CleaverBrooks

CATEGORIES II, III AND IV VENTING SYSTEMS

SPECIAL GAS VENTS

TECHNICAL DATA AND PARTS SELECTION

Models CBH, CBHL, CBHL2

High Efficiency/Positive Pressure Application

CONTENTS

LISTING AND APPLICATIONS

LISTINGS

Cleaver-Brooks venting systems models CBH, CBHL and CBHL2 are listed by Underwriters Laboratories inc. (UL) under file MH10081 and tested in accordance with UL 1738 and ULC-S636-95 standard for Venting Categories II, III and IV appliances.

UL 1738 and ULC-S636-95

MODELS CBH • CBHL • CBHL2	TEMPERATURE	SIZE
Categories II, III and IV appliance	550°F continuous	6” to 48” I.D.

APPLICATIONS

1. Models CBH, CBHL and CBHL2 venting systems are not intended for use in one or two-family dwellings.
2. Where the venting system extends through any zone of a building outside the area in which the heating appliance connected to it is located, it shall be provided with an enclosure having a fire resistance rating equal to or greater than the fire rating of the floor, wall or roof assemblies through which it passes.
3. Models CBH, CBHL and CBHL2 venting systemss may penetrate a combustible roof or wall using the Ventilated Roof Flashing assembly. For wall penetrations, the use of the Wall Firestop assembly is required. This is the only part intended for use with combustible construction. All other parts, such as Anchor Plate and Wall Support, Wall Guide and Floor Guide are for attachment to non-combustible construction.
4. Where, according to local code, no chase enclosure is necessary, models CBH, CBHL and CBHL2 may be placed adjacent to, in a corner or in an enclosure made of walls of combustible materials at the clearance specified on each pipe section and in the individual listing; see “CLEARANCES”. Contact local building or fire officials about restrictions and installation inspection in your area.

DESIGN AND SPECIFICATION

DESIGN

All our single and double wall venting systems are part of a large family of CBH (High Efficiency Pressure) products for industrial and commercial applications. The components of each model are made using the same laser/plasma-welded stainless steel inner wall as per UL1738. Since all components have male and female ends, the parts of all models fit into one another, thus eliminating the need for all kinds of adapters and providing an incomparable flexibility in selecting models of flues and chimneys.

CBH: Single wall
(see Chimney Breechings and Liners Catalogue)

CBHL: Double wall
with 2" air space

CBHL2: Double wall
with 2" mineral fiber insul.

his unique method for jointing components together is very efficient either in horizontal or in vertical installations. Our simple jointing concept along with the wide variety of components and accessories allows a quick and simple installation, thus permitting you to save both time and money.

Cleaver-Brooks is proud to present you with our CBH (High Efficiency Pressure) venting systems and can assure you that it is the structurally strongest system of its category.

These chimney systems permit the exhaust of combustion gases, under positive, negative or neutral pressure, emanating from a variety of appliances including:

- High efficiency boilers
- High efficiency water heaters
- Category II, III and IV appliances

Models CBH, CBHL and CBHL2 provide a wide variety of components and accessories, suitable for all kinds of site conditions, thus allowing for quick and simple installation. Each component is packed and shipped complete, with (1) one assembly band and (1) one finishing band for those having female ends. Sufficient tubes of appropriate sealant are also included in the shipment for completing the assembly.

SAMPLE SPECIFICATION (boiler Exhaust)

The chimney and flue must meet UL (Underwriters Laboratories inc.) and c-UL (Underwriters Laboratories of Canada Inc.) standards and carry the appropriate approval labels. The maximum temperature must be 550°F (288°C) for continuous operation.

The chimney and flue components must be of double wall construction and properly designed for positive pressure exhaust. The inner wall must be of 24 gauge stainless steel, with continuous welds. The outer wall must be of 24 gauge stainless steel. A high temperature insulation (2 in.) must be installed between walls. The jointing must be made using the assembly band, the finishing band and the appropriate sealing material, as supplied by the manufacturer. Quality required: Model CBHL2.

All components must be installed according to the manufacturer recommendations and must meet the NFPA and local safety code requirements.

MATERIALS

MODEL CBH

Inner wall : Stainless Steel as per UL 1738 (24ga - 6”(305mm) to 48”(1219mm) diameter)

MODEL CBHL

Inner wall : Stainless steel as per UL1738(24ga - 6”(152mm) to 12”(305mm) diameter; 24ga - 12”(305mm) to 48”(1219mm) diameter)
Outer wall : Stainless steel 301, 304, 316 OR 430 (24 ga - 6”(152mm) to 42” 1067mm) diameter; 20 ga - 42”(1067mm) to 48”(1219mm) diameter)
Insulation : 2”(51mm) air space

MODEL CBHL2

Inner wall : Stainless Steel as per UL1738 (24ga - 6”(152mm) to 12”(305mm) diameter; 24ga - 12”(305mm) to 48”(1219mm) diameter)
Outer wall : Stainless steel 301, 304, 316 OR 430 (24 ga - 6”(152mm) to 40”(1016mm) diameter; 20 ga - 42”(1067mm) to 48”(1219mm) diameter)
Insulation : 2”(51mm) high temperature insulation

SUPPORTS & ACCESSORIES

Galvanized steel, hot-galvanized steel, 316 L or 304 2B stainless steel

COMPONENTS	materials	
	STANDARD	AVAILABLE
ANCHOR PLATE	3	1, 2 and 4
ASSEMBLY BAND	---	---
COLLARS, FLASHING	---	1 and 2
DRAIN SECTION	---	---
ELBOWS	---	---
EXHAUST CONE	---	---
FAN ADAPTER	---	---
FINISHING BAND	---	---
FIRESTOP, WALL FIRESTOP	3	1 and 2
HANGER BRACKET	3	1, 2 and 4
INCREASER/REDUCER	---	---
INSULATED SLEEVE, INSULATED WALL FIRESTOP	3	1 and 2
LENGTHS, ADJUSTABLE LENGTH, VARIABLE LENGTH	---	---
RADIANT FIRESTOP	3	1 and 2
RAIN CAP, RAINSHIELD, CLOSURE SECTION	---	---
ROOF BAND, GUY WIRE BAND	1	2, 3 and 4
ROOF SUPPORT, GUIDING SPACER	3	1, 2 and 4
STARTING ADAPTER, STARTING DRAIN ADAPTER	3	1,2 and 4
STARTING SLEEVE	3	1, 2 and 4
TEES	---	---
TEE CAPS	---	---
WALL BAND, SUSPENSION BAND	3	1, 2 and 4
WALL/FLOOR GUIDES	3	1,2 and 4
WALL/HORIZONTAL SUPPORTS	3	1, 2 and 4

1: 316 L stainless steel **2:** 304 2B stainless steel
3: Galvanized steel **4:** Hot-galvanized steel

WEIGTHS AND CLEARANCES

CBH ● CBHL ● CBHL2				LINEAR WEIGHT							
I.D.		O.D.		AREA		CBH		CBHL		CBHL2	
in	mm	in^2	$1000mm^2$	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m
6	152	10	254	28	18.2	2.2	3.2	5.1	7.5	8.0	11.9
8	203	12	305	50	32.4	2.9	4.3	6.3	9.4	10.0	14.9
10	254	14	356	79	50.7	3.6	5.4	7.6	11.4	12.0	17.9
12	302	16	406	113	73.0	4.3	6.4	8.9	13.3	14.1	21.0
14	356	18	457	154	99.3	5.1	7.5	10.2	15.2	16.1	24.0
16	406	20	508	201	129.7	5.8	8.6	11.5	17.2	18.1	27.0
18	457	22	559	254	164.2	6.5	9.7	12.8	19.1	20.2	30.0
20	508	24	610	314	202.7	7.2	10.7	14.1	21.0	22.2	33.0
22	559	26	660	380	245.2	7.9	11.8	15.4	23.0	24.2	36.1
24	610	28	711	452	291.9	8.7	12.9	16.7	24.9	26.3	39.1
26	660	30	762	531	342.5	9.4	14.0	18.0	26.8	28.3	42.1
28	711	32	813	616	397.3	10.1	15.0	19.3	28.8	30.3	45.1
30	762	34	864	707	456.0	10.8	16.1	20.6	30.7	32.4	48.2
32	813	36	914	804	518.9	11.5	17.2	21.9	32.6	34.4	51.2
34	864	38	965	908	585.8	12.3	18.3	23.2	34.6	36.4	54.2
36	914	40	1016	1018	656.7	13.0	19.3	24.5	35.4	38.5	57.2
38	965	42	1067	1134	731.7	13.7	20.4	25.8	36.5	40.5	60.3
40	1016	44	1118	1257	810.7	14.4	21.5	27.1	40.4	42.5	66.3
42	1067	46	1168	1385	893.8	15.2	22.6	35.0	52.1	51.1	76.1
44	1118	48	1219	1521	981.0	15.9	23.6	36.6	54.5	53.5	79.5
46	1168	50	1270	1662	1072.2	16.6	24.7	38.2	56.8	55.8	83.0
48	1219	52	1321	1810	1167.5	17.3	25.8	39.8	59.2	58.1	86.4

POSITION		MODEL	DIAMETER FOR EACH MINIMUM AIR SPACE CLEARANCE TO COMBUSTIBLE MATERIALS											
			0.5	1	1.5	2	3	4	5	6	7	8	9	10
Unenclosed vertical	INSIDE DIAMETER (IN)	**CBH**			6	8 to 10	12 to 14	16 to 20	22 to 24	26 to 28	30 to 32	34 to 38	40 to 44	46 to 48
		CBHL	6		8 to 10	12 to 14	16 to 18	20 to 24	26 to 28	30 to 32	34 to 36	38 to 42	44 to 48	
		CBHL2	6	8 to 10	12 to 14	16 to 20	22 to 24	26 to 30	32 to 36	38 to 40	42 to 48			
Unenclosed Horizontal	INSIDE DIAMETER (IN)	**CBH**					6 to 10	12 to 14	16 to 20	22 to 30	32 to 38	40 to 42	44 to 48	
		CBHL		6 to 10	12 to 14		16 to 20	22 to 28	30 to 32	34 to 38	40 to 42	44 to 48		
		CBHL2		6 to 10	12 to 14	16 to 20	22 to 30	32	34 to 44	46 to 48				

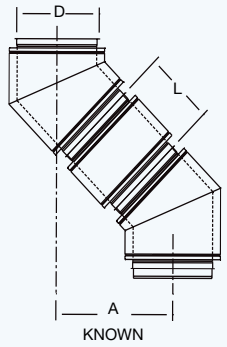
	Minimum air space clearance to combustible materials			
	Enclosed vertical		Enclosed horizontal	
Diameter	CBHL	CBHL2	CBHL	CBHL2
6'' to 16''	1''	1''	3''	2''
18'' to 32''	1''	1''	---	---

Minimum opening when installing a chimney through a floor or wall made of combustible construction.
O.D. + 2 X (min. clearance air space) Ex. : CBHL2, B.H.A., O.D. = 12" ➡ 12" + (2 X 2") = 16"

Minimum opening when installing a chimney through a floor or wall made of non combustible construction.
O.D. + 1" Ex. : CBHL2, B.H.A., O.D. = 12" ➡ 12" + 1" = 13"

OFFSETS AND TEES

OFFSET CALCULATIONS



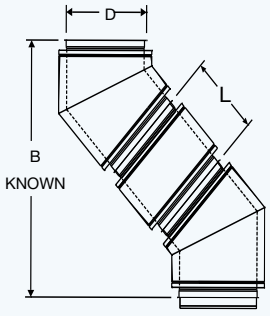
EFFECTIVE LENGTH CALCULATIONS

- OFFSET dimension is known
- Effective length is to be determined using equation 1, 2 or 3 depending on elbows used

1.	L(A) = 3.864(A) - 0.132D - 13”	15° elbows
2.	L(A) = 2(A) - 0.268D - 13”	30° elbows
3.	L(A) = 1.414(A) - 0.414D - 13”	45° elbows

EXAMPLE: An 8” ID IPPL2 chimney with a known offset width of 44.75”(A)using 2-45° elbows.

3. L(A) = 1.414(A) - 0.414D - 13”
   L(A) = 1.414(44.75”) - 0.414(8”) - 13”
   L(A) = 47” in effective length choose a 48” length (48L)



EFFECTIVE LENGTH CALCULATIONS

- HEIGTH dimesnion is known
- Effective length is to be determined using equation 4, 5 or 6 depending on elbows used

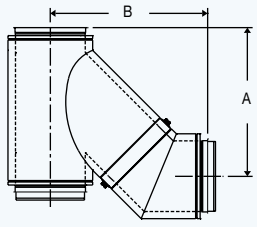
4.	L(B) = 1.035(B) - 0.268D - 26.459”	15° elbows
5.	L(B) = 1.155(B) - 0.577D - 28.011”	30° elbows
6.	L(B) = 1.414(B) - D - 31.385”	45° elbows

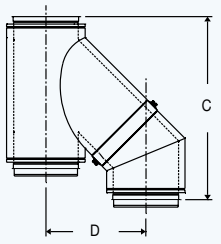
EXAMPLE: A 10” ID chimney with a known offset height of 55”(B) using 2- 45° elbows

6. L(B) = 1.414(B) - D - 31.385”
   L(B) = 1.414(55”) - 10” - 31.385”
   L(B) = 36.385” in effective length choose a 24” length (24L) + adjustable length (AL)

Refer to the elbows specific table for minimum offsets and heights of two matched elbows. For special conditions, we can manufacture one piece offset.

45° TEE AND 45° ELBOW ASSEMBLY





CBH ● CBHL ● CBHL2											
I.D.		O.D.		A		B		C		D	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
6	152	10	254	26.471	672	27.471	698	35.213	894	18.728	476
8	203	12	305	28.885	734	29.885	759	38.042	966	20.728	526
10	254	14	356	31.299	795	32.299	820	40.870	1038	22.728	577
12	305	16	406	33.713	856	34.713	882	43.698	1110	24.728	628
14	356	18	457	36.127	918	37.127	943	46.527	1182	26.728	679
16	406	20	508	38.542	979	39.542	1004	49.355	1254	28.728	730
18	457	22	559	40.956	1040	41.956	1066	52.184	1325	30.728	780
20	508	24	610	43.370	1102	44.370	1127	55.012	1397	32.728	831
22	559	26	660	45.784	1163	46.784	1188	57.841	1469	34.728	882
24	610	28	711	48.198	1224	49.198	1250	60.669	1541	36.728	933
26	660	30	762	50.613	1286	51.613	1311	63.497	1613	38.728	984
28	711	32	813	53.027	1347	54.027	1372	66.326	1685	40.728	1034
30	762	34	864	55.441	1408	56.441	1434	69.154	1757	42.728	1085
32	813	36	914	57.855	1470	58.855	1495	71.983	1828	44.728	1136
34	864	38	965	60.270	1531	61.270	1556	74.811	1900	46.728	1187
36	914	40	1016	62.684	1592	63.684	1618	77.640	1972	48.728	1238
38	965	42	1067	65.098	1653	66.098	1679	80.468	2044	50.728	1288
40	1016	44	1118	67.512	1715	68.512	1740	83.296	2116	52.728	1339
42	1067	46	1168	69.926	1776	70.926	1802	86.125	2188	54.728	1390
44	1118	48	1219	72.341	1837	73.341	1863	88.953	2259	56.728	1441
46	1168	50	1270	74.755	1899	75.755	1924	91.782	2331	58.728	1492
48	1219	52	1321	77.169	1960	78.169	1985	94.610	2403	60.728	1542

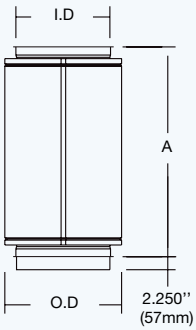
LENGTHS

STRAIGHT LENGTHS • 36L • 24L • 12L

Available in 22 diameters from 6 to 48” (152 to 1219mm). Standard lengths: 36” (914mm), 24” (610mm) and 12” (305mm).
Includes:
1 Assembly band (AB)
1 Finishing band (FB)

K = 0.30 L/D

Where L = Pipe length in feet
D = Pipe diameter in inches



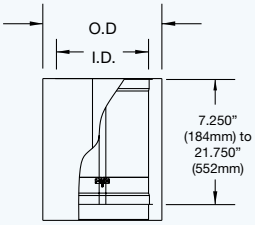
LENGTHS	EFFECTIVE LENGTHS ‘‘A’’
12	11
24	23
36	35

CBH ● CBHL ● CBHL2			
I.D.		O.D.	
in	mm	in	mm
6	152	10	254
8	203	12	305
10	254	14	356
12	305	16	406
14	356	18	457
16	406	20	508
18	457	22	559
20	508	24	610
22	559	26	660
24	610	28	711
26	660	30	762
28	711	32	813
30	762	34	864
32	813	36	914
34	864	38	965
36	914	40	1016
38	965	42	1067
40	1016	44	1118
42	1067	46	1168
44	1118	48	1219
46	1168	50	1270
48	1219	52	1321

ADJUSTABLE LENGTH • AL

Used to complete on site installation precisely. It is not designed to compensate for linear expansion nor to support the vertical load of the chimney.
Includes:
1 Assembly band (AB)
1 Outer wall 36” (914mm) long
1 Strip of insulation for CBHL2 systems

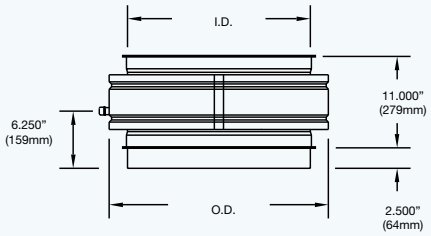
K = Same as pipe length



DRAIN SECTION • DS

Used to collect rainwater or condensation water from inside vertical or horizontal flue. To be connected to a drain of 3/4”ø (19mm) - NPT.
Includes:
1 Assembly band (AB)
1 Finishing band (FB)

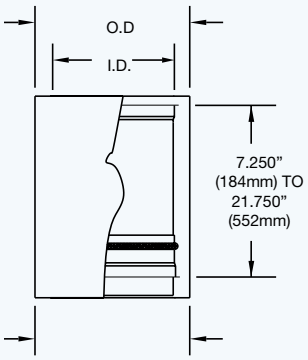
K = Same as pipe length



VARIABLE LENGTH • VL

Used to absorb linear expansion between two fixed points on low pressure applications.
Includes:
1 Assembly band (AB)
1 Outer wall 36” (914mm) long
1 Strip of insulation for CBHL2 systems

K = Same as pipe length



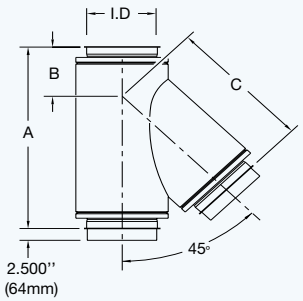
TEES

45º TEE • T45

For connection of vertical and horizontal lengths at a 45˚ angle. It provides low resistance to facilitate gas discharge. A tee cap (TC) or drain-tee cap (DC) may be used to block one of the cleaning or drainage openings.

Includes:
1 Assembly band (AB)
1 Finishing band (FB)

K = 0.4



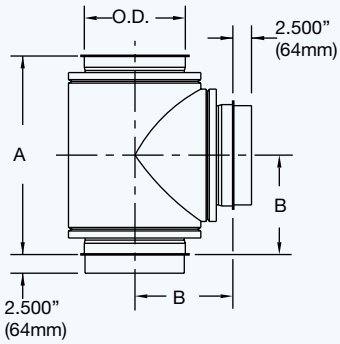
CBHL • CBHL2							
I.D.		A		B		C	
in	mm	in	mm	in	mm	in	mm
6	152	27.485	698	8.743	222	18.743	476
8	203	30.314	770	9.157	233	21.157	537
10	254	33.142	842	9.571	243	23.571	599
12	305	35.971	914	9.985	254	25.985	660
14	356	38.799	985	10.399	264	28.399	721
16	406	41.627	1057	10.814	275	30.814	783
18	457	44.456	1129	11.228	285	33.228	844
20	508	47.284	1201	11.642	296	35.642	905
22	559	50.113	1273	12.056	306	38.056	967
24	610	52.941	1345	12.471	317	40.471	1028
26	660	55.770	1417	12.885	327	42.885	1089
28	711	58.598	1488	13.299	338	45.299	1151
30	762	61.426	1560	13.713	348	47.713	1212
32	813	64.255	1632	14.127	359	50.127	1273
34	864	67.083	1704	14.542	369	52.542	1335
36	914	69.912	1776	14.956	380	54.956	1396
38	965	72.740	1848	15.370	390	57.370	1457
40	1016	75.569	1919	15.784	401	59.784	1519
42	1067	78.397	1991	16.198	411	62.198	1580
44	1118	81.225	2063	16.613	422	64.613	1641
46	1168	84.054	2135	17.027	432	67.027	1702
48	1219	86.882	2207	17.441	443	69.441	1764

90º TEE • T90

For connection of vertical and horizontal lengths. May be used for the installation of a draft regulator at the point of connection between the flue and the appliance. A tee cap (TC) or drain-tee cap (DC) may be used to block one of the cleaning or drainage openings.

Includes:
1 Assembly band (AB)
1 Finishing band (FB)

K = 1.25



CBHL • CBHL2					
I.D.		A		B	
in	mm	in	mm	in	mm
6	152	19	438	9.5	241
8	203	21	533	10.5	267
10	254	23	584	11.5	292
12	305	25	635	12.5	318
14	356	27	686	13.5	343
16	406	29	737	14.5	368
18	457	31	787	15.5	394
20	508	33	838	16.5	419
22	559	35	889	17.5	445
24	610	37	940	18.5	470
26	660	39	991	19.5	495
28	711	41	1041	20.5	521
30	762	43	1092	21.5	546
32	813	45	1143	22.5	572
34	864	47	1194	23.5	597
36	914	49	1245	24.5	622
38	965	51	1295	25.5	648
40	1016	53	1346	26.5	673
42	1067	55	1397	27.5	699
44	1118	57	1448	28.5	724
46	1168	59	1499	29.5	749
48	1219	61	1549	30.5	775

ELBOWS

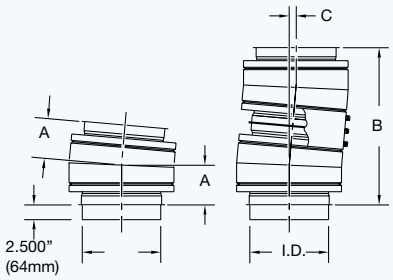
5° ELBOW • E5

Used to offset the flue or chimney by 5°. May be used to slope a flue to facilitate condensation water run-off.

Includes:

1 Assembly band (AB)
1 Finishing band (FB)

K = 0.04



CBHL • CBHL2							
I.D.		A		B		C	
in	mm	in	mm	in	mm	in	mm
6	152	6.631	168	26.473	672	1.156	29
8	203	6.675	170	26.648	677	1.163	30
10	254	6.718	171	26.822	681	1.171	30
12	305	6.762	172	26.996	686	1.179	30
14	356	6.806	173	27.171	690	1.186	30
16	406	6.849	174	27.345	695	1.194	30
18	457	6.893	175	27.519	699	1.202	31
20	508	6.937	176	27.694	703	1.209	31
22	559	6.980	177	27.868	708	1.217	31
24	610	7.024	178	28.042	712	1.224	31
26	660	7.068	180	28.217	717	1.232	31
28	711	7.111	181	28.391	721	1.240	31
30	762	7.155	182	28.595	726	1.247	32
32	813	7.199	183	28.740	730	1.255	32
34	864	7.242	184	28.914	734	1.262	32
36	914	7.286	185	29.088	739	1.270	32
38	965	7.330	186	29.262	743	1.278	32
40	1016	7.373	187	29.437	748	1.285	33
42	1067	7.417	188	29.611	752	1.293	33
44	1118	7.461	189	29.785	757	1.300	33
46	1168	7.504	191	29.960	761	1.308	33
48	1219	7.548	192	30.134	765	1.316	33

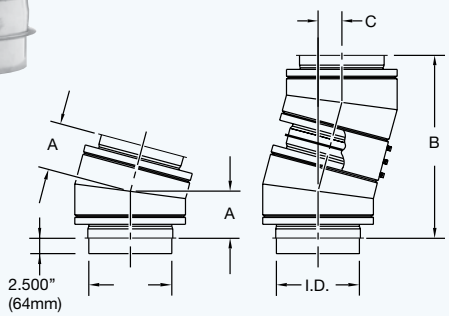
15° ELBOW • E15

Used to offset the flue or chimney by 15°.

Includes:

1 Assembly band (AB)
1 Finishing band (FB)

K = 0.06



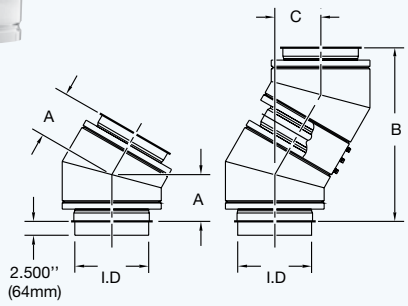
CBHL • CBHL2							
I.D.		A		B		C	
in	mm	in	mm	in	mm	in	mm
6	152	6.895	175	27.110	689	3.569	91
8	203	7.027	178	27.628	702	3.637	92
10	254	7.158	182	28.145	715	3.705	94
12	305	7.290	185	28.663	728	3.774	96
14	356	7.422	189	29.181	741	3.842	98
16	406	7.553	192	29.698	754	3.910	99
18	457	7.685	195	30.216	767	3.978	101
20	508	7.817	199	30.733	781	4.046	103
22	559	7.948	202	31.251	794	4.114	105
24	610	8.080	205	31.769	807	4.182	106
26	660	8.211	209	32.804	820	4.251	108
28	711	8.343	212	32.322	833	4.319	110
30	762	8.475	215	33.322	846	4.387	111
32	813	8.606	219	33.839	860	4.455	113
34	864	8.738	222	34.357	873	4.523	115
36	914	8.870	225	34.875	886	4.591	117
38	965	9.001	229	35.392	899	4.659	118
40	1016	9.133	232	35.910	912	4.728	120
42	1067	9.265	235	36.427	925	4.796	122
44	1118	9.396	239	36.945	938	4.864	124
46	1168	9.528	242	37.463	952	4.932	125
48	1219	9.660	245	37.980	965	5.000	127

ELBOWS

30° ELBOW • E30

Used to offset the flue or chimney by 30°.
Includes:
1 Assembly band (AB)
1 Finishing band (FB)

K = 0.12

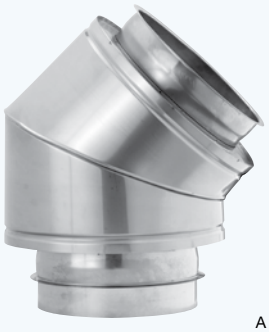


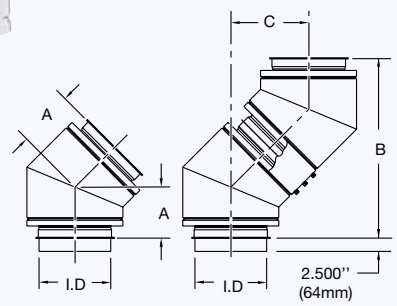
CBHL • CBHL2							
I.D.		A		B		C	
in	mm	in	mm	in	mm	in	mm
6	152	7.304	186	27.258	692	7.304	186
8	203	7.572	192	28.258	718	7.527	192
10	254	7.894	199	29.258	743	7.840	199
12	305	8.108	206	30.258	769	8.108	206
14	356	8.376	213	31.258	794	8.376	213
16	406	8.644	220	32.258	819	8.644	220
18	457	8.912	226	33.258	845	8.912	226
20	508	9.179	233	34.258	870	9.179	226
22	559	9.447	240	35.258	896	9.447	240
24	610	9.715	247	36.258	921	9.715	247
26	660	9.983	254	37,258	946	9.983	254
28	711	10.251	260	38.258	972	10.251	260
30	762	10,519	267	39.258	997	10.519	267
32	813	10.787	274	40.258	1023	10.787	274
34	864	11.055	281	41.258	1048	11.055	281
36	914	11.323	288	42.258	1073	11.323	288
38	965	11,591	294	43.258	1099	11.591	294
40	1016	11.859	301	44.258	1124	11.859	301
42	1067	12.127	308	45.258	1150	12.127	308
44	1118	12.395	315	46.258	1175	12.395	315
46	1168	12.663	322	47.258	1200	12.663	322
48	1219	12.931	328	48.258	1226	12.931	328

45° ELBOW • E45

Used to offset the flue or chimney by 45°.
Includes:
1 Assembly band (AB)
1 Finishing band (FB)

K = 0.15





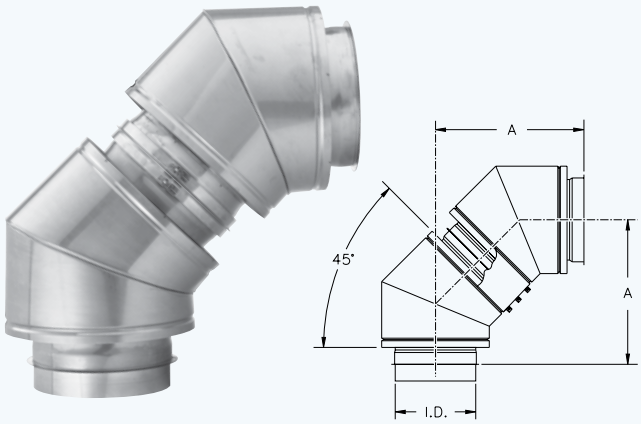
CBHL • CBHL2							
I.D.		A		B		C	
in	mm	in	mm	in	mm	in	mm
6	152	26.235	666	6.993	178	19.243	489
8	203	19.064	738	7.407	188	21.657	550
10	254	31.892	810	7.821	199	24.071	611
12	305	34.721	882	8.235	209	26.485	673
14	356	37.549	954	8.649	220	28.889	734
16	406	40.377	1026	9.024	230	31.314	795
18	457	43.206	1097	9.478	241	33.728	857
20	508	46.034	1169	9.892	251	36.142	918
22	559	48.863	1241	10.306	262	38.556	979
24	610	51.691	1313	10.721	272	40.971	1041
26	660	54.520	1385	11.135	283	43.385	1102
28	711	57.348	1457	11.549	293	45.799	1163
30	762	60.176	1528	11.963	304	48.213	1225
32	813	63.005	1600	12.377	314	50.627	1286
34	864	65.833	1672	12.792	325	53.042	1347
36	914	68.662	1744	13.206	335	55.456	1409
38	965	71.490	1816	13.260	346	57.870	1470
40	1016	74.319	1888	14.034	356	60.284	1531
42	1067	77.147	1960	14.448	367	62.628	1593
44	1118	79.975	2031	14.863	378	65.113	1654
46	1168	82.804	2103	15.277	388	67.527	1715
48	1219	85.632	2175	15.691	399	69.941	1777

ELBOWS

90° ELBOW • 2 x E45

Used to change orientation of flue or chimney by 90°.
Includes:
2 45° Elbows (E45)
2 Assembly bands (AB)
2 Finishing bands (FB)

K = 0.3

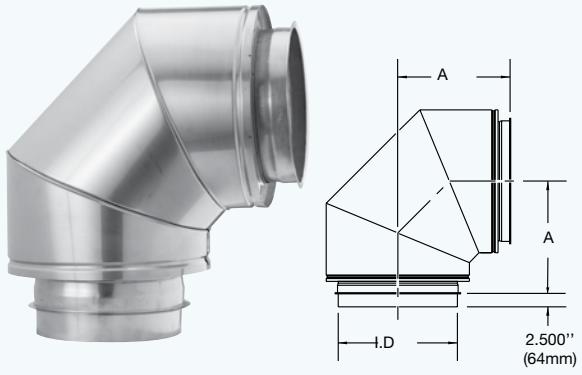


CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6	152	18.692	475
8	203	19.692	500
10	254	20.692	526
12	305	21.692	551
14	356	22.692	576
16	406	23.692	602
18	457	24.693	627
20	508	25.692	653
22	559	26.692	678
24	610	27.692	703
26	660	28.692	729
28	711	29.692	754
30	762	30.692	780
32	813	31.692	805
34	864	32.692	830
36	914	33.692	856
38	965	34.692	881
40	1016	35.692	907
42	1067	36.692	932
44	1118	37.692	957
46	1168	38.692	983
48	1219	36.692	1008

90° SHORT RADIUS ELBOW • E90

Used to change orientation of flue or chimney by 90°.
Includes:
1 Assembly band (AB)
1 Finishing band (FB)

K = 0.3



CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6	152	12.328	313
8	203	13.328	339
10	254	14.328	364
12	305	15.328	389
14	356	16.328	415
16	406	17.328	440
18	457	18.328	466
20	508	19.328	491
22	559	20.328	516
24	610	21.328	542
26	660	22.328	567
28	711	23.328	593
30	762	24.328	618
32	813	25.328	643
34	864	26.328	669
36	914	27.328	694
38	965	28.328	720
40	1016	29.328	745
42	1067	30.328	770
44	1118	31.328	796
46	1168	32.328	821
48	1219	33.328	847

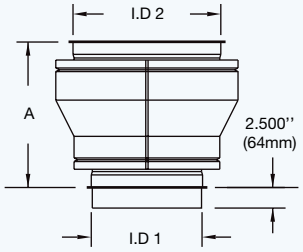
FITTINGS

INCREASER • I

Used to increase the diameter of the flue or chimney. Specify the diameter of the inlet and outlet of the fitting.

Includes:
1 Assembly band (I.D. 2) (AB)
1 Finishing band (O.D. 2) (FB)

$$K = 0.5\left(1-\left(\frac{I.D.1}{I.D.2}\right)^2\right)^2$$



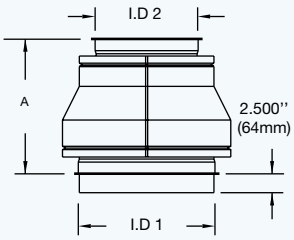
Difference between I.D 2 - I.D. 1	CBH • CBHL • CBHL2 Dim. A	
	in	mm
2	15.000	381
4	19.000	483
6	23.000	585
8	27.000	687
10	31.000	789

REDUCER • R

Used to reduce the diameter of the flue. Specify the diameter of the inlet and outlet of the fitting.

Includes:
1 Assembly band (I.D. 2) (AB)
1 Finishing band (O.D. 2) (FB)

$$K = 0.5\left(1-\left(\frac{I.D.1}{I.D.2}\right)^2\right)^2$$

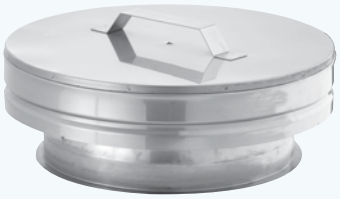


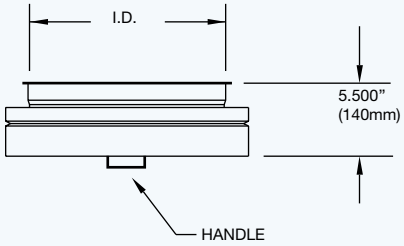
Difference between I.D 2 - I.D. 1	CBH • CBHL • CBHL2 Dim. A	
	in	mm
2	15.000	381
4	19.000	483
6	23.000	585
8	27.000	687
10	31.000	789

TEE CAP • TC

Used to block one of the openings of horizontal or vertical tee. Removable, it facilitates access for inspection and maintenance of the chimney.

Includes:
1 Assembly band (AB)
1 Finishing band (AB)

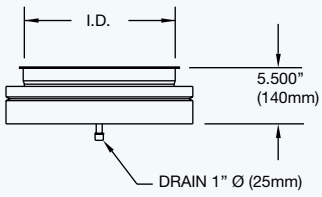




DRAIN-TEE CAP • DC

Used to cover one of the vertical openings of tee. For collection of rainwater or condensation water. Removable, it facilitates access for inspection and maintenance of the chimney. To be connected to a drain of 3/4ø (19mm) - NPT.

Includes:
1 Assembly band (AB)
1 Finishing band (FB)



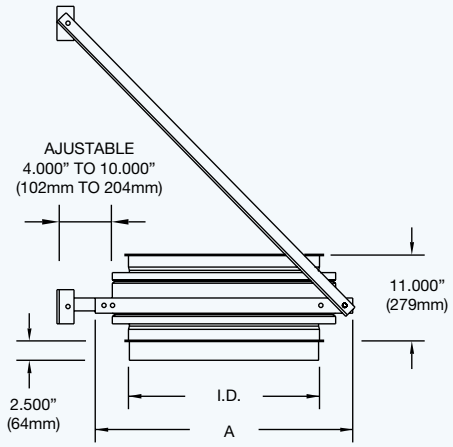
SUPPORTS

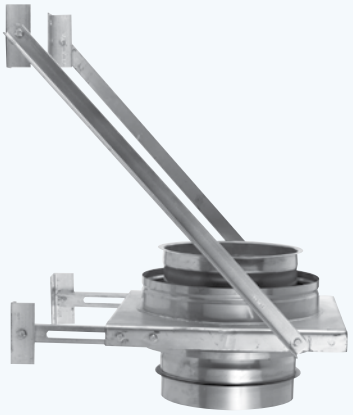
WALL SUPPORT • WS

Used to support the chimney in vertical runs. It keeps the chimney at an adjustable distance between 4" (102mm) and 10" (254mm) from the wall. The oblique braces may be attached to the wall either above or below the supporting surface.

Includes:
1 Assembly band (AB)
1 Finishing band (FB)
2 Adjustable angles
2 Braces
4 Wall brackets

K = Same as pipe length





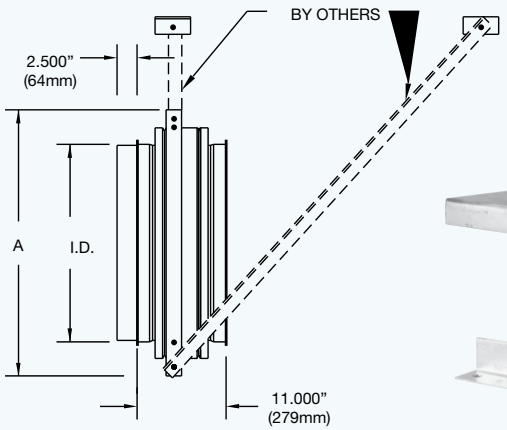
CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6	152	14.000	356
8	203	16.000	406
10	254	18.000	457
12	305	20.000	508
14	356	22.000	559
16	406	24.000	610
18	457	26.000	660
20	508	28.000	711
22	559	30.000	762
24	610	32.000	813
26	660	34.000	864
28	711	36.000	914
30	762	38.000	965
32	813	40.000	1016
34	864	42.000	1067
36	914	44.000	1118
38	965	46.000	1168
40	1016	48.000	1219
42	1067	50.000	1270
44	1118	52.000	1321
46	1168	54.000	1372
48	1219	56.000	1422

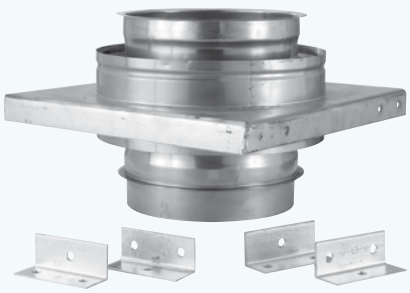
HORIZONTAL SUPPORT • HS

Used to support the flue in horizontal runs. It keeps the flue at an adjustable distance from the ceiling. The oblique braces (not included) may be attached to the ceiling either ahead of or behind the supporting surface.

Includes:
1 Assembly band (AB)
1 Finishing band (FB)
4 Wall brackets

K = Same as pipe length





CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6	152	14.000	356
8	203	16.000	406
10	254	18.000	457
12	305	20.000	508
14	356	22.000	559
16	406	24.000	610
18	457	26.000	660
20	508	28.000	711
22	559	30.000	762
24	610	32.000	813
26	660	34.000	864
28	711	36.000	914
30	762	38.000	965
32	813	40.000	1016
34	864	42.000	1067
36	914	44.000	1118
38	965	46.000	1168
40	1016	48.000	1219
42	1067	50.000	1270
44	1118	52.000	1321
46	1168	54.000	1372
48	1219	56.000	1422

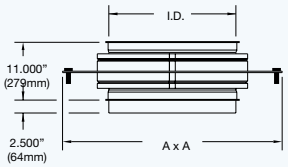
SUPPORTS

ANCHOR PLATE • AP

Used to support the chimney in vertical runs. It is attached to the floor by means of anchors (not included). It is designed to be supported on four (4) sides. Structural angles may be used to support sides that are unsupported.

Includes:
1 Assembly band (AB)
1 Finishing band (FB)

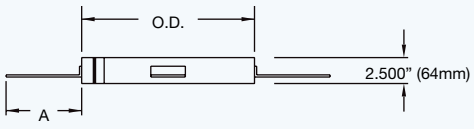
K = Same as pipe length



IPPL • IPPL2 • IPPL2F			
I.D.		A	
in	mm	in	mm
6	152	22.000	559
8	203	24.000	610
10	254	26.000	660
12	305	28.000	711
14	356	30.000	762
16	406	32.000	813
18	457	34.000	864
20	508	36.000	914
22	559	38.000	965
24	610	40.000	1016
26	660	42.000	1068
28	711	44.000	1118
30	762	46.000	1168
32	813	48.000	1219
34	864	50.000	1270
36	914	52.000	1321
38	965	54.000	1372
40	1016	56.000	1422
42	1067	58.000	1473
44	1118	60.000	1524
46	1168	62.000	1575
48	1219	64.000	1626

ROOF SUPPORT • RS

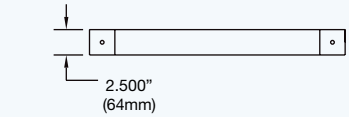
Used to support and guide the portion of the chimney which extends to the roof. It is attached to the roof curb by means of four (4) angles. It keeps a minimum distance between the chimney and combustible materials at the roof.

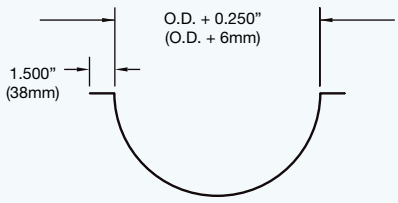


CBH • CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6" to 14"	152 to 356	5.250	133
16" to 22"	406 to 559	7.250	184
24" to 32"	610 to 813	9.250	235
34" to 42"	965 to 1067	1.250	286
44" to 48"	1118 to 1219	13.250	337

HANGER BRACKET • HB

Used to support the flue in horizontal runs. To be installed by means of 3/8"ø (19mm) threaded rods (not included). Generally installed every 5'-0" (1525mm).

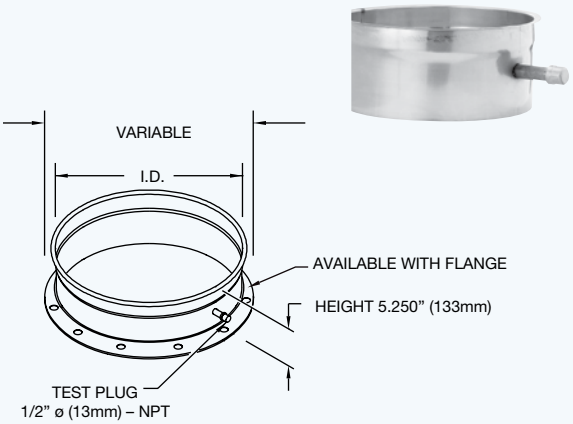




SUPPORTS AND ADAPTERS

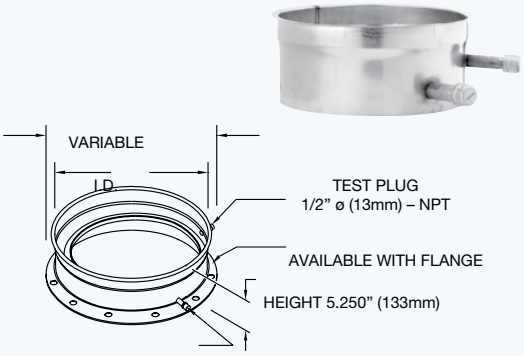
STARTING ADAPTER • SA

Used to connect the flue to the appliance. It allows for sampling of the gases by means of a test plug.
Available with ANSI 150 lb flange.
Includes:
1 Assembly band (AB)
1 Finishing band 8” (203mm) (FB)
1 2” wide flange
1 Insulation strip for CBHL2 systems



STARTING ADAPTER-DRAIN • SAD

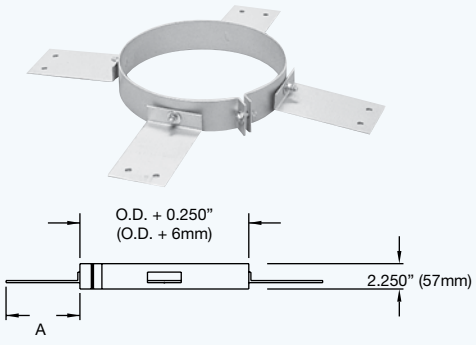
Used to connect the flue to the appliance. It allows for sampling of the gases by means of a test plug, and collection of condensation water by means of a drain and an elliptical collar. To be connected to a 1/2”ø (13mm) - 3/4”ø (19mm) - NPT drain.
Available with ANSI 150 lb flange.
Includes:
1 Assembly band (AB)
1 Finishing band 8” (203mm) (FB)
1 2” wide flange
1 Insulation strip for CBHL2 systems



DRAIN 3/4” ø (19mm) NPT

FLOOR GUIDE • FG

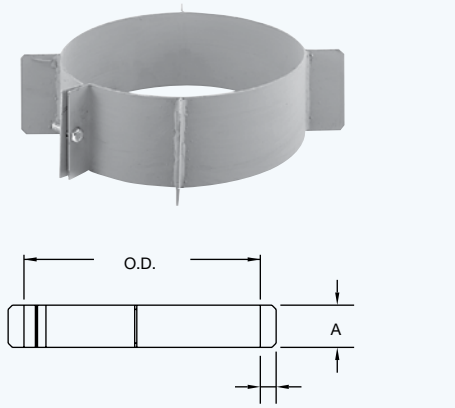
Used as a guide at floor penetrations. It is attached to the floor by means of four (4) angles. It keeps a minimum distance between the chimney and combustible floor materials.



CBH • CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6” to 14”	152 to 356	5.250	133
16” to 22”	406 to 559	7.250	184
24” to 32”	610 to 813	9.250	235
34” to 42”	965 to 1067	1.250	286
44” to 48”	1118 to 1219	13.250	337

GUIDING SPACER • GS

Used to guide the flue or the chimney against the inner wall of the sleeves it passes through. It holds the chimney at a distance of 2” (51mm) from the wall firestop (WFS), insulated wall firestop (IFS) or an insulated sleeve (IS).

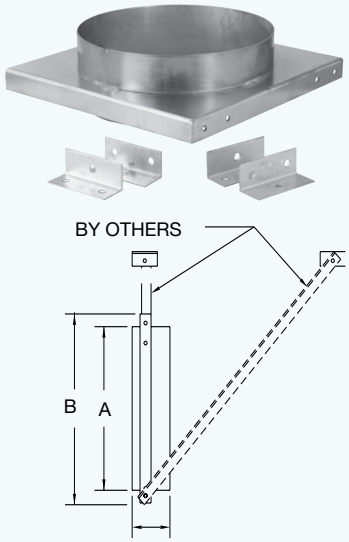


CBH • CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6” to 16”	152 to 406	4.000	102
18” to 36”	457 to 914	6.000	152
38” to 48”	965 to 1219	8.000	203

GUIDES

WALL GUIDE • WG

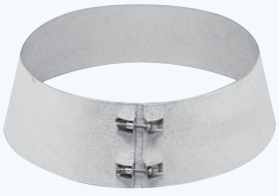
Used as a guide and to allow for expansion of the flue or chimney. It may be used either horizontally or vertically. The oblique braces (not included) may be attached above or below the guide plate.
Includes:
4 Wall brackets

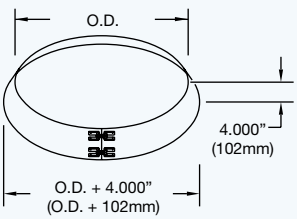


CBHL ● CBHL2					
I.D.		A		B	
in	mm	in	mm	in	mm
6	152	10.250	260	14.000	356
8	203	12.250	311	16.000	406
10	254	14.250	362	18.000	457
12	305	16.250	413	20.000	508
14	356	18.250	464	22.000	559
16	406	20.250	514	24.000	610
18	457	22.250	565	26.000	660
20	508	24.250	616	28.000	711
22	559	26.250	667	30.000	762
24	610	28.250	718	32.000	813
26	660	30.250	768	34.000	864
28	711	32.250	819	36.000	914
30	762	34.250	870	38.000	965
32	813	36.250	921	40.000	1016
34	864	38.250	972	42.000	1068
36	914	40.250	1022	44.000	1118
38	965	42.250	1073	46.000	1168
40	1016	44.250	1124	48.000	1219
42	1067	46.250	1175	50.000	1270
44	1118	48.250	1226	52.000	1321
46	1168	50.250	1276	54.000	1372
48	1219	52.250	1327	56.000	1422

STORM COLLAR • SC

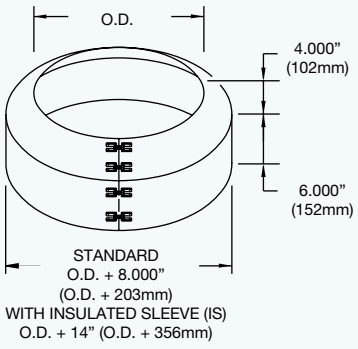
Used to seal the space between the chimney and flashing. The storm collar must be sealed to the chimney with appropriate sealant. It is supplied with flashing for flat roofs of adjustable flashing.
Includes:
1 Socket head cap screws





VENTILATED COLLAR • VC

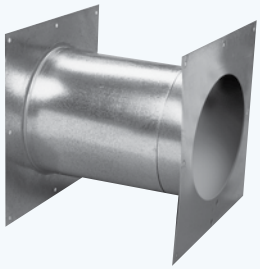
Used to seal the space between the chimney and flashing. The ventilated collar must be sealed to the chimney with appropriate sealant. It is supplied with ventilated flashing.
Includes:
1 Socket head cap screws

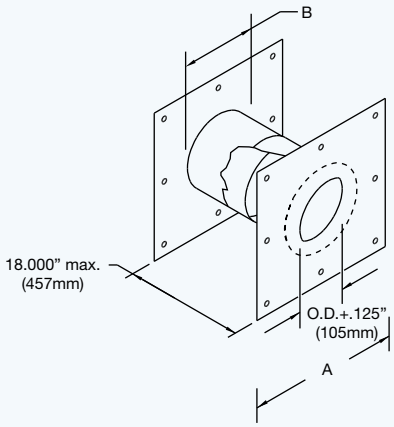


FIRESTOPS AND GUIDES

WALL FIRESTOP • WFS

Used to keep a minimum clearance from combustible materials where the flue passes through a wall.

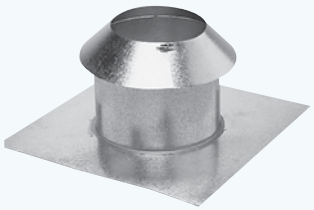


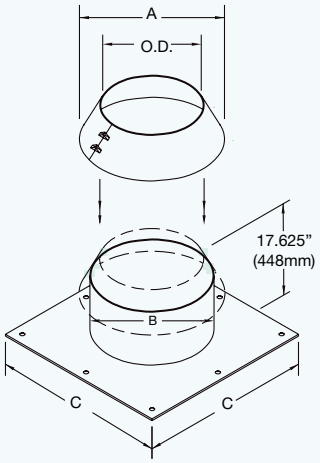


CBH, CBHL, CBHL2
A = O.D + 2*Clearance + 8
B = O.D + *Clearance

RADIANT FIRESTOP • RFS

Used to protect combustible materials where a chimney passes through an attic. It ensures a minimum distance from combustible materials.
Includes:
1 Protecting collar



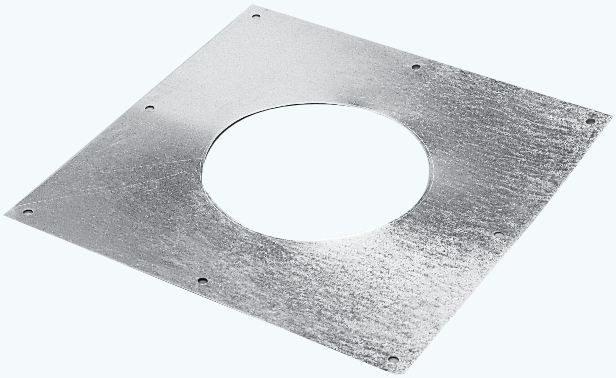


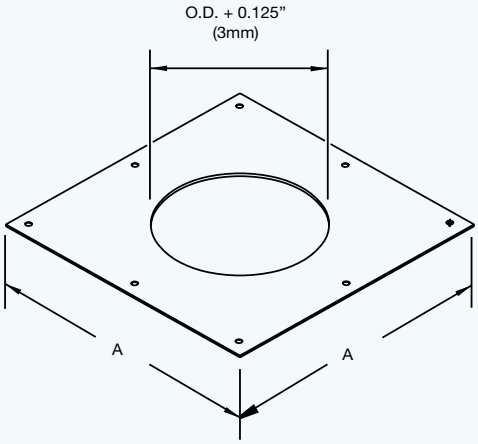
CBH, CBHL,CBHL2
A = O.D + 2*Clearance + 4
B = O.D + 2*Clearance
C = O.D + 2*Clearance + 12

FIRESTOPS

FIRESTOP • FS

Used to keep space between any combustible material of a wall, floor or roof, where a flue or chimmey penetrates.



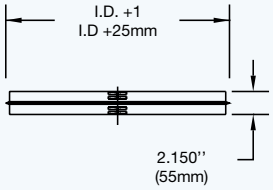


CBH, CBHL, CBHL2
A = O.D + 2*Clearance + 8

ASSEMBLY BAND • AB

Used to assemble the inner walls of two components. Ensures sealing and rigidity of the system. To be used with a Low (LTS) or a High Temperature Sealant (HTS) (see assembly details).

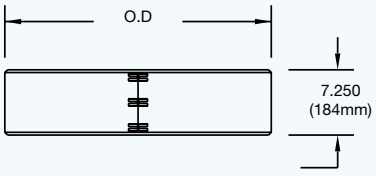
Includes:
2 Hexagonal screws
2 Square nuts



FINISHING BAND • FB

Used to assemble the outer walls of two components. Ensures sealing and rigidity of double wall systems. To be used with an Exterior Sealant (ES) on outside exposed parts.

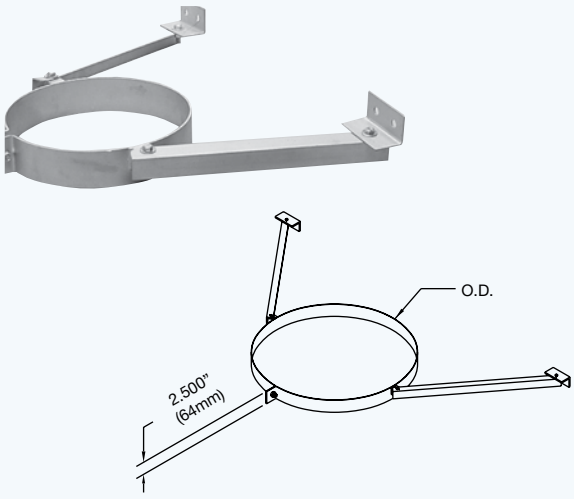
Includes:
3 Hexagonal screws
3 Square nut
1 Insulation strip for CBHL2 systems



BANDS

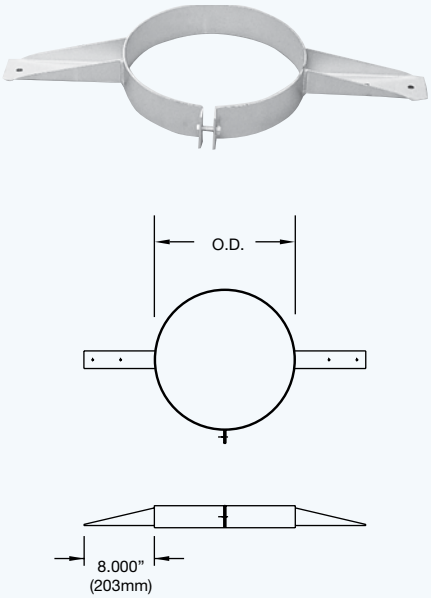
WALL BAND • WB

Used to stabilize the chimney along a vertical wall. The maximum recommended spacing between wall bands is 10’-0” (3048mm).
Includes:
1 Wall brackets
1 Stabilizing angles



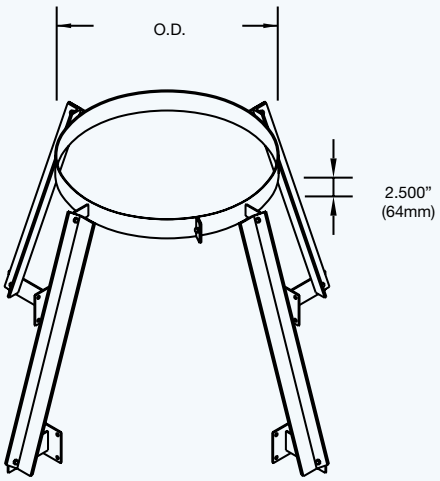
SUSPENSION BAND • SB

Used to stabilize and support a flue or chimney in vertical runs. It avoids the transfer of the flue weight to the appliance. To be used with threaded rods (not included)



ROOF BAND • RB

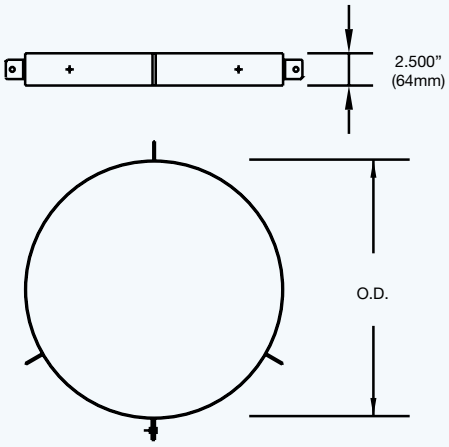
Used to stabilize a chimney laterally where it extends more than 10’-0” (3048mm) above the roof or for locations exposed to strong winds. It is attached to the chimney and the roof curb and does not require anchoring to the roof.



BANDS AND FLASHING

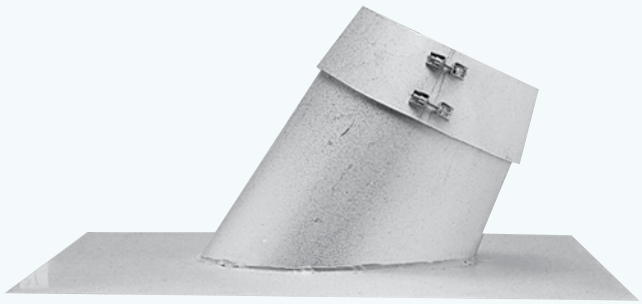
GUY WIRE BAND • GWB

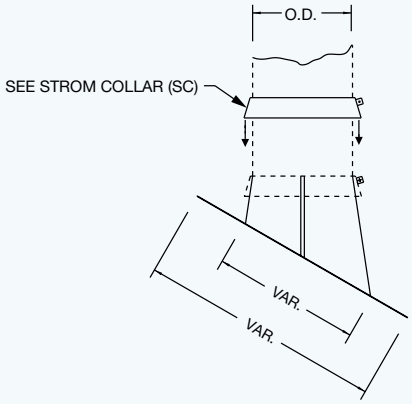
Used to stabilize a chimney laterally where it extends more than 10'-0" (3048mm) above the roof or for locations exposed to strong winds. It is attached to the chimney and is designed to receive 3 guy wires 120˚ apart (not included). It may be manufactured to receive 4 guy wires 90˚ apart.



ADJUSTABLE FLASHING • AF

Used to seal the space between the chimney and the roof. Specify the roof slope when ordering.
Includes:
1 Storm collar (SC)

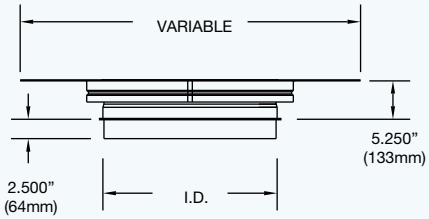




ADAPTER, COLLARS AND FLASHING

FAN ADAPTER • FA

Installed at the chimney termination. Used to connect the chimney to an induced draft fan.

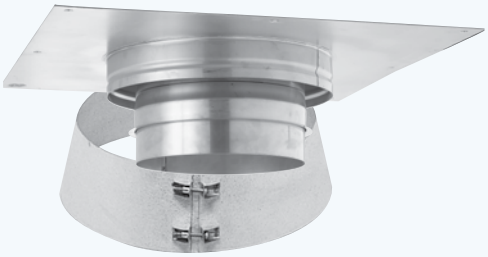


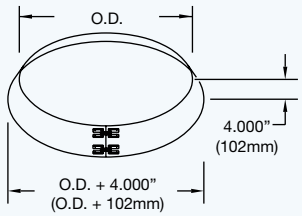
STORM COLLAR • SC

Used to seal the space between the chimney and flashing. The storm collar must be sealed to the chimney with appropriate sealant. It is supplied with flashing for flat roofs of adjustable flashing.

Includes:

1 Socket head cap screws



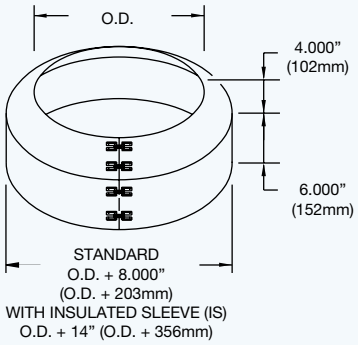


VENTILATED COLLAR • VC • SVC

Used to seal the space between the chimney and flashing. The ventilated collar must be sealed to the chimney with appropriate sealant. It is supplied with ventilated flashing.

Includes:

1 Socket head cap screws



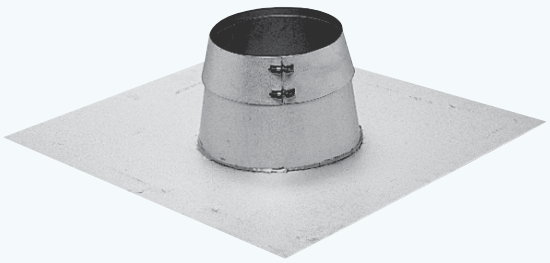
FLASHINGS

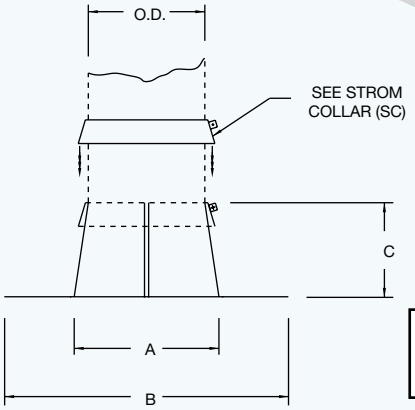
FLAT FLASHING • F

Used to seal the space between the chimney and the roof.

Includes:

1 Storm collar (SC





CBH, CBHL, CBHI2 :
B = O.D + 2*Clearance +16

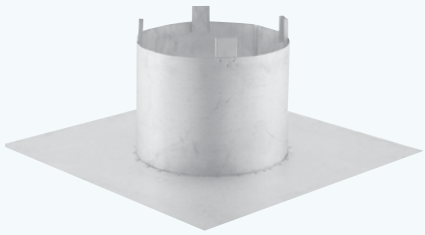
CBHL • CBHL2					
I.D.		A		C	
in	mm	in	mm	in	mm
6	152	13.000	300	12.000	305
8	203	15.000	381	12.000	305
10	254	17.000	432	12.000	305
12	305	19.000	483	12.000	305
14	356	21.000	533	12.000	305
16	457	23.000	584	12.000	305
18	457	25.000	635	16.000	406
20	508	27.000	686	16.000	406
22	559	29.000	737	16.000	406
24	610	31.000	787	16.000	406
26	660	33.000	838	16.000	406
28	711	35.000	889	16.000	406
30	762	37.000	940	16.000	406
32	813	39.000	991	16.000	406
34	864	41.000	1041	16.000	406
36	914	43.000	1092	16.000	406
38	965	45.000	1143	16.000	406
40	1016	47.000	1194	16.000	406
42	1067	49.000	1245	16.000	406
44	1118	51.000	1295	16.000	406
46	1168	53.000	1346	16.000	406
48	1219	55.000	1397	16.000	406

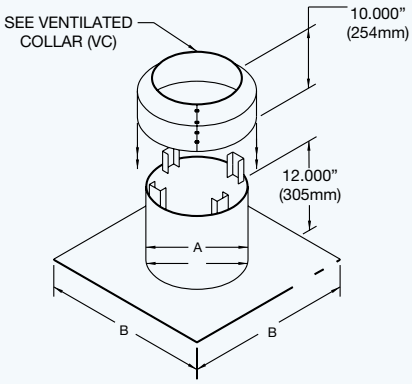
VENTILATED FLASHING • VF

Used to seal and ventilate the space between the chimney and the roof. It reduces the temperature around the roof opening and it prevents excessive accumulation of heat near combustible materials.

Includes:

1 Ventilated collar (VC)





CBH, CBHL, CBHL2:
B = O.D + 2*Clearance +16

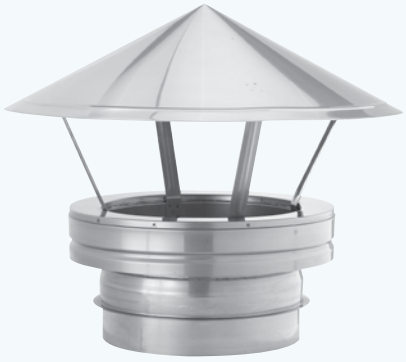
CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6	152	14.000	356
8	203	16.000	406
10	254	18.000	457
12	305	20.000	508
14	356	22.000	559
16	406	24.000	610
18	457	26.000	660
20	508	28.000	711
22	559	30.000	762
24	610	32.000	813
26	660	34.000	864
28	711	36.000	914
30	762	38.000	964
32	813	40.000	1016
34	864	42.000	1067
36	914	44.000	1118
38	965	46.000	1168
40	1016	48.000	1219
42	1067	50.000	1270
44	1118	52.000	1321
46	1168	54.000	1372
48	1219	56.000	1422

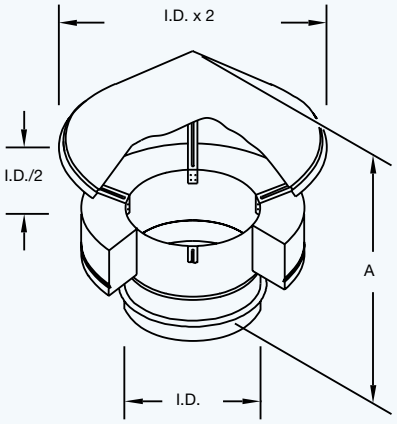
TERMINATIONS

RAIN CAP • RC

Installed at the top of the chimney. It prevents entry of rain.

K = 0.5



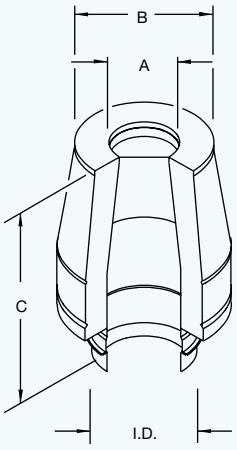


CBHL • CBHL2			
I.D.		A	
in	mm	in	mm
6	152	11.500	292
8	203	13.500	343
10	254	15.500	394
12	305	17.500	445
14	356	19.500	495
16	406	21.500	546
18	457	23.500	597
20	508	25.500	648
22	559	27.500	699
24	610	29.500	749
26	660	31.500	800
28	711	33.500	851
30	762	35.500	902
32	813	37.500	953
34	864	39.500	1003
36	914	41.500	1054
38	965	43.500	1105
40	1016	45.500	1156
42	1067	47.500	1207
44	1118	49.500	1257
46	1168	51.500	1308
48	1219	53.500	1359

EXHAUST CONE • EC

Installed at the top of the chimney. It improves the draft and increases the speed of exhaust gases by 50%. Installation of a drain-tee cap (DC) or a drain section (DS) at the base of the chimney is required for use of an exhaust cone.

K = 1.25



CBHL • CBHL2							
I.D.		A		B		C	
in	mm	in	mm	in	mm	in	mm
6	152	5.000	127	9.000	229	17.750	451
8	203	7.000	178	11.000	279	17.750	451
10	254	8.000	203	12.000	305	17.750	451
12	305	10.000	254	14.000	356	17.750	451
14	356	12.000	305	16.000	406	23.500	497
16	406	14.000	356	18.000	457	23.500	497
18	457	16.000	406	20.000	508	23.500	497
20	508	16.000	406	20.000	508	23.500	497
22	559	18.000	457	22.000	559	23.500	497
24	610	20.000	508	24.000	610	23.500	497
26	660	22.000	559	26.000	660	29.500	749
28	711	24.000	610	28.000	711	29.500	749
30	762	24.000	610	28.000	711	29.500	749
32	813	26.000	660	30.000	762	35.500	902
34	864	28.000	711	32.000	813	35.500	902
36	914	30.000	762	34.000	864	35.500	902
38	965	30.000	762	34.000	864	41.500	1054
40	1016	32.000	813	36.000	914	41.500	1054
42	1067	34.000	864	38.000	965	41.500	1054
44	1118	36.000	914	40.000	1016	41.500	1054
46	1168	38.000	965	42.000	1067	41.500	1054
48	1219	40.000	1016	44.000	1118	41.500	1054

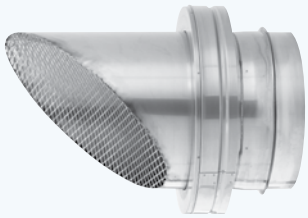
TERMINATIONS

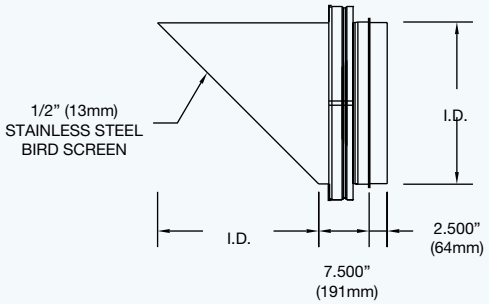
CLOSURE SECTION • CS

Installed at the top of the chimney. It protects the chimney against water infiltration in the insulation between the inner and outer wall of the chimney. Installation of a drain-tee cap (DC) or a drain section (DS) at the base of the chimney is required for use of a closure section.

MITER SECTION •MS

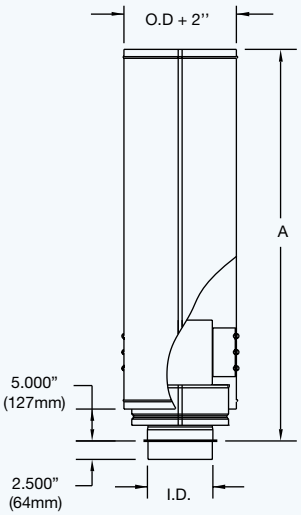
Installed at the end of the chimney in horizontal exhaust applications. To be used with engine exhaust. Diameter range from 6” (152mm) to 16” (406mm). Material thickness is the same as the chimney section it is used with.
K = 1.25





RAINSHIELD • RSH

Installed at the top of the chimney. It prevents rain penetration when the chimney is installed at a location subject to high wind conditions. Installation of a drain-tee cap (DC) or drain section (DS) at the base of the chimney is required for use of a rainshield. Available from 6” (152mm) to 16” (406mm) diameter.

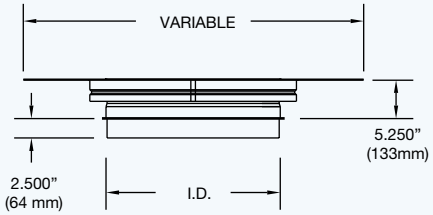


I.D.	A
in	in
6	43.500
8	49.500
10	55.500
12	61.500
14	67.500
16	74.500

I.D.	A
mm	mm
152	1105
203	1257
254	1410
305	1592
356	1715
406	1892

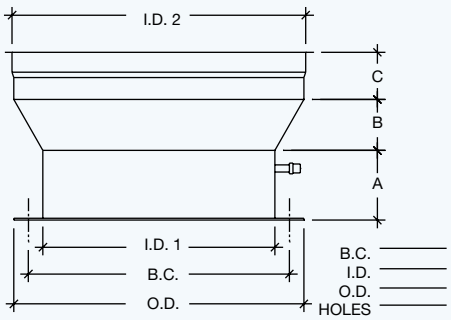
FAN ADAPTER • FA

Installed at the chimney termination. Used to connect the chimney to an induced draft fan.

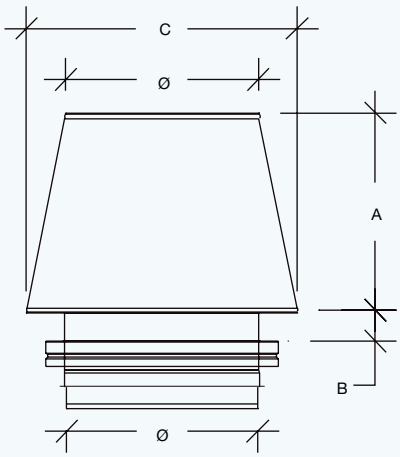


SPECIAL PART

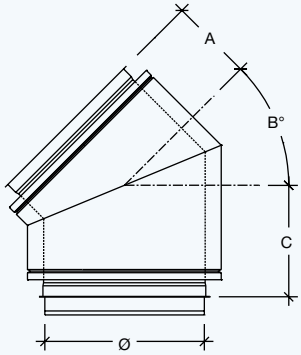
Several special parts are available upon request.
See some examples below.



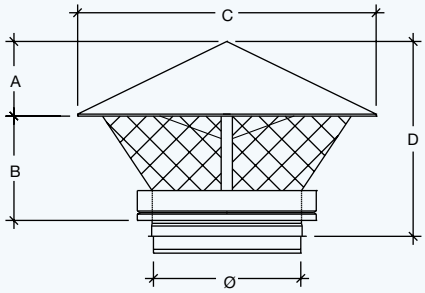
Special Starting Adapter



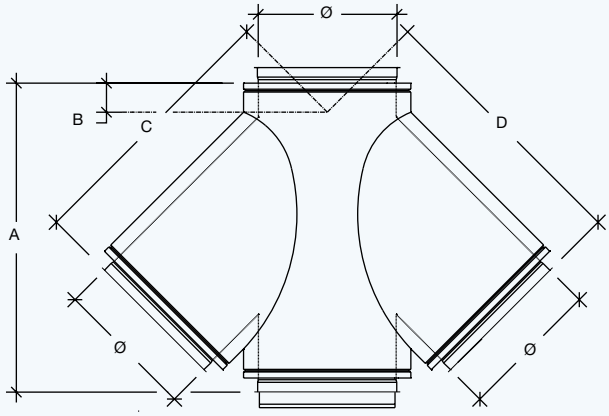
Finishing Cone



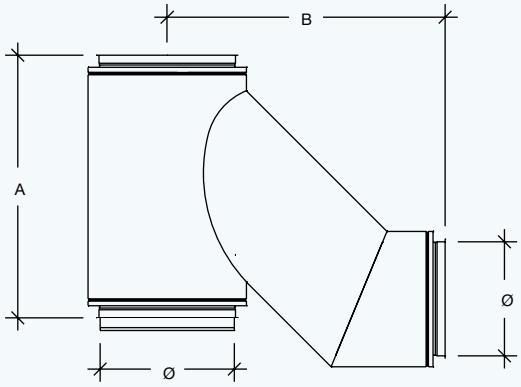
Special Elbow



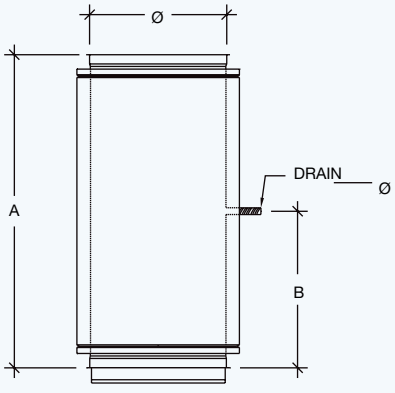
Special Rain Cap with Bird Screen



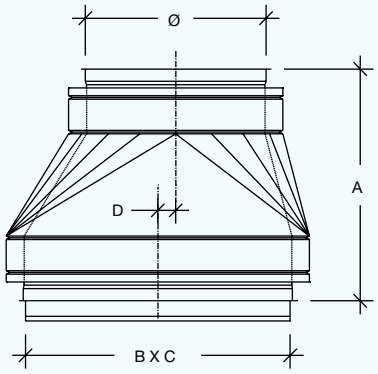
Double 45° Tee



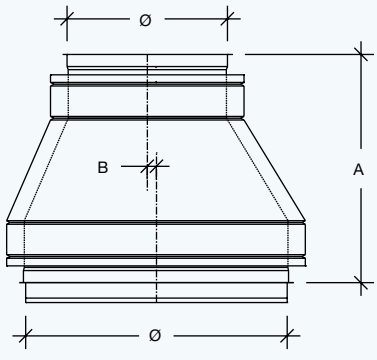
Combination Tee and Elbow



Test and Monitoring
Port at any location



Rectangular to Round Transition



Excentric Round to Round Transition

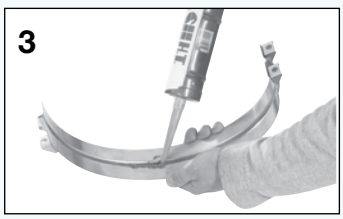
INSTALLATION GUIDE

Guide to Component Parts

MATERIALS	CODE	PAGE
ADJUSTMENT / EXPANSION		
Adjustable Length	AL	9
Increaser	I	14
Reducer	R	14
Variable Length	VL	9
COMPONENT		
Drain Section	DS	9
Drain -Tee Cap	DC	14
Tee Cap	TC	14
CONNECTING THE FLUE		
Drain Starting Adapter	SAD	17
Starting Adapter	SA	17
CONNECTION / OFFSET		
5° Elbow	E5	11
15° Elbow	E15	11
30° Elbow	E30	12
45° Elbow	E45	12
90° Elbow	2 x E45	13
90° Short Radius Elbow	E90	13
45° Tee	T45	10
90° Tee	T90	10
FIRE PROTECTION		
Firestop	FS	20
Radiant Firestop	RFS	19
Wall Firestop	WFS	19
JOINTING		
Assembly Band	AB	20
Finishing Band	FB	20

MATERIALS	CODE	PAGE
LENGTH		
12” Length	12L	9
24” Length	24L	9
36” Length	36L	9
SEALING AT ROOF		
Adjustable Flashing	AF	22
Flashing for Flat Roof	F	23
Ventilated Flashing	VF	23
SIDE STABILITY		
Guy Wire Band	GWB	22
Roof Band	RB	21
Wall Band	WB	21
SUPPORT / GUIDE		
Anchor Plate	AP	16
Floor Guide	FG	17
Guiding Spacer	GS	17
Hanger Bracket	HB	16
Horizontal Support	HS	15
Roof Support	RS	16
Suspension Band	SB	21
Wall Guide	WG	18
Wall Support	WS	15
TERMINATIONS		
Closure Section	CS	25
Exhaust Cone	EC	24
Fan Adapter	FA	25
Miter Section	MS	25
Rain Cap	RC	24
Rainshield	RSH	25

PIPE AND FITTING JOINT ASSEMBLY, STEP BY STEP



1. All components have a male and a female end. The orientation is indicated on the labelling of each section with an arrow. The arrow indicates the direction of the flue.
2. Before fitting the large and small ends into one another, a sealant (LTS or HTS) is applied on the male end, at the gap between the inner flange and the inner pipe.
3. Assemble both sections by sliding one section into the other until the flanges meet. A layer of sealant is applied inside the V-Groove of the Assembly band (AB) prior to it’s installation over the joint.
4. The Assembly Band (AB) is installed and clamped in place with 4 nuts and bolts (supplied).
5. Insert the insulation strip around the inner joint assembly of insulated models IPPL2, IPPL2F and IPPL4F.
6. The Finishing Band (FB) is installed by slipping the edges of the band into the outer pipe edges and clamping them with 3 nuts and bolts (supplied).

LTS: Low Temperature Sealant. 600˚F maximum flue gas temperature

HTS: High Temperature Sealant. Up to 2000˚F flue gas temperature

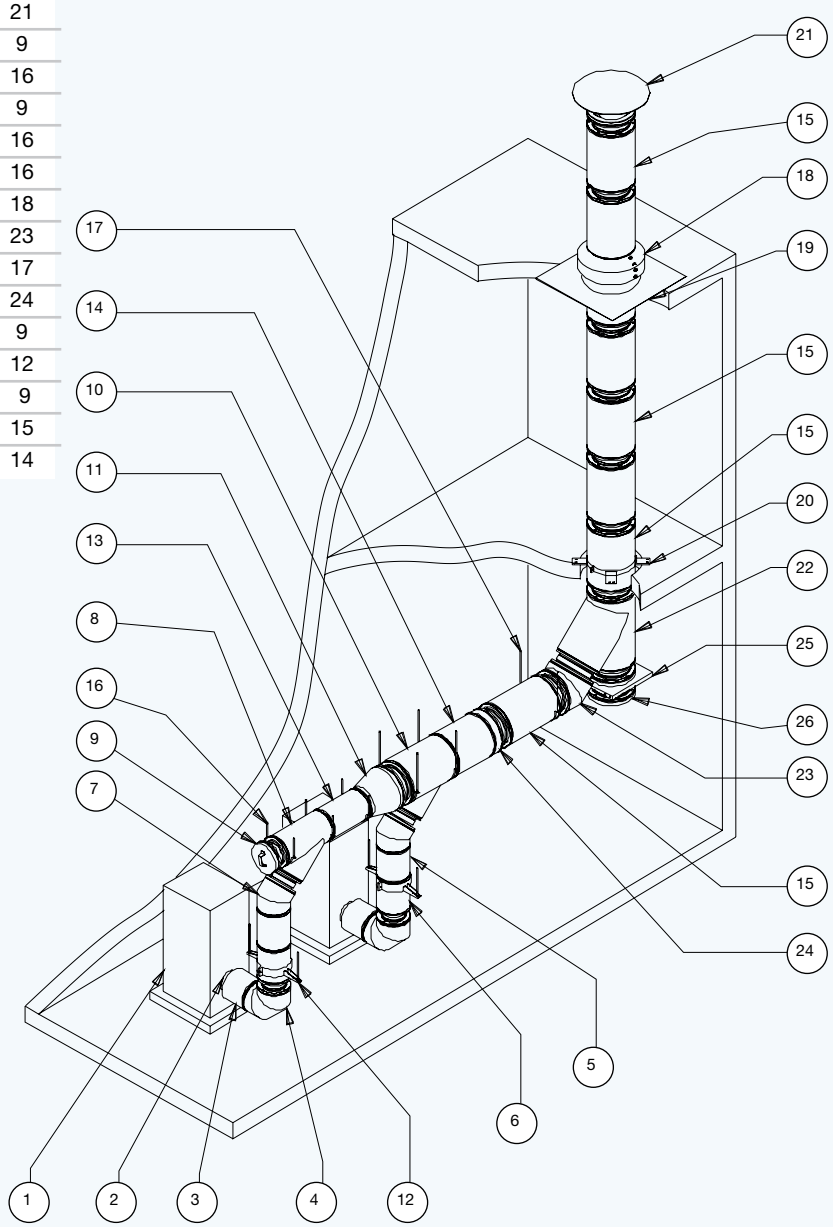
ES: Exterior Sealant. Outer sealant weather proof

7. FOR OUTDOOR INSTALLATION AND BAD WEATHER PROTECTION, AN EXTERIOR SEALANT (ES) IS APPLIED AT THE JOINT BETWEEN THE FINISHING BAND (FB) AND THE OUTER WALL OF THE CHIMNEY.

SAMPLE DRAWINGS (Roof Termination)

Sample Drawings

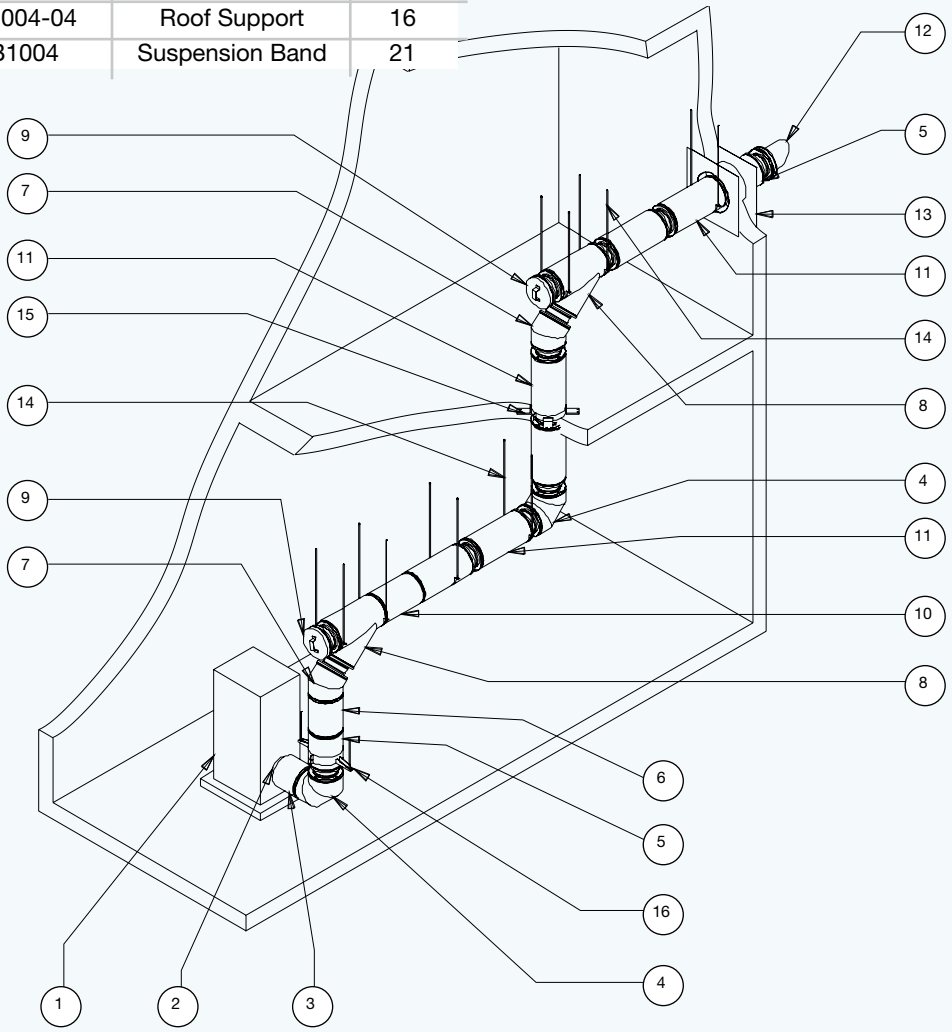
No.	Part No.	Description	Page
1	Dynaflames df-750	Boiler (by others)	---
2	HELPSAD1004-STD	Starting Adapter	17
3	CBHLAL1004	Adjustable Length	9
4	CBHLE91004	90° Elbow	13
5	CBHL24L1004	24” Length	9
6	CBHLAL1004	Adjustable length	9
7	CBHLE451004	45° Elbow	12
8	CBHLT451004	45° Tee	14
9	CBHLTC1004	Tee Cap	14
10	CBHLT45101604	Special Tee 45	---
11	CBHL101604	Increaser	14
12	CBHLSB1604	Suspension Band	21
13	CBHLAL1604	Adjustable Length	9
14	CBHLHB1004-04	Hanger Bracket	16
15	CBHL36L1604	36” Length	9
16	CBHLHB1004-04	Hanger Bracket	16
17	CBHLHB1604-04	Hanger Bracket	16
18	CBHLVC1604-04	Ventilated Collar	18
19	CBHLVF1604-04	Ventilated Flashing	23
20	CBHLFG1604-04	Floor guide	17
21	CBHLRC1604	Rain cap	24
22	CBHLT451604	Tee 45	9
23	CBHLE451604	45° Elbow	12
24	CBHL12L1604	12” Length	9
25	CBHLHS1604-04	Horizontal Support	15
26	CBHLDC1604	Drain Tee Cap	14



SAMPLE DRAWING (Sidewall Termination)

Sample Drawings

No.	Part no.	Description	Page
1	Dynaflames df-750	Boiler (by others)	---
2	CBHLSAD1004-STD	Starting Adapter	17
3	CBHLAL1004	Adjustable Length	9
4	CBHLE901604	90° Elbow	13
5	CBHL24L1004	24” Length	9
6	CBHLLAL1004	Adjustable Length	9
7	CBHLE451004	45° Elbow	12
8	CBHLT451004	45° Tee	14
9	CBHLTC1004	Tee Cap	14
10	CBHLAL1004	Adjustable Length	9
11	CBHL36L1004	36” Length	9
12	CBHLMS1004	Miter Section	25
13	CBHLWFS10004-04	Wall Firestop	19
14	CBHLHB1004-04	Hanger Bracket	16
15	CBHLRS1004-04	Roof Support	16
16	CBHLSB1004	Suspension Band	21



1-YEAR STANDARD WARRANTY

Models CBH, CBHL and CBHL2

All components of our models CBH, CBHL and CBHL2 chimney system have been inspected in our workshop in accordance with our quality standards. Cleaver-Brooks warrants the chimney/exhaust system and components against defects in material and workmanship for a period of (1) one year from date of delivery to the purchaser. During this period, any system or component supplied by Cleaver-Brooks failing to perform its intended function of exhausting, without adverse leakage, combustion by-products from engine or heating appliance will be repaired or replaced at the manufacturer option.

This warranty is limited to repair or replacement of any component which has been proven de fective by a factory-authorized inspector by Cleaver-Brooks. This warranty does not cover any labour cost or freight charge for removal or replacement of the defective product, nor does this warranty cover any system component not furnished by Cleaver-Brooks and installed as part of the system. The warranty on any repaired or replacement component shall be for a duration no longer than the remaining or unexpired term of the original warranty.

This standard warranty is subject to the following conditions:

a) Generally accepted engineering practices have been followed to determine that sizing and material specifications are suitable for the application and environment involved.
b) The undamaged components have been correctly installed in accordance with the installation instructions published by Cleaver-Brooks at the time of shipment.

The standard warranty is extended to a **15-YEAR LIMITED WARRANTY** provided the following conditions are satisfied:

a) The chimney must have been connected to an appliance listed by a testing authority recognized by the federal government. Also, this warranty is void if the appliance was not installed, used and maintained according to the manufacturer instructions.
b) The chimney system must have been designed and sized by the engineering department of Cleaver-Brooks All design and operating parameters provided to Cleaver-Brooks must meet the standards of Cleaver-Brooks and must be accurately representative of the operating conditions.
c) The undamaged components must have been correctly installed, used and maintained in accordance with the instructions published by Cleaver-Brooks at the time of shipment.
d) Air used in combustion must be free from any solvent or refrigerant vapor and from any halogenated compound which might generate acid condensate within the flue or chimney.
e) Cleaver-Brooks has supplied the entire chimney or exhaust system from the appliance outlet to the stack termination.
f) Prior to start-up and thereafter, exposed galvanized and aluminized steel surfaces are at all times protected with a minimum of one base coat primer and one finish coat of heat and corrosion resistant paint.

In no event shall Cleaver-Brooks be liable for any incidental or consequential damages of any kind or for any damage resulting in whole or in part from misuse, improper installation, removal and/or reuse of components or inadequate maintenance of the system or any component part thereof. In no event shall Cleaver-Brooks be liable for any cost of installation, removal and reinstallation. Cleaver-Brooks assumes no liability in case of fire, chimney fire, lightning or act of God. This warranty is in lieu of all other express warranties or guarantees of any kind. All implied warranties, including merchantability and fitness, are limited to the duration of the express warranty contained herein. Cleaver-Brooks neither assumes nor authorizes any other person to assume on its behalf any other liability in connection with products sold. No agent is authorized to make any modification to this warranty or additional warranties, even if in writing, binding Cleaver-Brooks

The purchaser or complainant must send all claims under this warranty in writing to Cleaver-Brooks Customer Service Department.

warranty

Exhaust Solutions
545 Fernand-Poitras, Terrebonne, Qc, Canda J6Y 1Y5
450.625.6060 · 866.625.6060
cleaverbrooks.com/exhaustsolutions · exhaustsales@cleaverbrooks.com

Printed in the USA

CB-8470
08/11