



Model N

Single Wall Piping System

Model N is a single wall negative, neutral, or positive pressure pre-fabricated piping system intended for use in a variety of applications.

MULTIPLE APPLICATIONS

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



*Model N is listed for grease duct
and chimney liner applications*

GENERAL USAGE

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Model N

Model N is a single wall negative, neutral, or positive pressure capable, stainless steel pre-fabricated 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.



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.

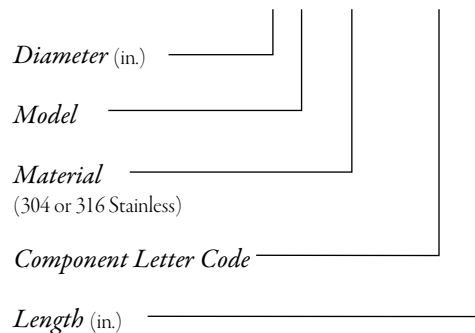
The entire system from outlet to the termination; including accessories, except as noted, shall be from the manufacturer.

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.

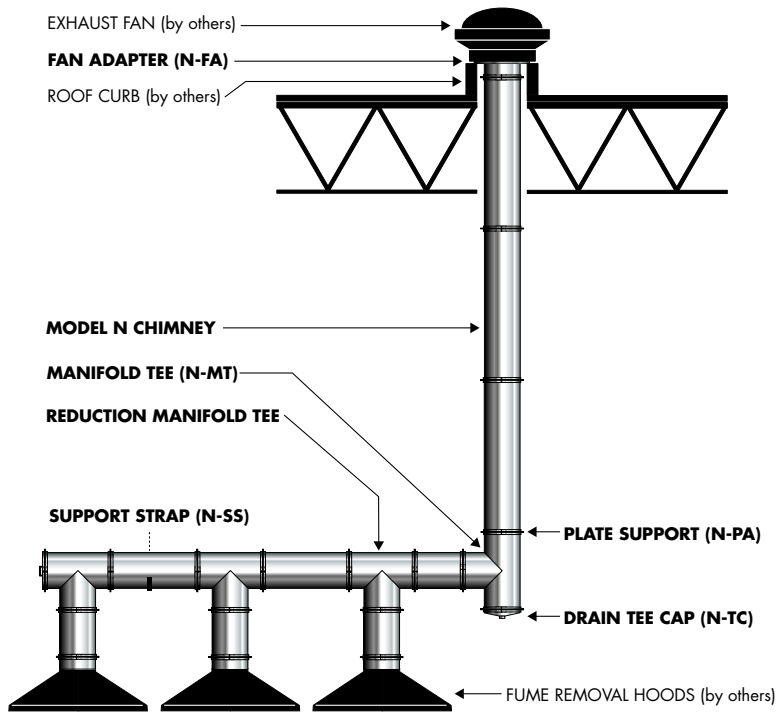
Specification requirements shall be met by using AMPCO Model N or equivalent as approved by the responsible engineer. Equivalent bids shall specify manufacturer, model number, and other pertinent identification; and attest that the alternate is in compliance with all specification requirements.

Part Number Description:

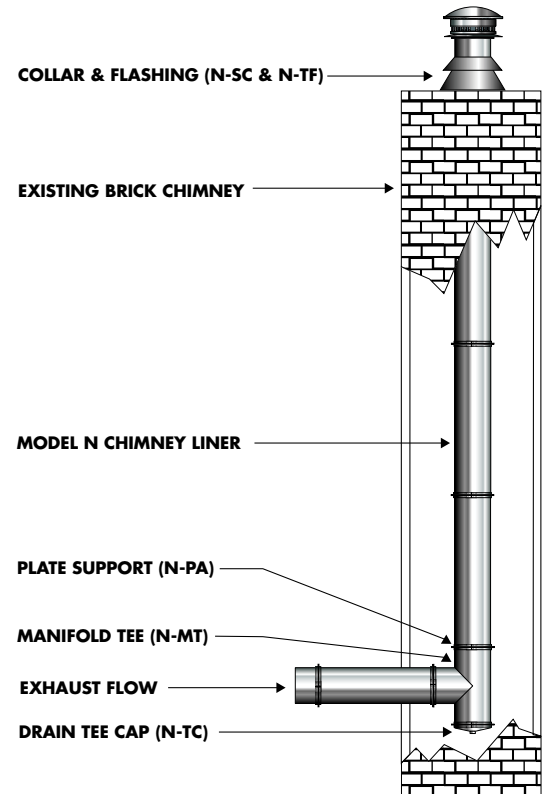
6N304 - VL30



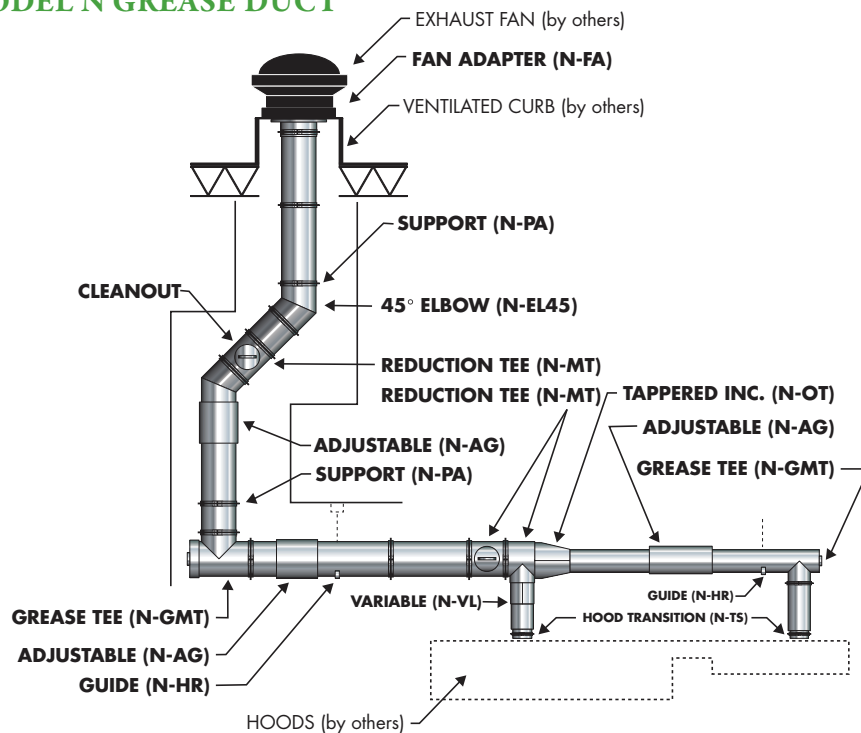
MODEL N FUME VENTING



MODEL N CHIMNEY LINER



MODEL N GREASE DUCT



SINGLE WALL PIPE



Standard Length CODE: 18, 30, 42 & 60

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 all diameters 5" - 48"

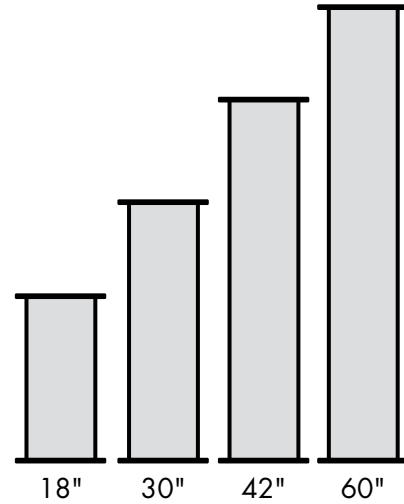
42" lengths available in 6" - 42" diameters

60" lengths available in 8" - 14" diameters

59" lengths available in 16" - 26" diameters

Materials Available:

304	316
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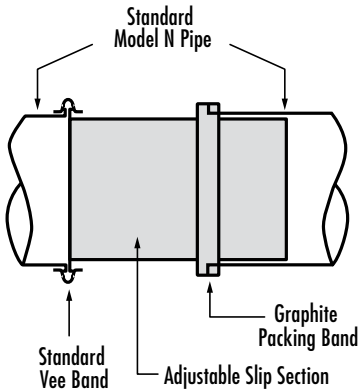


ADJUSTABLE SINGLE WALL PIPE

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
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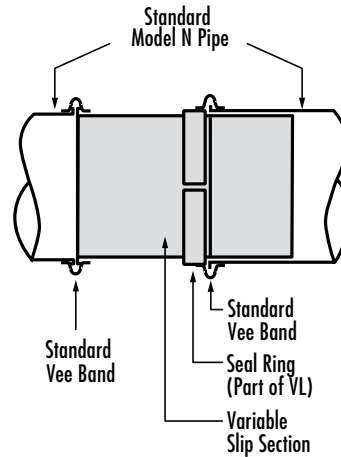
NOTE:

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.

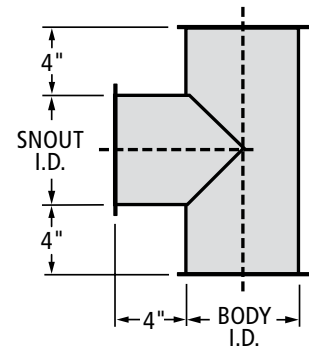
Materials Available:

304	316
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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.

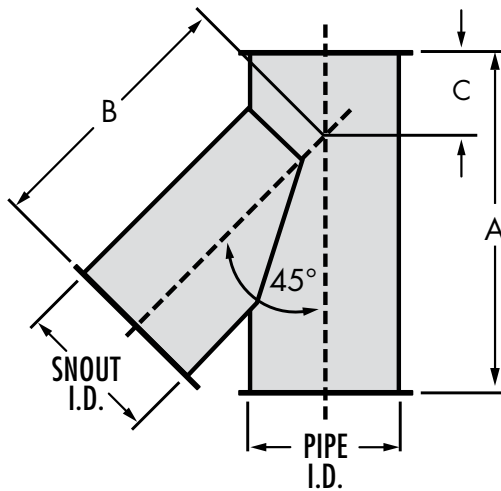


K = 1.25 Flow Resistance Factor

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.



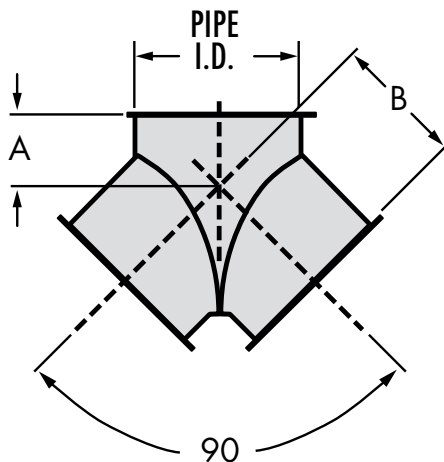
Part No.	Pipe Size I.D.	Dim. A	Dim. B	Dim. C
5N-JL	5"	19 ¹ / ₂	13 ³ / ₄	5 ³ / ₄
6N-JL	6"	19 ¹ / ₂	13 ³ / ₄	5 ³ / ₄
8N-JL	8"	22 ⁷ / ₈	16 ⁵ / ₈	6 ¹ / ₄
10N-JL	10"	24 ¹ / ₁₆	19	5 ¹ / ₁₆
12N-JL	12"	26 ¹⁵ / ₁₆	21 ⁷ / ₁₆	5 ¹ / ₂
14N-JL	14"	29 ³ / ₄	23 ⁷ / ₈	5 ⁷ / ₈
16N-JL	16"	32 ⁹ / ₁₆	26 ¹ / ₄	6 ⁵ / ₁₆
18N-JL	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 ⁷ / 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

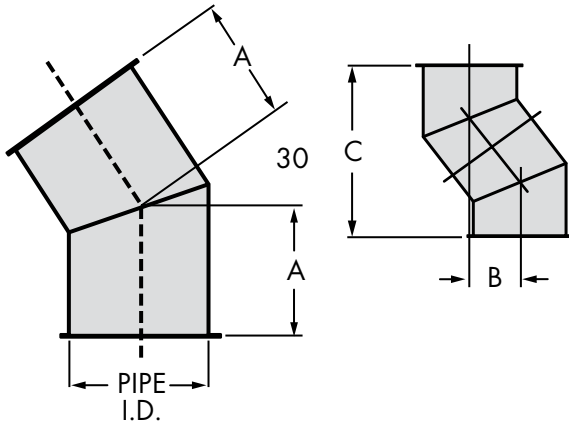
K = 0.6 Flow Resistance Factor

SINGLE WALL FITTINGS



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
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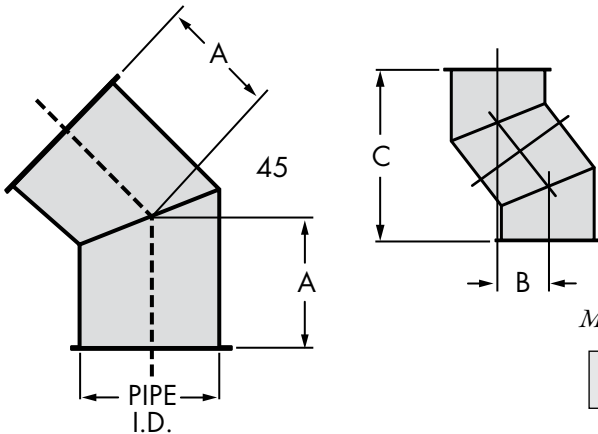
Part No.	Pipe Size I.D.	Dim. A	Dim. B	Dim. C
5N-EL30	5"	6 ¹ / ₈	6 ¹ / ₈	22 ³ / ₈
6N-EL30	6"	6 ¹ / ₈	6 ¹ / ₈	22 ⁷ / ₈
8N-EL30	8"	6 ³ / ₈	6 ³ / ₈	22 ⁷ / ₈
10N-EL30	10"	6 ¹¹ / ₁₆	6 ¹¹ / ₁₆	24 ⁷ / ₈
12N-EL30	12"	7 ⁵ / ₁₆	7 ⁵ / ₁₆	27 ¹ / ₄
14N-EL30	14"	7 ⁷ / ₈	7 ⁷ / ₈	29 ⁵ / ₈
16N-EL30	16"	8 ¹ / ₄	8 ¹ / ₄	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 ³ / ₈	12 ³ / ₈	47 ³ / ₄
42N-EL30	42"	14	14	52 ¹ / ₂
48N-EL30	48"	14 ³ / ₁₆	14 ³ / ₁₆	56 ¹ / 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
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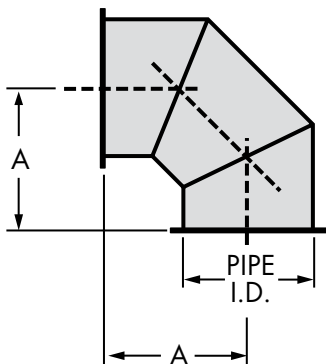
Part No.	Pipe Size I.D.	Dim. A	Dim. B	Dim. C
5N-EL45	5"	8 ¹ / ₂	12	29
6N-EL45	6"	8 ¹ / ₂	12	29
8N-EL45	8"	8 ¹⁵ / ₁₆	12 ⁵ / ₈	30 ⁷ / ₁₆
10N-EL45	10"	9 ⁵ / ₁₆	13 ³ / ₁₆	31 ⁷ / ₈
12N-EL45	12"	10 ¹ / ₄	14 ¹ / ₂	35
14N-EL45	14"	10 ¹¹ / ₁₆	15 ¹ / ₈	36 ¹ / ₂
16N-EL45	16"	11 ⁵ / ₈	16 ⁷ / ₁₆	39 ⁵ / ₈
18N-EL45	18"	12 ¹ / ₁₆	17 ¹ / ₁₆	41 ¹ / ₈
20N-EL45	20"	13	18 ³ / ₈	44 ¹ / ₄
22N-EL45	22"	13 ³ / ₁₆	18 ¹³ / ₁₆	45 ¹ / ₂
24N-EL45	24"	14 ³ / 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 ¹ / ₁₆	30 ³ / 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:

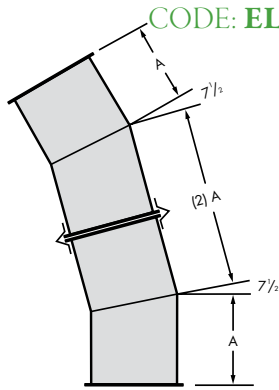
304	316
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Part No.	Pipe Size I.D.	Dim. A
5G-EZ90	5"	11 ¹ / ₂
6N-EL90	6"	11 ¹ / ₂
8N-EL90	8"	12 ¹ / ₂
10N-EL90	10"	13 ¹ / ₂
12N-EL90	12"	14 ¹ / ₂
14N-EL90	14"	15 ¹ / ₂
16N-EL90	16"	16 ¹ / ₂
18N-EL90	18"	17 ¹ / ₂
20N-EL90	20"	18 ¹ / ₂
22N-EL90	22"	19 ¹ / 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.



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

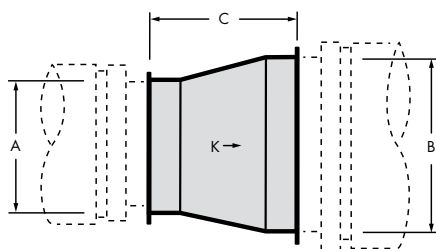
Materials Available:

304	316
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Tapered In 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. $K = N [1 - (A/B)^2]$

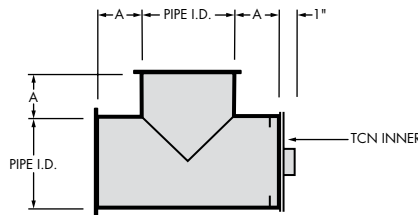
where N = 0.47 for one step OT

N = 0.53 for one step OT

90° Grease Duct Tee

USE: Part MT with dam added for protection against fluids running out while cleaning.

CODE: GMT



$A = 4"$

$K = 1.25$ flow resistance factor

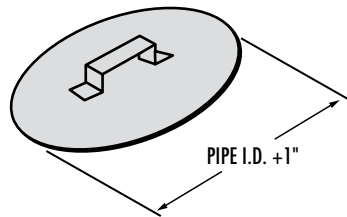
Materials Available:

304	316
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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

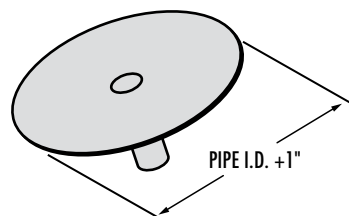
Materials Available:

304	316
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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

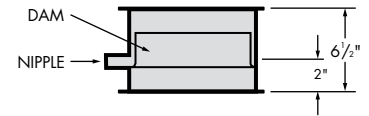
Materials Available:

304	316
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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

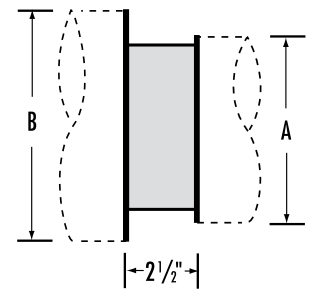
Materials Available:

304	316
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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.

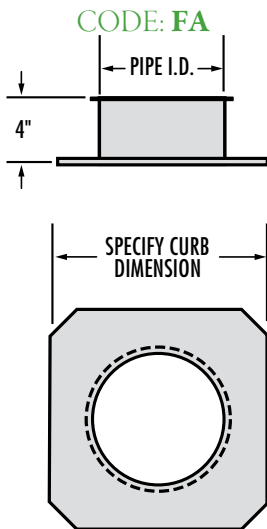
2. $K = N [1 - (A/B)^2]$

Materials Available:

304	316
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Fan Adapter FA

USE: Designed to secure Model N to fan inlet.

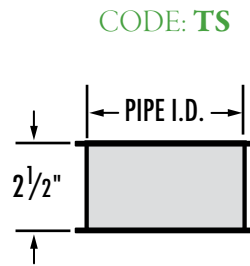


Materials Available:

304	316
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Hood Transition

USE: Securing Model N to flanged appliance outlets.

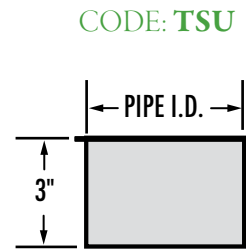


Materials Available:

304	316
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Hood Transition (Unflanged)

USE: Securing Model N to unflanged appliance outlets.



Materials Available:

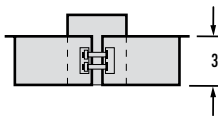
304	316
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JOINT ASSEMBLY PARTS

Seal Ring

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

CODE: SR



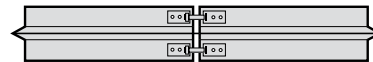
Materials Available:

304	316
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Overlapping Vee Band

USE: Used to seal the flange of two adjoining components.

CODE: VB



Notes:

- 5", 6", 8", and 48" diameter VBs are a two-piece design. 10" through 36" diameter VBs are a one-piece design.

Low Temperature Sealant

CODE: P600

High Temperature Sealant

CODE: P2000

Sealant Coverage (Expected number of joints sealed per tube)

Depending upon the application, either of AMPCO's low-temperature and high temperature sealants are applied to the VB before connecting two inner pipes at installation.

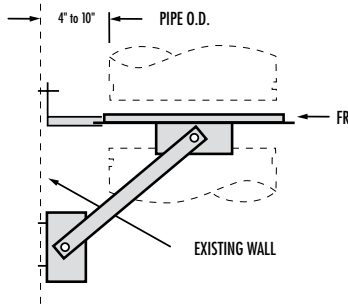
As designed, P600 Sealant is for 600° F. maximum flue gas temperatures, while P2000 is capable for flue gases up to 2,000° F.

<i>Inner Diameter</i> (inches)	5/6	8/10	12	14/16	18/20	22/24	26/28	30/32	36	42/48
<i>P600 & P2000</i>	10	9	8	7	6	5	4	3	2	1

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.

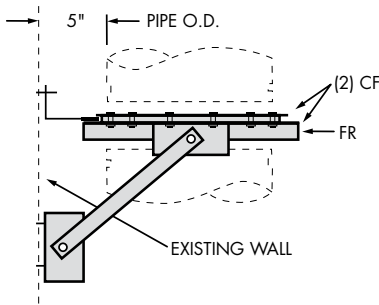
Materials Available:

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.

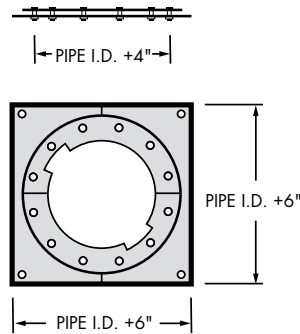
Materials Available:

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.

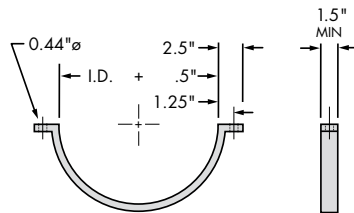
Materials Available:

Painted Steel

Support Strap

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

CODE: SS



Materials Available:

Painted Steel

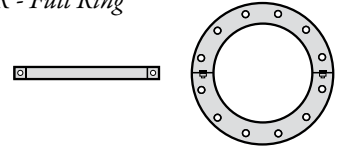
ANGLE RINGS

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 = 1¹/₂ X 1¹/₂ X ³/₁₆
- (2) Size of Angle = 2 X 2 X ³/₁₆

Materials Available:

Painted Steel

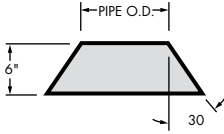
ROOF PENETRATIONS



STORM COLLAR

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

CODE: SC



Notes:

1. Requires P600 sealant when installing.

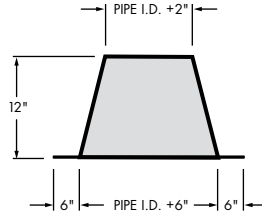
Materials Available:

Aluminized or Galvanized Steel	304	316
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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.

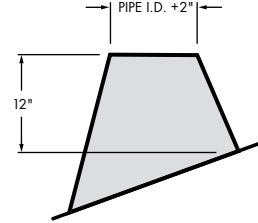
Materials Available:

Aluminized or Galvanized Steel	304	316
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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:

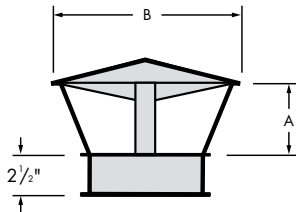
Aluminized or Galvanized Steel	304	316
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TERMINATIONS

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

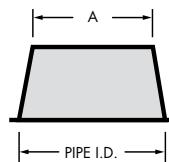
Materials Available:

304	316
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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

We have available a variety of special dimension single wall fittings similar to those found in our regular VSI/IVSI product catalog.

15&1 COMMERCIAL/INDUSTRIAL WARRANTY

Standard 1-Year Warranty

AMPSCO chimney and engine exhaust system components are warranted by Hart & Cooley, Inc. against functional failure due to defects in material and workmanship for a period of one year from date of delivery to the construction site. Functional failure is defined as any failure of the system or component to perform its intended function of exhausting, without adverse leakage, combustion by-products from engine operation or heating equipment. During this period, any system or component supplied by Ampco failing to perform its intended function will be repaired or replaced at the manufacturer's option, following determination by a factory-authorized inspector that a functional failure has occurred. This warranty is limited to repair or replacement of the product plus shipping cost to the failure location. This warranty does not cover any labor costs for removal or replacement of the defective product, nor does this warranty cover any system components not furnished by Ampco and installed as part of the system.

This limited warranty is extended to the purchaser subject to the satisfaction of the following conditions:

- 1) Generally accepted engineering practices have been followed to determine that sizing and material specifications are suitable for the application and environment involved.
- 2) The undamaged components have been correctly installed in accordance with the installation instructions published by Ampco at the time of shipment.
- 3) Damage is not a result of burning garbage, waste oil, #6 oil or any other prohibitive material in the appliance served by the venting system.

Extended 15-Year Warranty

This limited warranty is extended to the purchaser for fifteen years, subject to the satisfaction of the following conditions:

- 1) System sizing and design has been performed by Ampco personnel, and design parameters provided to Ampco by the responsible engineer were and are accurately representative of the operating conditions.
- 2) The undamaged components have been correctly installed in accordance with system design and sizing as performed by Ampco and installation instructions published by Ampco at the time of shipment.
- 3) Proper precautions have been taken to insure that boiler or engine combustion air is free of solvent or refrigerant vapors or any halogenated compound which may cause acid condensates to form within the chimney.
- 4) Damage is not a result of burning garbage, waste oil, #6 oil or any other prohibitive material in the appliance served by the venting system.
- 5) Ampco has supplied the entire chimney or exhaust system from boiler/engine outlet to the termination of the stack.
- 6) Prior to start-up and thereafter, exposed aluminized steel surfaces are protected with a minimum of one base coat of primer and one finish coat of heat-resistant and corrosive-resistant paint at all times. Stainless steel surfaces need not be primed or painted.

The Ampco 15&1 Warranty applies to the following products: N, VSI, IVSI, used in Commercial/Industrial/Institutional applications

LIMITED LIFETIME WARRANTY FOR GREASE DUCT APPLICATIONS

Ampco ("Ampco", "we", "us", "our") warrants to the original owner that Model; N, VSI, IVSI, Z-Clear (Z3 and Z4) products installed in a grease duct application, are to be free from defects in material and workmanship for the life of the product when properly connected to and included as a part of a code compliant commercial kitchen ventilation system for cooking appliances and installed in accordance with our installation instructions and specifications.

- For products installed after January 1, 2008, for a period of Ten (10) years from original installation, we will provide replacement product to the original owner for the product proven defective with a similar or like quantity of available Ampco product, free of charge.
- From the Eleventh (11) through Fifteenth (15) years we will provide replacement product to the original owner at a cost of 75% off of the Manufacturers Suggested List Price in effect on the date the claim is received.
- At expiration of the Fifteen (15) year term, we will provide replacement product to the original owner at a cost of 50% off of the Manufacturers Suggested List Price in effect on the date the claim is received.

WARNING: FAILURE TO INSTALL AMPSCO PRODUCTS ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS WILL VOID ALL APPLICABLE WARRANTIES AND MAY RESULT IN FIRE, LOSS OF PROPERTY OR LIFE AND MAY VOID INSURANCE COVERAGE. SEE OUR AMPSCO GREASE DUCT INSTALLATION INSTRUCTIONS FOR COMPLETE INSTRUCTIONS. Call 1.800.992.8368 or visit our website at www.ampcostacks.com for a free copy. WE DO NOT GUARANTEE OR IN ANY WAY WARRANT THE INSTALLATION OF AMPSCO PRODUCTS DUE TO THE WIDE VARIANCE IN INSTALLATION PRACTICES AND OTHER CONDITIONS BEYOND OUR CONTROL. THIS LIMITED WARRANTY DOES NOT COVER:

- (a) costs (labor or otherwise) associated with either removing a previously installed product, installing a replacement product, transportation or return of a product, or transportation of replacement product;
- (b) damage to the finish of products caused by the use of improper solvents/chemicals or improper cleaning methods;
- (c) damage resulting from failure to reasonably clean, care for or maintain products in accordance with our installation instructions/recommendations;
- (d) damage (to products, appliances or structure) based on or resulting from improper installation or repair, misuse or abuse (including, but not limited to, excessive or improper operating condition), or alteration or adjustments other than in conformity with our installation instructions and specifications, whether performed by a contractor, service company, technician, or yourself;
- (e) any products that have been moved from their original installation site;
- (f) damage to your grease duct that results from accidents such as fire, flood, high winds, "acts of God", or any other contingency beyond our control.
- (g) replacement of system sealants as a result of improper installation or a system grease fire.

Disclaimer:

Ampco assumes no liability for incidental or consequential damages of any kind or for any damages resulting in whole or in part from misuse, improper installation, or inadequate maintenance of the system or any component part thereof. 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. Ampco neither assumes nor does it authorize any other person to assume on its behalf any other liability in connection with the sale of its products.

CLAIM PROCEDURE:

If you believe that a product fails to meet the above limited warranty, notify us in writing at: AMPSCO, Attn: WARRANTY CLAIMS DEPARTMENT
5030 Corporate Exchange Blvd. Grand Rapids, MI. 49512. Fax: 1.800-972-1421 Phone: 1.800.624.8642

Notification should include a description of the product, model and part number and how the product fails to meet the above warranty. Upon receipt of a written claim under this limited warranty and evidence of the date of purchase or installation, at our option and in our sole discretion, we will either repair or replace the product with similar or like quantity of available Ampco product per this warranty. Ampco reserves the right to inspect or investigate any warranty claims prior to determining whether to repair or replace a product. If, as determined by Ampco, repair or replacement of the product is not commercially practicable or cannot be completed in a timely manner, we may refund the prorated purchase price paid for the product upon verification by providing a copy of your invoice, receipt of bill of sale. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED IN DURATION TO THE WARRANTY PERIOD SPECIFIED ABOVE. WE DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES AND ANY LOSS OR EXPENSES(S), NOT SPECIFIED ABOVE. SOME STATES MAY NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSIONS OR LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE LEGAL RIGHTS WHICH VARY FROM STATE TO STATE OR PROVINCE TO PROVINCE.



Model N

AMPCO manufactures engineered solutions for venting today's high-efficiency combustion installations. AMPCO engineered systems are manufactured of high technology materials which resist the highly corrosive effects of combustion exhaust. Traditional methods require time-consuming, labor-intensive installations which consume valuable building space and which later require expensive routine maintenance. Utilizing a system of both standard pre-engineered products with custom-manufactured components, AMPCO engineers a cost-effective venting system which consumes little space and which assembles easily in the field.

A full line of the finest products is yours
from Hart & Cooley Inc
HeatFab
Ward Industries
Milcor
Portals Plus
Roof Products & Systems



Hart & Cooley, Inc.
5030 Corporate Exchange Blvd. • Grand Rapids, MI. 49512
1.800.624.8642 phone • 1.800.972.1421 fax
Quote Requests - ampco.quoting@hartcool.com
www.ampcostacks.com

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1.888.735.5475 phone
1.866.835.9624 fax