AMPCO BY duravent

Model N

Single Wall Venting Systems

Model G is a single wall negative, neutral, or positive pressure prefabricated venting system intended for use in a variety of applications.

Model N is listed for grease duct and chimney liner applications

APPLICATIONS

- *Laboratory Fume Venting*
- *Masonry Chimney Liner*
- *Chutes*
- *Grease Duct*
- *Dryer Vents*
- *Dishwasher Exhaust*

TABLE OF CONTENTS

Model N

Model N is a single wall negative, neutral, or positive pressure capable, stainless steel prefabricated piping system for use in many applications including: grease duct, fume venting, chimney liner, chutes, particle conveying, etc. Model N is UL Listed for grease duct applications. Factory design assistance and submittals are available for Model N like all other AMPCO products.

CORROSION RESISTANT

Standard Model N is available in type 304 stainless steel in 0.035" minimum thickness for sizes 6" through 36" I.D. and 0.048" minimum thickness for sizes 42" through 48" I.D. The type 316 alloy may also be specified for its corrosion resistance to chemicals. Type 304 or 316 stainless steel is available in 0.048" minimum thickness in all sizes.

COMPONENT PARTS

Model N component parts are available in standard sizes 5" through 48", measured by diameter of the pipe. Parts are identified by individual part names and numbers. Each part name/number carries a diameter prefix size, the letter "N" designating Model N, followed by its individual letter code, material type and length if required. See legend below for part number.

JOINT ASSEMBLY

For all Model N pipe and fittings, the flange-to-flange inner pipe joints are identical for each pipe I.D. Assembly of a typical joint is handled quickly and easily with regular maintenance crews and requires only standard hand tools and a AMPCO specified sealant.


Vee Band

METHODS OF SUPPORT

For structural support, use the Model VSI Plate Support Assembly. Special dimensioned half rings and full rings are also available for guided support.

MODEL N SAMPLE SPECIFICATION FOR SINGLE WALL EXHAUST

The factory-built system shall be designed and installed to be liquid tight and thus prevent leakage of the exhaust into the building. The system shall be designed to compensate for all thermal expansion.

The single wall exhaust shall be of type 304 (or 316) stainless steel. Minimum steel thickness shall be 0.035" (or 0.048").

Pipe joints shall be sealed by use of factory supplied Vee Bands and sealant.

The entire system from outlet to the termination; including accessories, except as noted, shall be from the manufacturer.

The diameter for the exhaust shall be verified by the manufacturers' computations. The computation shall be technically sound, shall follow ASHRAE calculation methods, and incorporate the specific flow characteristics of the pipe.

Specification requirements shall be met by using AMPCO Model N or equivalent as approved by the responsible engineer. Equivalent bids shall specify manufacturer, model number, and other pertinent identification; and attest that the alternate is in compliance with all specification requirements.

Part Number Description:

6N304 - VL30

Diameter (in.)

Model

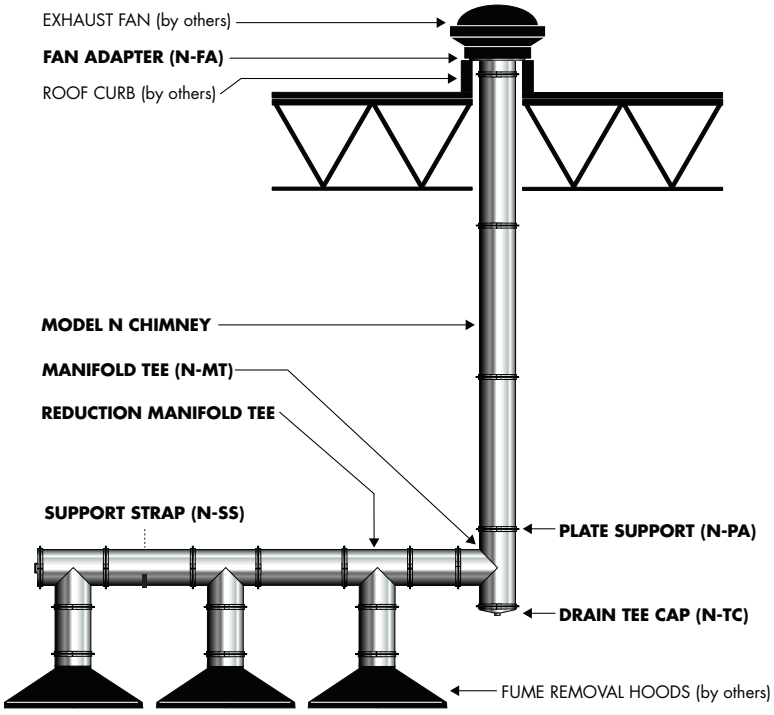
Material
(304 or 316 Stainless)

Component Letter Code

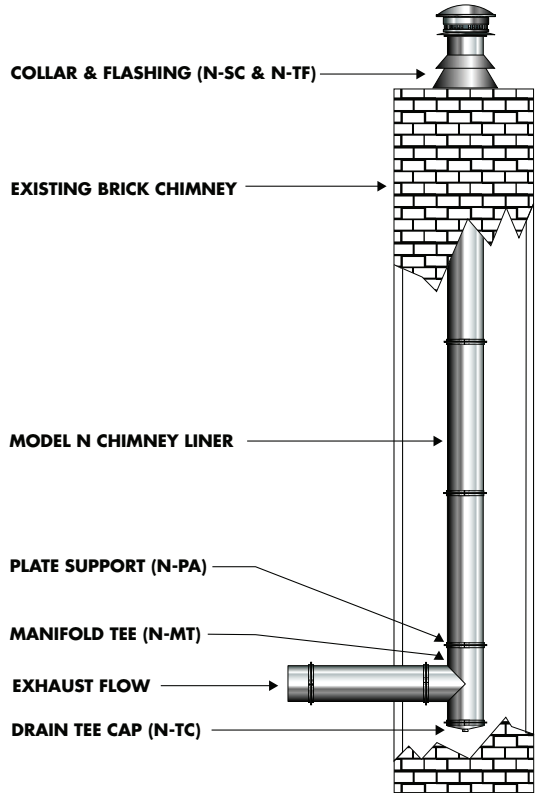
Length (in.)

COMMON INSTALLATION TYPES

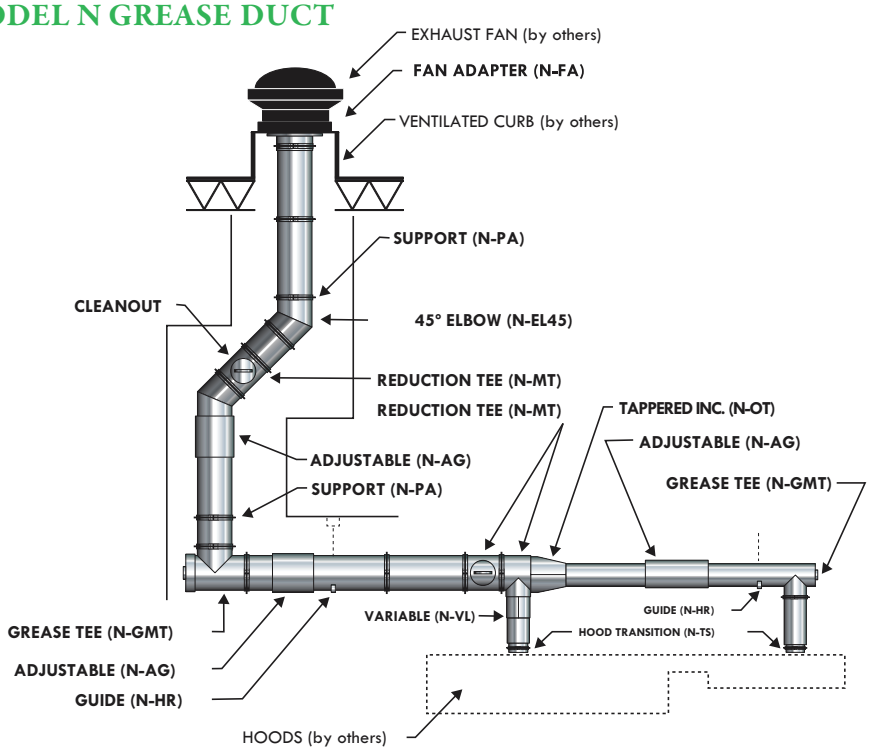
MODEL N FUME VENTING



MODEL N CHIMNEY LINER



MODEL N GREASE DUCT



Overlapping Vee Band

CODE:

VB

Vee Band for connecting inner 1/2" rolled flanges. Capable of holding 60" w.c. of pressure when properly installed.

Materials Available:

All Stainless Construction

Notes:

1. VB's are a one or two-piece design. Included with pipe sections.

Alignment Sleeve

CODE:

AS

Used in centering adjacent components in horizontal and vertical orientations to facilitate installation.

Materials Available:

All Stainless Construction

Notes:

1. AS included with pipe sections.

Low Temperature Sealant

CODE: **P600**

High Temperature Sealant

CODE: **P2000**

High Efficiency Condensing Sealant

CODE: **SGV550**

Depending upon application, appropriate sealants are applied to the VB before connecting two Inner Pipes at installation.

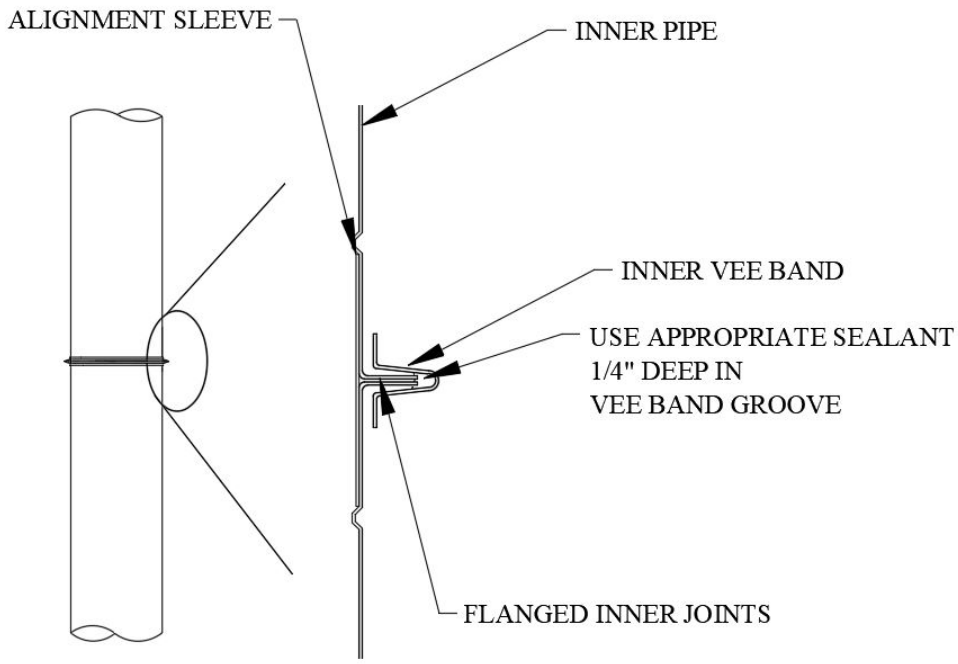
As designated, P600 Sealant is for 600° F. maximum flue gas temperatures, and also for exterior weathering of pipe, while P2000 is capable for flue gases up to 2,000° F (Not to be used externally); SGV550 is for 550° F maximum flue gas temperature for all SGV applications.

Sealant Coverage

Expected Number of Joints Sealed Per Tube

Inner Dia. (inches)	P600 P2000 SGV550
5/6	5
8/10	5
12	4
14/16	4
18/20	3
22/24	3
26/28	2
30/32	2
36	1
42/48	.5

Joint Assembly



SINGLE WALL PIPE

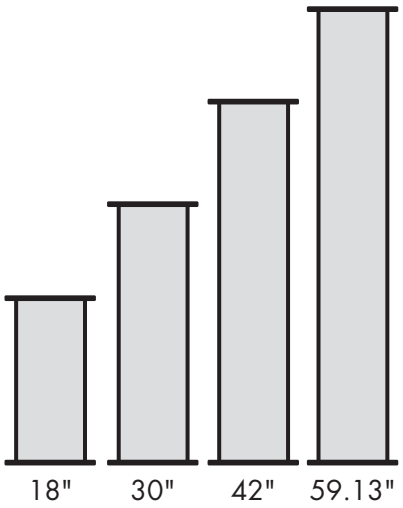
Standard Length CODE: 18, 30, 42 & 59

A variety of straight pipe lengths are available with Model N. Special lengths are also available and can be made with a minimum dimension of 6" long.

18" & 30" lengths available in 5"-48" diameters
42" lengths available in 5"-42" diameters
59.13" lengths available in 6"-26" diameters

Materials Available:

304	316

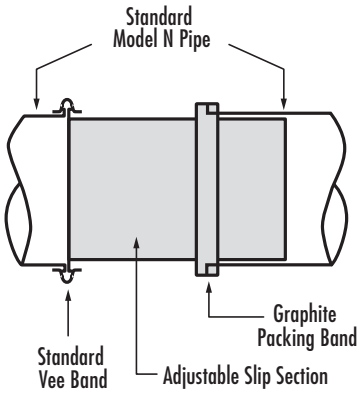


ADJUSTABLE SINGLE WALL PIPE

Adjustable Length CODE: AG18 & AG30

USE: The N-AG18/30 is used for thermal expansion compensation in any pipe line running between two fixed points.

NOTE: For diameters over 26", part N-AG30 must be used.



18" Adjustable length
available in 5" - 26" diameters

30" Adjustable length
available in 5" - 48" diameters

Flow Resistance Factor is the same as standard pipe.

Materials Available:

304	316

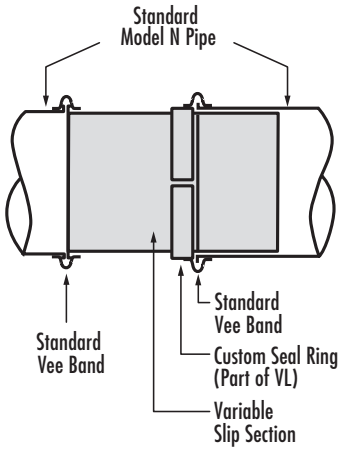
NOTE:

1. Minimum installed length is 4".
2. AG 18 not available for 28" diameter and above.
3. Maximum installed space is when the inner slip section protrudes at least 1/2 pipe diameter into the adjacent pipe.
4. Flow Resistance Factor (K) is the same as insulated pipe lengths.

Variable Length CODE: AG18 & AG30

USE: Part N-VL18 is used as length to fill odd dimensions of 4" to 14". Part N-VL30 is used to fill odd dimensions of 4" to 26".

NOTE: N-VL does not allow for thermal expansion.



18" Adjustable length
available in 5" - 48" diameters

Flow Resistance Factor is the same as standard pipe.

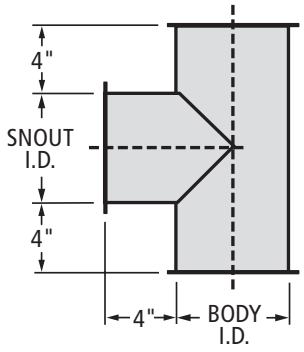
Materials Available:

304	316

90° Tee CODE: MT

USE: To join horizontal and vertical sections of pipe. The N-MT provides for connection for a drain or inspection fitting.

NOTE: A reduction Manifold Tee is offered.

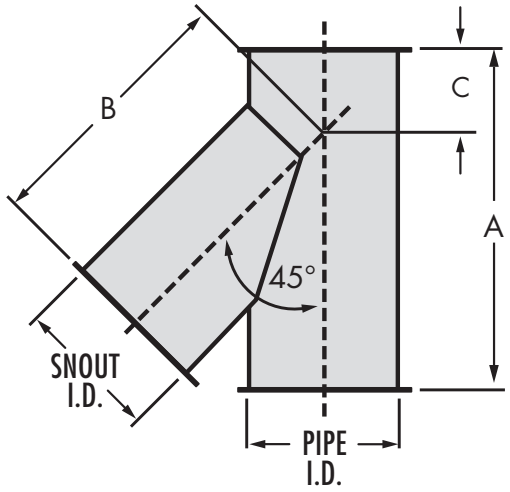


K = 1.25 Flow Resistance Factor

45° Lateral Tee CODE: JL

USE: The N-JL is used to join horizontal and vertical sections of pipe at a 45 degree angle.

NOTE: A reduction N-JL is offered. A, B, and C dimensions would remain the same.



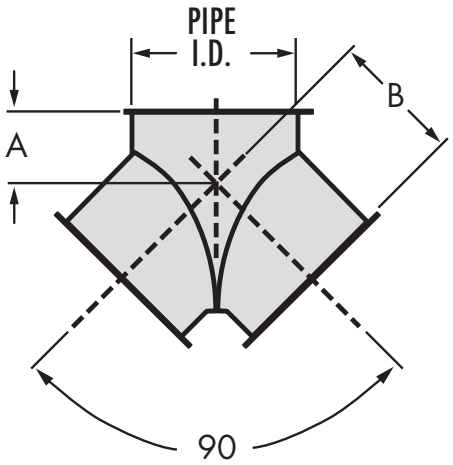
Part No.	Pipe Size I.D.	Dim. A	Dim. B	Dim. C
5N-JL	5"	19 1/2	13 3/4	5 3/4
6N-JL	6"	19 1/2	13 3/4	5 3/4
8N-JL	8"	22 7/8	16 5/8	6 1/4
10N-JL	10"	24 1/16	19	5 1/16
12N-JL	12"	26 15/16	21 7/16	5 1/2
14N-JL	14"	29 3/4	23 7/8	5 7/8
16N-JL	16"	32 9/16	26 1/4	6 5/16
18N-JL	18"	35 3/8	28 3/4	6 3/4
20N-JL	20"	38 3/16	31 1/16	7 1/8
22N-JL	22"	43 7/8	35 7/8	8
24N-JL	24"	43 7/8	35 7/8	8
26N-JL	26"	49 9/16	40 3/4	8 13/16
28N-JL	28"	49 9/16	40 3/4	8 13/16
30N-JL	30"	55 3/16	45 9/16	9 5/8
32N-JL	32"	55 3/16	45 9/16	9 5/8
36N-JL	36"	60 13/16	50 3/8	10 7/16
42N-JL	42"	69 15/16	58 1/4	11 3/4
48N-JL	48"	79 3/16	66 1/8	13

K = 0.4 Flow Resistance Factor

90° Wye CODE: JY

USE: The N-JY is intended for low pressure drop joining of two appliances.

NOTE: All openings are the same size diameter.

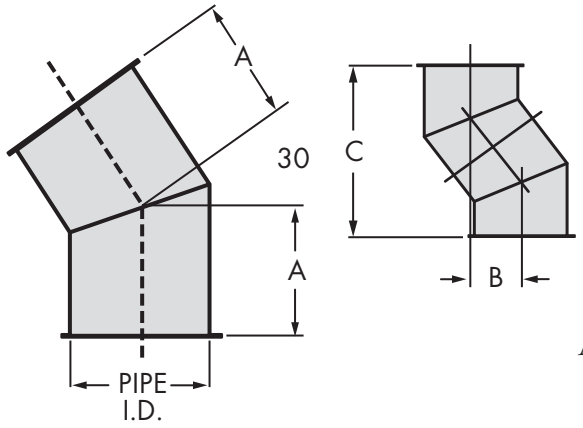


Part No.	Pipe Size I.D.	Dim. A	Dim. B
5N-JY	5"	4 5/8	9
6N-JY	6"	4 5/8	9
8N-JY	8"	5 1/16	10
10N-JY	10"	5	11
12N-JY	12"	5 1/2	12
14N-JY	14"	5 7/8	13
16N-JY	16"	6 3/8	14
18N-JY	18"	6 5/8	15
20N-JY	20"	7 1/8	17
22N-JY	22"	8	19
24N-JY	24"	8	19
26N-JY	26"	8 3/4	22
28N-JY	28"	8 3/4	22
30N-JY	30"	9 5/8	24
32N-JY	32"	9 5/8	24
36N-JY	36"	10 1/2	27
42N-JY	42"	11 3/4	31
48N-JY	48"	13	34

K = 0.6 Flow Resistance Factor

30° Fixed Elbow CODE: EL30

USE: Designed to change the direction of a breeching 30 degrees in a vertical or horizontal run.



Materials Available:

304	316

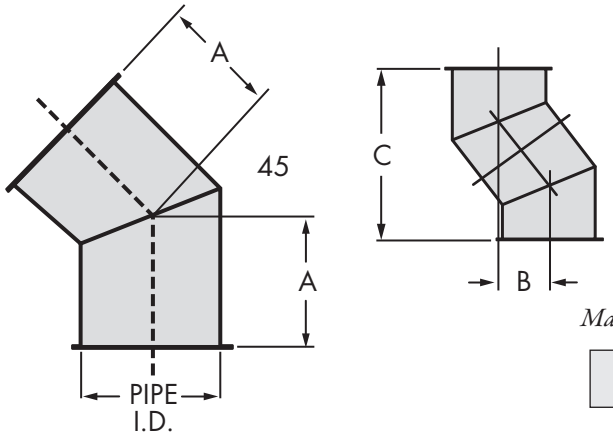
Part No.	Pipe Size I.D.	Dim. A	Dim. B	Dim. C
5N-EL30	5"	6 1/8	6 1/8	22 3/8
6N-EL30	6"	6 1/8	6 1/8	22 7/8
8N-EL30	8"	6 3/8	6 3/8	22 7/8
10N-EL30	10"	6 11/16	6 11/16	24 7/8
12N-EL30	12"	7 5/16	7 5/16	27 1/4
14N-EL30	14"	7 7/8	7 7/8	29 5/8
16N-EL30	16"	8 1/4	8 1/4	30 5/8
18N-EL30	18"	8 5/8	8 5/8	31 5/8
20N-EL30	20"	9 1/8	9 1/8	34 1/8
22N-EL30	22"	9 3/8	9 3/8	35
24N-EL30	24"	10 1/16	10 1/16	37 1/2
26N-EL30	26"	10 5/16	10 5/16	38 1/2
28N-EL30	28"	11	11	40 7/8
30N-EL30	30"	11 1/4	11 1/4	41 7/8
32N-EL30	32"	11 7/8	11 7/8	44 3/8
36N-EL30	36"	12 7/8	12 3/4	47 3/4
42N-EL30	42"	14	14	52 1/2
48N-EL30	48"	14 3/16	14 3/16	56 7/16

K = 0.12 Flow Resistance Factor

45° Fixed Elbow CODE: EL45

USE: The N-EL45 is used to join horizontal and vertical sections of pipe at a 45 degree angle.

NOTE: A reduction N-JL is offered. A, B, and C dimensions would remain the same.



Materials Available:

304	316

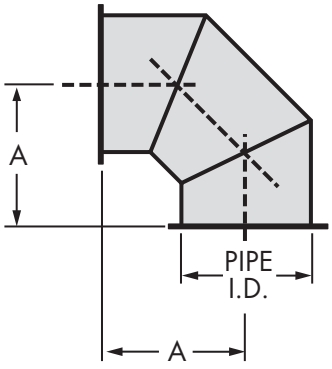
Part No.	Pipe Size I.D.	Dim. A	Dim. B	Dim. C
5N-EL45	5"	8 1/2	12	29
6N-EL45	6"	8 1/2	12	29
8N-EL45	8"	8 15/16	12 5/8	30 7/16
10N-EL45	10"	9 5/16	13 3/16	31 7/8
12N-EL45	12"	10 1/4	14 1/2	35
14N-EL45	14"	10 11/16	15 1/8	36 1/2
16N-EL45	16"	11 5/8	16 7/16	39 5/8
18N-EL45	18"	12 1/16	17 1/16	41 1/8
20N-EL45	20"	13	18 3/8	44 1/4
22N-EL45	22"	13 5/16	18 13/16	45 1/2
24N-EL45	24"	14 5/16	20 1/4	48 1/8
26N-EL45	26"	14 7/8	21 1/16	50 7/8
28N-EL45	28"	15 11/16	22 3/16	53 1/2
30N-EL45	30"	16 1/4	22 15/16	53 3/8
32N-EL45	32"	17	24	58
36N-EL45	36"	18 3/8	25 15/16	62 5/8
42N-EL45	42"	19 11/16	27 7/8	67
48N-EL45	48"	21 7/16	30 5/16	74 7/8

K = 0.15 Flow Resistance Factor

90° Fixed Elbow CODE: EL90

USE: The N-EL90 is used to join horizontal and vertical sections of pipe at a 90 degree angle.

NOTE: All openings are the same size diameter.



Materials Available:

304	316

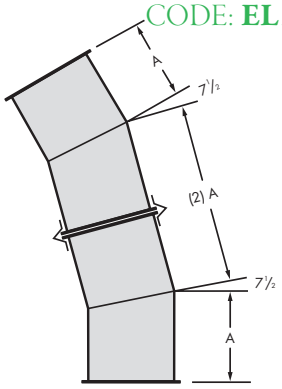
Part No.	Pipe Size I.D.	Dim. A
5G-EZ90	5"	11 1/2
6N-EL90	6"	11 1/2
8N-EL90	8"	12 1/2
10N-EL90	10"	13 1/2
12N-EL90	12"	14 1/2
14N-EL90	14"	15 1/2
16N-EL90	16"	16 1/2
18N-EL90	18"	17 1/2
20N-EL90	20"	18 1/2
22N-EL90	22"	19 1/2
24N-EL90	24"	20 1/2
26N-EL90	26"	21 1/2
28N-EL90	28"	22 1/2
30N-EL90	30"	23 1/2
32N-EL90	32"	24 1/2
36N-EL90	36"	26 1/2
42N-EL90	42"	29 1/2
48N-EL90	48"	32 1/2

K = 0.30 Flow Resistance Factor

15° Elbow

USE: Two-piece Elbow can establish many different degrees when combined with other standard Elbows.

CODE: **EL15**



Part No.	A
5N-EL15	4 3/16"
6N-EL15	4 3/16"
8N-EL15	4 1/4"
10N-EL15	4 5/16"
12N-EL15	4 7/16"
14N-EL15	4 1/2"
16N-EL15	4 9/16"
18N-EL15	4 5/8"
20N-EL15	4 11/16"
22N-EL15	4 3/4"
24N-EL15	4 13/16"
26N-EL15	4 7/8"
28N-EL15	4 15/16"
30N-EL15	5
32N-EL15	5 1/16"
36N-EL15	5 3/16"
42N-EL15	5 3/8"
48N-EL15	5 9/16"

K= 0.06 flow resistance factor

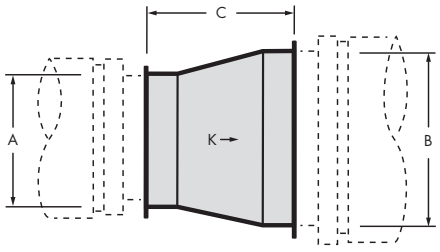
Materials Available:

304	316

Tapered Increaser/Reducer

USE: Used when a pipe diameter change is required.

CODE: **OT**



Dimensions:

A = Smaller Diameter
B = Larger Diameter
C = Installed Length = [(B-A) 2] +2 (see Note 1 below)

Example:

Installed Length for 12N304-180T equals [(18-12)2] +2 = 14 inches.

Notes:

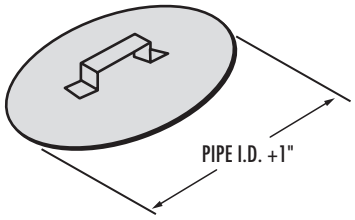
1. Installed length shall not be greater than longest available straight pipe length.

2. $K = N [1-(A/B)^2]^2$
where N = 0.47 for one step OT
N = 0.53 for one step OT

Cleanout Tee Cap

USE: Used to close Tee opening at the base of a stack or the end of a horizontal run.

CODE: **TCN**



Part No. (pipe I.D.) N-TCN

Includes one VB

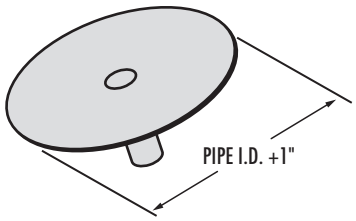
Materials Available:

304	316

Drain Tee Cap

USE: Provides a drain at the base of a vertical chimney when connected to the MT or JL

CODE: **TC**



Part No. (pipe I.D.) N-TC

1" N.P.T. nipple on 5"- 20" sizes
2" N.P.T. nipple on 22"- 48" sizes
Includes one VB

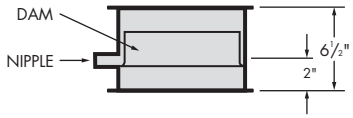
Materials Available:

304	316

Drain Section DS

USE: Used with open stack terminations for draining off rain water from inside vertical or horizontal flue.

CODE: **DS**



K= 0.25 flow resistance factor

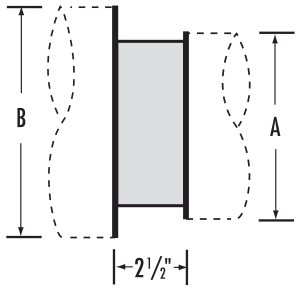
Materials Available:

304	316

Step Increaser/Reducer

USE: Used when pipe diameter change is required in a small space.

CODE: **OS**



Dimensions:
A = Smaller Diameter
B = Larger Diameter

Notes:

1. This is a non-structural part; use only if OT will not fit within the allowable space.

2. $K = N [1-(A/B)^2]^2$

Materials Available:

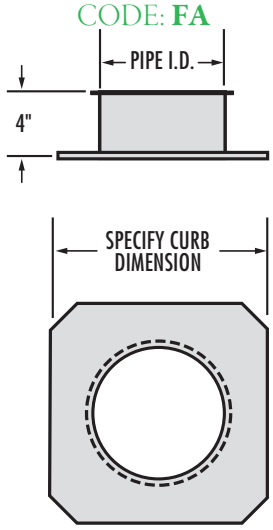
304	316

CONNECTION ACCESSORIES

Fan Adapter FA

USE: Designed to secure Model N to fan inlet.

CODE: **FA**



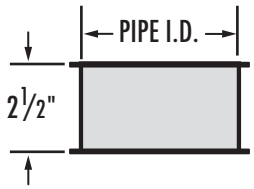
Materials Available:

304	316

Hood Transition

USE: Securing Model N to flanged appliance outlets.

CODE: **TS**



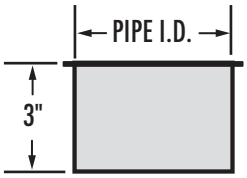
Materials Available:

304	316

Hood Transition (Unflanged)

USE: Securing Model N to unflanged appliance outlets.

CODE: **TSU**



Materials Available:

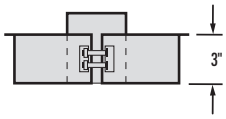
304	316

JOINT ASSEMBLY ACCESSORIES

Seal Ring

USE: Used for non-welded attachment to appliances having an unflanged or collar outlet.

CODE: **SR**



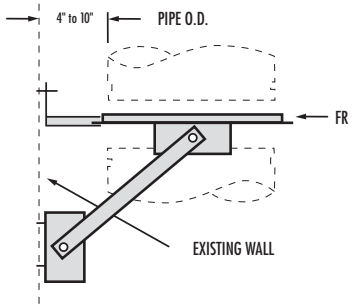
Materials Available:

304	316

Wall Guide Assembly

USE: Same use as FR, but with factory-supplied bracing.

CODE: **WG**



Ordered Part Included:

One FR, four struts, and six brackets.

Notes:

1. Assembly will maintain a 6" to 11" clearance between pipe O.D. and supporting structure.

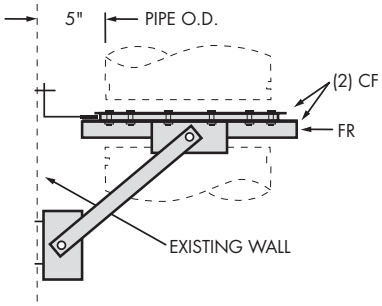
Materials Available:

Painted Steel

Wall Support Assembly

USE: "Limited" support assembly with factory-supplied bracing.

CODE: **WA**



Ordered Part Includes:

One FR, two CFs, five brackets, two struts, and all hardware except connection at wall.

Notes:

1. Assembly will maintain a 5" clearance between pipe O.D. and supporting structure.

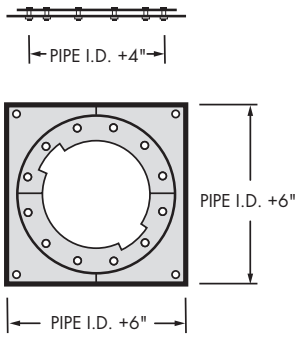
Materials Available:

Painted Steel

Plate Support Assembly

USE: Used for supporting the load of the stack and as a fixed point anchor near fittings.

CODE: **PA**



Ordered Part Includes:

Split (square) plate, one CF and hardware.

Plate Thickness:

0.188" for sizes 5" through 20" I.D. diameters
0.250" for sizes 22" through 36" I.D. diameters
0.375" for sizes 42" through 48" I.D. diameters

Notes:

1. PA fabricated from 304 Stainless Steel is available upon request and is non-returnable. Allow extra manufacturing time.

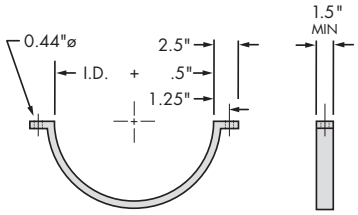
Materials Available:

Painted Steel

Support Strap

USE: Available in 5" through 28"—N only. 0.188" Thick Rolled Steel.

CODE: **SS**



Materials Available:

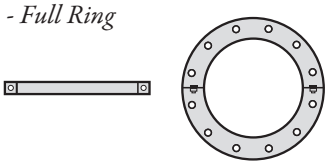
Painted Steel

ANGLE RINGS

USE: Used for guiding and/or supporting horizontal installations.

CODE: **HR & FR**

HR - Half Ring
FR - Full Ring



Part No.	Bolt Hole	I.D. of Ring	# of Holes	Size of Angle	Angle
5N-HR	9	5 1/8	6	(1)	45
6N-HR	10	6 1/8	6	(1)	45
8N-HR	12	8 1/8	6	(1)	45
10N-HR	14	10 1/8	6	(1)	45
12N-HR	16	12 1/8	6	(1)	45
14N-HR	18	14 1/8	6	(1)	45
16N-HR	20	16 1/8	6	(1)	45
18N-HR	22	18 1/8	6	(1)	45
20N-HR	24	20 1/8	6	(1)	45
22N-HR	26	22 1/8	10	(2)	22.5
24N-HR	28	24 1/8	10	(2)	22.5
26N-HR	30	26 1/8	10	(2)	22.5
28N-HR	32	28 1/8	10	(2)	22.5
30N-HR	34	30 1/8	10	(2)	22.5
32N-HR	36	32 1/8	10	(2)	22.5
36N-HR	40	36 1/8	10	(2)	22.5
42N-HR	46	42 1/8	10	(2)	22.5
48N-HR	52	48 1/8	10	(2)	22.5

(1) Size of Angle = 1 1/2 X 1 1/2 X 3/8
(2) Size of Angle = 2 X 2 X 3/16

Materials Available:

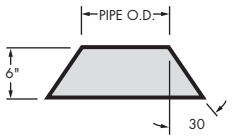
Painted Steel

ROOF PENETRATIONS

STORM COLLAR

USE: Used above the TF and PTF for complete weatherization above the roof.

CODE: **SC**



Notes:

1. Requires P600 sealant when installing.

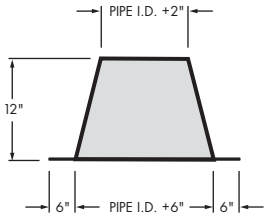
Materials Available:

Aluminized or Galvanized Steel	304	316

TALL FLASHING TF

USE: Used in conjunction with SC for weatherization at the roof.

CODE: **TF**



Notes:

1. Use limited to installations where complete roof penetration is non-combustible.

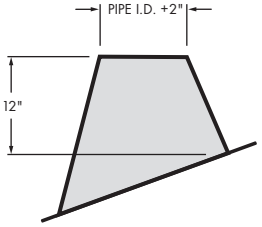
Materials Available:

Aluminized or Galvanized Steel	304	316

Pitched Tall Flashing PTF

USE: Same function as TF, except for use on a pitched roof.

CODE: **PTF**



Notes:

1. Part is non-returnable and may require extra manufacturing time. Specify pitch when ordering.
2. Use limited to installations where complete roof penetration is non-combustible.

Materials Available:

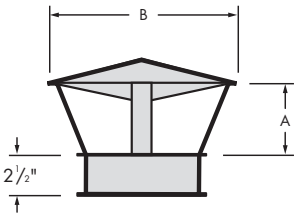
Aluminized or Galvanized Steel	304	316

TERMINATIONS

STACK CAP

USE: Provides partial protection with low flow resistance. May require a drain at base of stack.

CODE: **SK**



Part No.	Dim. A	Dim. B
5N-SK	2 1/2	10 1/4
6N-SK	3	10 1/4
8N-SK	4	13 3/8
10N-SK	5	17
12N-SK	6	20 1/2
14N-SK	7	24
16N-SK	8	27 3/8
18N-SK	9	30 3/4
20N-SK	10	34 1/8
22N-SK	11	37 5/8
24N-SK	12	41
26N-SK	13	44 3/8
28N-SK	14	47 7/8
30N-SK	15	51 1/4
32N-SK	16	54 5/8
36N-SK	18	61 1/2
42N-SK	21	71 3/4
48N-SK	24	82

K = 0.5 Flow Resistance Factor

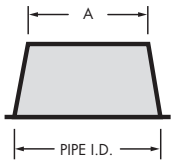
Materials Available:

304	316

EXIT CONE

USE: Will increase stack exit velocity 1 1/2 times. Requires a drain at the bottom of stack.

CODE: **EC**



Part No.	Dim. A
5N-EC	4 7/8
6N-EC	4 7/8
8N-EC	6 9/16
10N-EC	8 3/16
12N-EC	9 7/8
14N-EC	11 1/2
16N-EC	13 1/16
18N-EC	14 3/4
20N-EC	16 5/16
22N-EC	18
24N-EC	19 5/8
26N-EC	21 1/4
28N-EC	2 7/8
30N-EC	24 1/2
32N-EC	26 1/8
36N-EC	29 3/8
42N-EC	34 5/16
48N-EC	39 3/16

K = 0.5 Flow Resistance Factor

Materials Available:

316

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Corporate Headquarters:

Duravent Group
28 W. Adams, Suite 1810
Detroit, MI 48226
Tel: 800.835.4429
Email: info@duraventgroup.com
www.duraventgroup.com

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