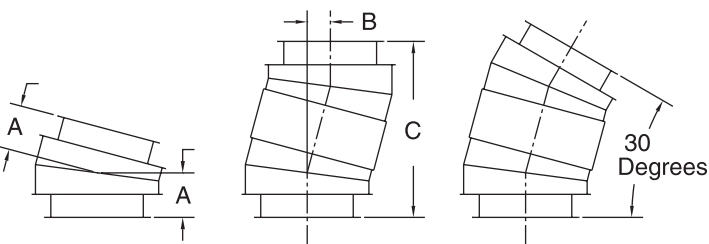
Part 15E

Part includes: one 15° elbow, one vee band and one draw band.

Flow resistance factor:

$$K = .06$$

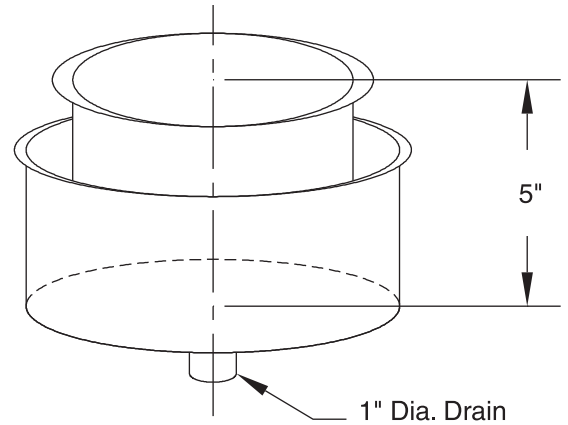
15° Elbow and Offset (Inches)				
ID	OD	A	B	C
6	8	2 7/8	1 1/2	11 7/16
8	10	3 1/16	1 9/16	11 15/16
10	12	3 3/16	1 5/8	12 7/16
12	14	3 5/16	1 11/16	12 15/16
14	16	3 7/16	1 3/4	13 1/2
16	18	3 9/16	1 7/8	14
18	20	3 11/16	1 15/16	14 9/16
20	22	3 13/16	2	15 1/16
22	24	3 15/16	2 1/16	15 9/16
24	26	4 1/16	2 1/8	16 1/16
26	28	4 1/4	2 3/16	16 5/8
28	30	4 3/8	2 1/4	17 1/8
30	32	4 1/2	2 5/16	17 5/8
32	34	4 5/8	2 3/8	18 1/8
34	36	4 3/4	2 7/16	18 5/8
36	38	4 7/8	2 1/2	19 3/16
38	40	5	2 9/16	19 11/16
40	42	5 1/8	2 11/16	20 3/16
42	44	5 1/4	2 3/8	20 3/4
44	46	5 3/8	2 13/16	21 1/4
46	48	5 9/16	2 7/8	21 3/4
48	50	5 11/16	2 15/16	22 1/4



## End Cap with Drain

Part C/D

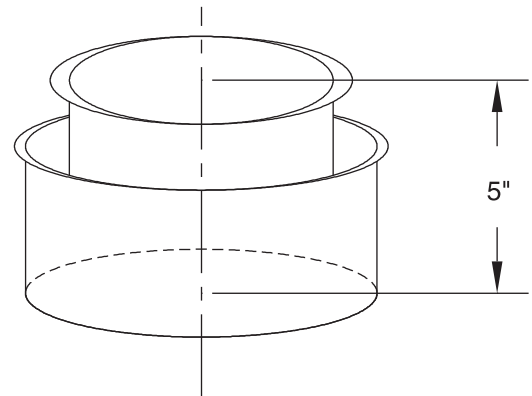
Used as a drain in a vertical tee section. Part includes: end cap with drain, vee band and draw band.



## End Cap

Part CAP

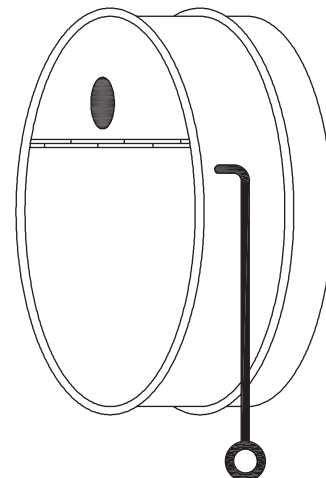
Used on closed end to provide a clean out and inspection access port. Part includes: end cap, vee band and draw band.



## Barometric Damper

Part BMD

Atmospheric type draft regulator used to balance chimney draft requirements.



## 90° Centered Tee

### Part 90T

This component is used to make 90° turns. Please specify projection diameter if different than main body diameter.  
Part includes: 90° tee, two vee bands, and two draw bands.

Flow resistance factor:

$$K = 1.25$$

A = Projection ID

B = A + 8" for DW and DWplus

B = A + 10" for DWplus2

B = A + 12" for DWplus3

B = A + 14" for DWplus4

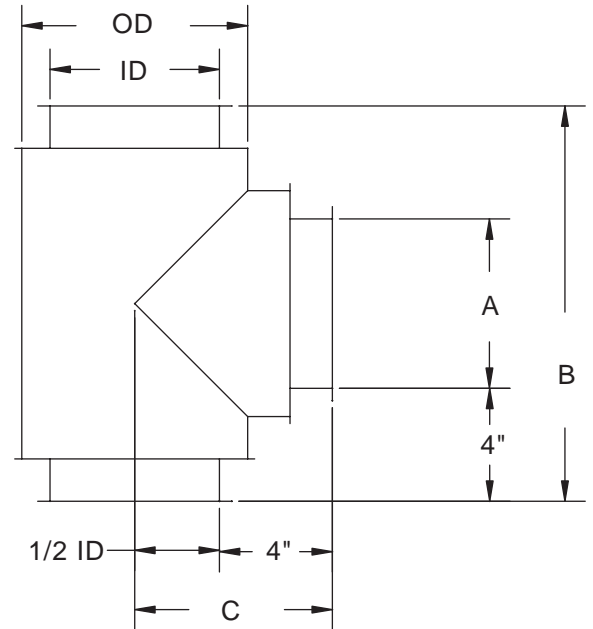
C = Projection Length from Center Line

DW and DWplus =  $1/2"ID + 4"$

DWplus2 =  $1/2"ID + 5"$

DWplus3 =  $1/2"ID + 6"$

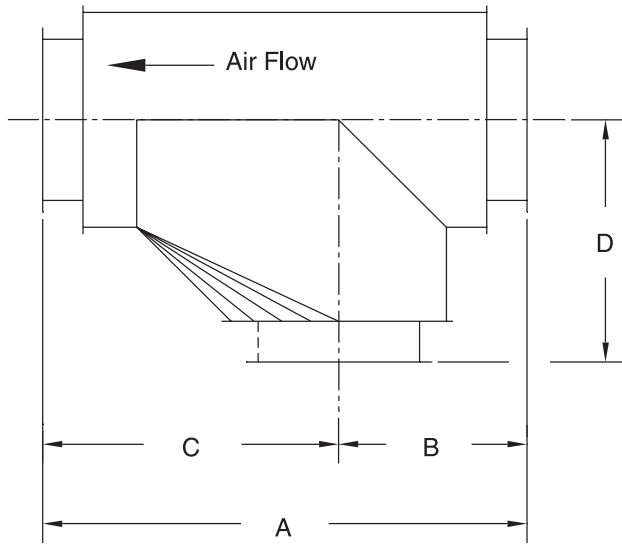
DWplus4 =  $1/2"ID + 7"$



90° Centered Tee Section (Inches)

Sect. ID	Proj. ID	DW/DWplus	DWplus2	DWplus3	DWplus4	DW/DWplus	DWplus2	DWplus3	DWplus4
	A	B	B	B	B	C	C	C	C
6	6	14	16	18	20	7	8	9	10
8	8	16	18	20	22	8	9	10	11
10	10	18	20	22	24	9	10	11	12
12	12	20	22	24	26	10	11	12	13
14	14	22	24	26	28	11	12	13	14
16	16	24	26	28	30	12	13	14	15
18	18	26	28	30	32	13	14	15	16
20	20	28	30	32	34	14	15	16	17
22	22	30	32	34	36	15	16	17	18
24	24	32	34	36	38	16	17	18	19
26	26	34	36	38	40	17	18	19	20
28	28	36	38	40	42	18	19	20	21
30	30	38	40	42	44	19	20	21	22
32	32	40	42	44	46	20	21	22	23
34	34	42	44	46	48	21	22	23	24
36	36	44	46	48	50	22	23	24	25
38	38	46	48	50	52	23	24	25	26
40	40	48	50	52	54	24	25	26	27
42	42	50	52	54	56	25	26	27	28
44	44	52	54	56	58	26	27	28	29
46	46	54	56	58	60	27	28	29	30
48	48	56	58	60	62	28	29	30	31

Chart is based on tees with full size projections.



## 90° Boot Tee

### Part BTT

This component is used to make low resistance 90° turns. In some applications this 90° boot tee can replace 45° tees and 45° elbows. Please specify projection diameter if different than main body diameter. Part includes: 90° boot tee, two vee bands and two draw bands.

Flow resistance factor:

$$K = .65$$

$$A = \text{Proj. I.D.} + 12" \text{ for DW and DWplus}$$

$$A = \text{Proj. I.D.} + 14" \text{ for DWplus2}$$

$$A = \text{Proj. I.D.} + 16" \text{ for DWplus3}$$

$$A = \text{Proj. I.D.} + 18" \text{ for DWplus4}$$

$$B = 1/2 \text{ Proj. I.D.} + 4" \text{ for DW and DWplus}$$

$$B = 1/2 \text{ Proj. I.D.} + 5" \text{ for DWplus2}$$

$$B = 1/2 \text{ Proj. I.D.} + 6" \text{ for DWplus3}$$

$$B = 1/2 \text{ Proj. I.D.} + 7" \text{ for DWplus4}$$

$$C = B + 4"$$

$$D = B + 2"$$

90° Boot Tee Chart (Inches)

Model	DW / DWplus				DWplus2				DWplus3				DWplus4			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
6	18	7	11	9	20	8	12	10	22	9	13	11	24	10	14	12
8	20	8	12	10	22	9	13	11	24	10	14	12	26	11	15	13
10	22	9	13	11	24	10	14	12	26	11	15	13	28	12	16	14
12	24	10	14	12	26	11	15	13	28	12	16	14	30	13	17	15
14	26	11	15	13	28	12	16	14	30	13	17	15	32	14	18	16
16	28	12	16	14	30	13	17	15	32	14	18	16	34	15	19	17
18	30	13	17	15	32	14	18	16	34	15	19	17	36	16	20	18
20	32	14	18	16	34	15	19	17	36	16	20	18	38	17	21	19
22	34	15	19	17	36	16	20	18	38	17	21	19	40	18	22	20
24	36	16	20	18	38	17	21	19	40	18	22	20	42	19	23	21
26	38	17	21	19	40	18	22	20	42	19	23	21	44	20	24	22
28	40	18	22	20	42	19	23	21	44	20	24	22	46	21	25	23
30	42	19	23	21	44	20	24	22	46	21	25	23	48	22	26	24
32	44	20	24	22	46	21	25	23	48	22	26	24	50	23	27	25
34	46	21	25	23	48	22	26	24	50	23	27	25	52	24	28	26
36	48	22	26	24	50	23	27	25	52	24	28	26	54	25	29	27
38	50	23	27	25	52	24	28	26	54	25	29	27	56	26	30	28
40	52	24	28	26	54	25	29	27	56	26	30	28	58	27	31	29
42	54	25	29	27	56	26	30	28	58	27	31	29	60	28	32	30
44	56	26	30	28	58	27	31	29	60	28	32	30	62	29	33	31
46	58	27	31	29	60	28	32	30	62	29	33	31	64	30	34	32
48	60	28	32	30	62	29	33	31	64	30	34	32	66	31	35	33

Chart is based on tees with full size projections.

## 45° Tee Section

### Part 45T

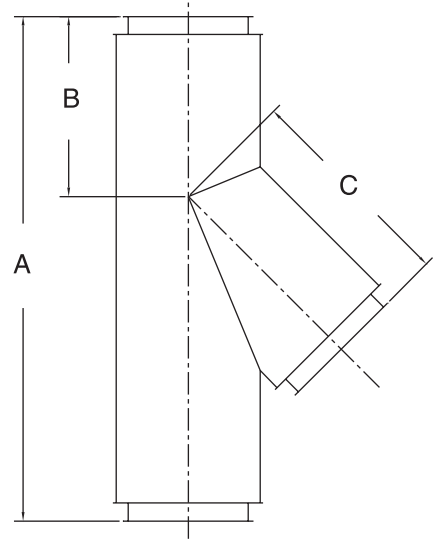
Use this component to make 45° turns. Please specify projection diameter if different than main body diameter.

Part includes: 45° tee, two vee bands, and two draw bands.

Flow resistance factor:

K = .40

Note: Projection ID of "C" determines length of "A".



45° Tee Section (Inches)												
Section	DW / DWplus			DWplus2			DWplus3			DWplus4		
	A	B	C	A	B	C	A	B	C	A	B	C
6	42	17	12 11/16	42	16	15 9/16	42	15	18	42	14	20 3/8
8	42	16	15 9/16	42	15	18	42	14	20 3/8	42	13	22 13/16
10	42	15	18	42	14	20 3/8	42	13	22 13/16	42	12	25 1/4
12	42	14	20 3/8	42	13	22 13/16	42	12	25 1/4	42	11	27 5/8
14	42	13	22 13/16	42	12	25 1/4	42	11	27 5/8	42	10	30 1/16
16	42	12	25 1/4	42	11	27 5/8	42	10	30 1/16	42	9	32 1/2
18	42	11	27 5/8	42	10	30 1/16	42	9	32 1/2	60	17	34 7/8
20	42	10	30 1/16	42	9	32 1/2	60	17	34 7/8	60	16	37 5/16
22	42	9	32 1/2	60	17	34 7/8	60	16	37 5/16	60	15	39 11/16
24	60	17	34 7/8	60	16	37 5/16	60	15	39 11/16	60	14	42 1/8
26	60	16	37 5/16	60	15	39 11/16	60	14	42 1/8	60	13	44 9/16
28	60	15	39 11/16	60	14	42 1/8	60	13	44 9/16	60	12	46 15/16
30	60	14	42 1/8	60	13	44 9/16	60	12	46 15/16	60	11	49 3/8
32	60	13	44 9/16	60	12	46 15/16	60	11	49 3/8	72	16	51 13/16
34	60	12	46 15/16	60	11	49 3/8	72	16	51 13/16	72	15	54 3/16
36	60	11	49 3/8	72	16	51 13/16	72	15	54 3/16	72	14	56 5/8
38	72	16	51 13/16	72	15	54 3/16	72	14	56 5/8	72	13	59
40	72	15	54 3/16	72	14	56 5/8	72	13	59	78	15	61 7/16
42	72	14	56 5/8	72	13	59	78	15	61 7/16	78	14	63 7/8
44	72	13	59	78	15	61 7/16	78	14	63 7/8	84	16	66 1/4
46	78	15	61 7/16	78	14	63 7/8	84	16	66 1/4	90	18	68 11/16
48	78	14	63 7/8	84	16	66 1/4	90	18	68 11/16	90	17	71 1/8

Chart is based on tees with full size projections.



## 45° Double Tee Section

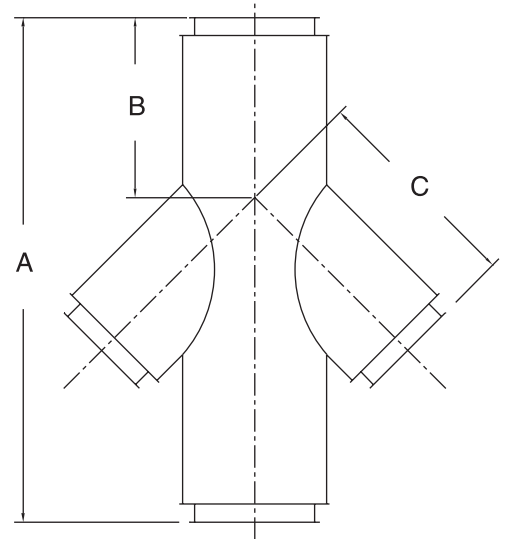
### Part 45T \_\_/\_\_

Use this component to make two 45° turns from different directions. Please specify projection diameter if different than main body diameter. Part includes: 45° tee, three vee bands and three draw bands.

Note: Projection ID required. Projection ID of "C" determines length of "A".

Flow resistance factor:

K= .40



Double 45° Tee Section (Inches)												
Section	DW / DWplus			DWplus2			DWplus3			DWplus4		
ID	A	B	C	A	B	C	A	B	C	A	B	C
8	42	16	14 9/16	42	15	17	42	14	18 7/8	42	13	21 13/16
10	42	15	17	42	14	18 7/8	42	13	21 13/16	42	12	24 1/4
12	42	14	18 7/8	42	13	21 13/16	42	12	24 1/4	42	11	26 5/8
14	42	13	21 13/16	42	12	24 1/4	42	11	26 5/8	42	10	29 1/16
16	42	12	24 1/4	42	11	26 5/8	42	10	29 1/16	42	9	31 1/2
18	42	11	26 5/8	42	10	29 1/16	42	9	31 1/2	60	17	33 7/8
20	42	10	29 1/16	42	9	31 1/2	60	17	33 7/8	60	16	36 5/16
22	42	9	31 1/2	60	17	33 7/8	60	16	36 5/16	60	15	38 11/16
24	60	17	33 7/8	60	16	36 5/16	60	15	38 11/16	60	14	41 1/8
26	60	16	36 5/16	60	15	38 11/16	60	14	41 1/8	60	13	43 9/16
28	60	15	38 11/16	60	14	41 1/8	60	13	43 9/16	60	12	45 15/16
30	60	14	41 1/8	60	13	43 9/16	60	12	45 15/16	60	11	48 3/8
32	60	13	43 9/16	60	12	45 15/16	60	11	48 3/8	72	16	50 13/16
34	60	12	45 15/16	60	11	48 3/8	72	16	50 13/16	72	15	53 3/16
36	60	11	48 3/8	72	16	50 13/16	72	15	53 3/16	72	14	56 5/8
38	72	16	50 13/16	72	15	53 3/16	72	14	56 5/8	72	13	58
40	72	15	53 3/16	72	14	56 5/8	72	13	58	78	15	60 7/16
42	72	14	56 5/8	72	13	58	78	15	60 7/16	78	14	62 7/8
44	72	13	58	78	15	60 7/16	78	14	62 7/8	84	16	66 1/4
46	78	15	60 7/16	78	14	62 7/8	84	16	66 1/4	90	18	67 11/16
48	78	14	62 7/8	84	16	66 1/4	90	18	67 11/16	90	17	70 1/8

Chart is based on tees with one size smaller projections.

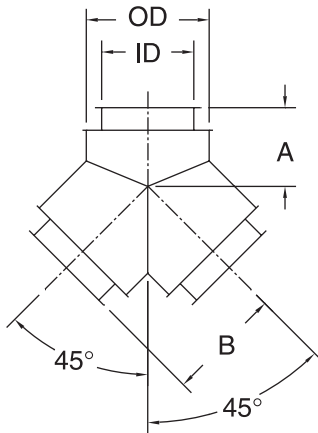
## 90° Wye Section

### Part WYE

Used for joining two systems together or to provide cleanouts at 90° turns for grease duct and other applications with a minimum resistance to flow. Part includes: 90° wye, two vee bands, and two draw bands.

Flow resistance factor:

$$K = 0.6$$



Wye Chart (Inches) All Legs Equal		
Section	DW & DWplus	
ID	A	B
6	5 5/32	7 1/2
8	5 19/32	8 1/2
10	6	9 1/2
12	6 13/32	10 1/2
14	6 13/16	11 1/2
16	7 7/32	12 1/2
18	7 21/32	13 1/2
20	8 1/16	14 1/2
22	8 15/32	15 1/2
24	8 7/8	16 1/2
26	9 5/16	17 1/2
28	9 23/32	18 1/2
30	10 1/8	19 1/2
32	10 17/32	20 1/2
34	10 31/32	21 1/2
36	11 3/8	22 1/2
38	11 25/32	23 1/2
40	12 3/16	24 1/2
42	12 5/8	25 1/2
44	13 1/32	26 1/2
46	13 7/16	27 1/2
48	13 27/32	28 1/2

## Increaser

### Part INC

This part is used to provide a low resistance increase when diameter changes are required.

\* = Smaller diameter

\*\* = Larger diameter

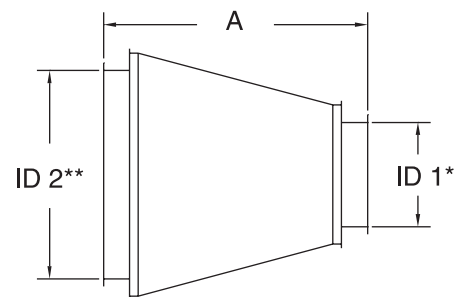
A = 7 3/4" for one diameter size increase

A = 11 1/2" for two diameter size increase

A = 15 3/16" for three diameter size increase

A = 19" for four diameter size increase

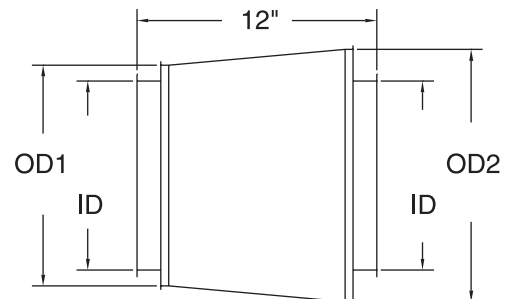
Part includes: increaser, one small vee band, and one small draw band.



## 12" Long Adapter

### Part ADT

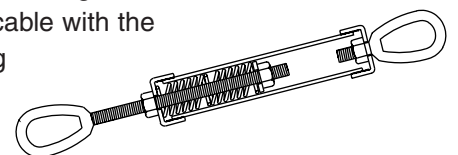
This part is used to provide an increase when insulation thickness changes are required. Part includes: adapter, one small vee band, and one small draw band.



## Guy Tensioner

### Part GUY1500

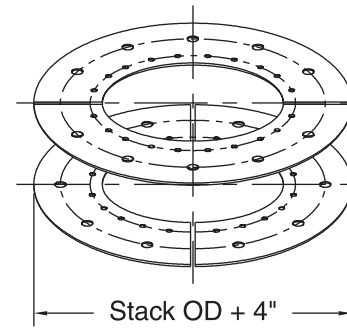
Van-Packer offers a 1500 lb. Guy Tensioner, which is good for up to 3 inches of expansion. Use the Guy Tensioner in conjunction with the Guy Attachment Ring. Installing contractor shall provide wire rope, thimble, clips, and any type of hardware for attachment to roof and or building. Van-Packer suggests using 1/4" minimum galvanized guying cable with the guy-attachment ring and guy-tension devices.



## Guy Attachment Ring

### Part GAR

The Guy Attachment Ring is used for lateral support. Part includes: four half clamp rings, nuts and bolts, and two half draw bands.



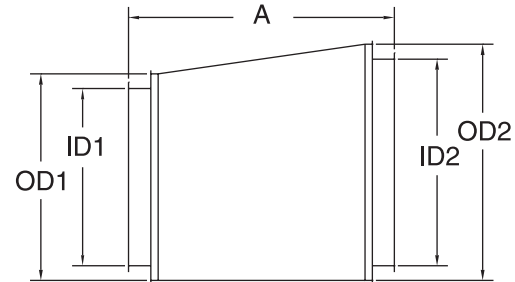
## 18" Long Eccentric Increaser

### Part ECC

This part is used to provide an increase on one side of the pipe while the opposite side remains the same. Part includes: eccentric increaser, one small vee band, and one small draw band. This is a non-UL Listed component.

A = 18" length for one through three steps

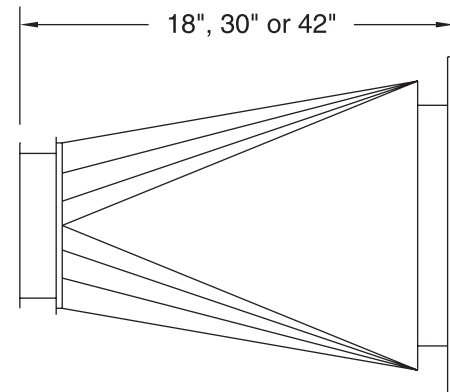
A = Four steps and above (length same as increaser)



## Square to Round Transition

### Part STS

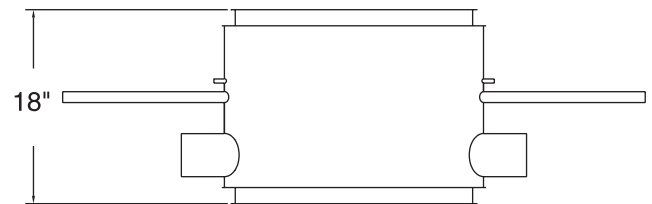
This part is used to provide a connection from a square to round joint. Part includes: transition, blank flange, vee band and draw band. This is a non-UL Listed component.



## 18" Long Smoke Opacity Monitor Section

### Part SOM

This part is used to provide a connection for smoke opacity monitoring for Preferred Controls. Vertical format is standard. Horizontal format for the Preferred Controls and Horizontal/Vertical format for Cleveland Controls can be fabricated and is considered custom. Part includes: smoke opacity monitor section, vee band and draw band. This is a non-UL Listed component.

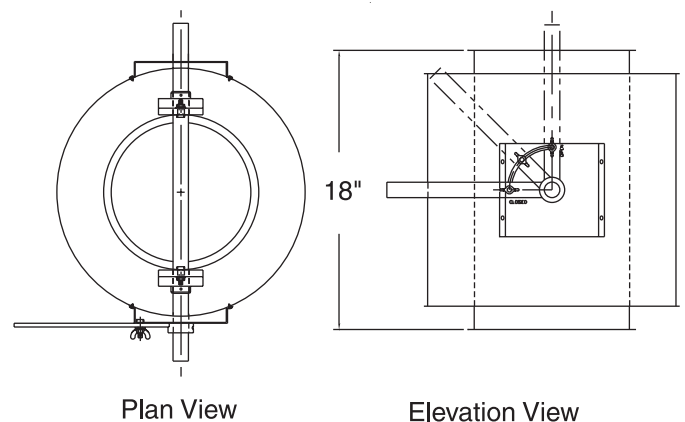


Preferred Standard Smoke Opacity Monitor  
Vertical Installation

## 18" Long Butterfly Damper Section

### Part DPR

This part is used to control draft flow. It will *not shut 100%* and has a manual damper. Part includes: butterfly damper section, vee band and draw band. This is a non-UL Listed component.



## Pressure Relief Valve

### Part ERV

Use the Pressure Relief Valve to relieve pressure spikes. To be used in accordance with NFPA 37. Extreme care must be used when determining the location of this valve. If this valve is activated, hot gas, flames and toxicants will be released into the atmosphere (see General Installation Guidelines). Part includes: pressure relief valve, flange adapter, vee band, bolts and nuts. Conforms to NFPA 37.



## Vee Band

### Part VEE

This part is used to connect Van-Packer Model DW, DWplus Series, Model SW and Model ES components for a positive pressure seal. When using Van-Packer's high temperature sealant, Part #101091F, this allows for 60" water column. UL Listed per UL Standard 103. Part includes: vee band, screws and square nuts.



## Draw Band

### Part DRW

This part is used to connect Van-Packer Model DW and DWplus Series outer shells. The draw band seals the flue pipe and gives a uniform look. Part includes: draw band, screws and square nuts.



## Half Draw Band

### Part HDB

This part is used to seal off Van-Packer Model DW and DWplus Series outer shells. The half draw band gives a uniform look. Part includes: one half draw band, screws and square nuts.





# Model DW Standard Warranty

VAN-PACKER WARRANTS that its Model SW components will perform their intended function of exhausting the combustion products of heating equipment without adverse leakage provided the system has been sized in accordance with good engineering practice and that the material specifications are suitable for the application. This Warranty is given to the owner of the products against defects in workmanship and materials for a period of one year after delivery. This Warranty extends only to installations where the attached equipment is operated in accordance with the manufacturer's instructions. This Warranty is further limited only to those installations with normal effluent from a boiler or if the effluent is approved in writing by VAN-PACKER.

Parts, products, or accessories manufactured by others are warranted only to the extent of the original manufacturer's warranty. VAN-PACKER'S obligation under this warranty is limited to repair or replacement as it shall be determined by its sole discretion upon examination by qualified personnel, as approved by VAN-PACKER and only to that material produced or fabricated at our factory. The erection, installation, field fabrication or welding by installing contractors or VAN-PACKER distributors are warranted only to the extent of the installing contractor's or distributor's warranty.

VAN-PACKER reserves the right to examine the chimney during the warranty period. Operation of the equipment must be maintained in accordance with the manufacturer's instructions. In the event a violation is observed, the problem must be corrected within 30 days to VAN-PACKER'S satisfaction. In the event the violation is not corrected within 30 days, the Warranty becomes invalid.

ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED VAN-PACKER'S AFORESTATED OBLIGATION ARE HEREBY DISCLAIMED BY VAN-PACKER AND EXCLUDED FROM THE WARRANTY. The Warranties made herein by Van-Packer Company are in lieu of all other warranties, stated or inferred, and VAN-PACKER assumes no liability for loss of use or for any direct, indirect, or consequential damage of any kind in respect to the use or operation of VAN-PACKER products, or any equipment or accessories used in connection therewith. VAN-PACKER neither assumes nor authorizes any person to assume for it any obligation in connection with the sale of the products. This Warranty shall not apply to any products or parts of products which (a) have been repaired or altered in any manner outside of VAN-PACKER'S factory unless designated in writing by VAN-PACKER; or (b) have been subjected to misuse, neglect or accident; or (c) have been used in a manner contrary to VAN-PACKER'S printed instructions; or (d) damaged due to malfunction of the attached equipment or faulty installation.





**VAN-PACKER® CO., INC.**

# Model DW Extended Warranty

**VAN-PACKER WARRANTS** that a chimney system consisting exclusively of components manufactured by it and installed in accordance with drawings and specifications approved in writing by it against functional failure due to defects in materials and workmanship, PROVIDED, that the effluent being and having been vented is and was described in writing agreed to by VAN-PACKER at the time VAN-PACKER approved the drawings and specifications pertaining to such chimney. Flue gas must remain above acid dew points.

**THIS WARRANTY IS FOR A PERIOD OF 10 YEARS** - All rights and limitations pertaining to the warranty may be assigned by the original owner of the chimney to the person or entity purchasing the plant or facility in which the chimney is located.

**VAN-PACKER'S** sole obligation under this warranty is to repair or replace, as it shall determine in its sole discretion, any components that fail to comply with this warranty. This warranty does not cover any labor cost for the removal or replacement of any defective product.

The Warranties made herein by Van-Packer Company, Inc. are in lieu of any and all other warranties, stated or inferred, and VAN-PACKER assumes no liability for loss of use or for any direct, indirect or consequential damage of any kind in respect to the use of operation of VAN-PACKER products, or any equipment or accessories used in connection therewith. VAN-PACKER does not authorize any person to assume for it any obligation in connection with the sale of the products. This Warranty shall not apply to any products or parts which (a) Have been repaired or altered in any manner outside of VAN-PACKER'S factory; (b) Have been subjected to misuse, neglect or accident; (c) Have been used in a manner contrary to VAN-PACKER'S printed instructions; or (d) Have been damaged due to malfunction of any attached or connected equipment or faulty installation.

Van-Packer Company, Inc. will provide a signed warranty upon approval. Contact Van-Packer for details.



**VAN-PACKER® CO., INC.**

**Sales, Service and Manufacturing**

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