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

Common Installation Types .................................................. 3

MODEL N

Single Wall Pipe ................................................................. 4
Adjustable Single Wall Pipe ................................................ 4
Single Wall Fittings ............................................................. 5
Connection Accessories ...................................................... 8
Joint Assembly Parts .......................................................... 8
Support/Guide Accessories .................................................. 9
Roof Penetrations ............................................................... 10
Terminations ....................................................................... 10

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.

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.
**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

**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

**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

**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.
**SINGLE WALL FITTINGS**

**90° Tee**  \( \text{CODE: MT} \)

**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.

**45° Lateral Tee**  \( \text{CODE: JL} \)

**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.

**90° Wye**  \( \text{CODE: JY} \)

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

**NOTE:** All openings are the same size diameter.
**30° Fixed Elbow**  
**CODE:** EL30

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

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

**Materials Available:**

<table>
<thead>
<tr>
<th>Dim. A</th>
<th>Dim. B</th>
<th>Dim. C</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
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</tr>
<tr>
<td>16</td>
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<td>10</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Part No. Pipe Size I.D.**

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

**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:**

<table>
<thead>
<tr>
<th>Dim. A</th>
<th>Dim. B</th>
<th>Dim. C</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>5 1/2</td>
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<tr>
<td>10</td>
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<td>6</td>
<td>3 1/2</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
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</table>

**Part No. Pipe Size I.D.**

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

**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:**

<table>
<thead>
<tr>
<th>Dim. A</th>
<th>Dim. B</th>
<th>Dim. C</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>16</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Part No. Pipe Size I.D.**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pipe Size I.D.</th>
<th>Dim. A</th>
</tr>
</thead>
<tbody>
<tr>
<td>5G-EZ90</td>
<td>5”</td>
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</tr>
<tr>
<td>6N-EL90</td>
<td>6”</td>
<td>11 1/8</td>
</tr>
<tr>
<td>8N-EL90</td>
<td>8”</td>
<td>12 1/8</td>
</tr>
<tr>
<td>10N-EL90</td>
<td>10”</td>
<td>13 1/8</td>
</tr>
<tr>
<td>12N-EL90</td>
<td>12”</td>
<td>14 1/8</td>
</tr>
<tr>
<td>14N-EL90</td>
<td>14”</td>
<td>15 1/8</td>
</tr>
<tr>
<td>16N-EL90</td>
<td>16”</td>
<td>16 1/8</td>
</tr>
<tr>
<td>18N-EL90</td>
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<td>17 1/8</td>
</tr>
<tr>
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<td>20”</td>
<td>18 1/8</td>
</tr>
<tr>
<td>22N-EL90</td>
<td>22”</td>
<td>19 1/8</td>
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<tr>
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<td>24”</td>
<td>20</td>
</tr>
<tr>
<td>26N-EL90</td>
<td>26”</td>
<td>21</td>
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<tr>
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<td>28”</td>
<td>22 1/4</td>
</tr>
<tr>
<td>30N-EL90</td>
<td>30”</td>
<td>23 1/4</td>
</tr>
<tr>
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<td>32”</td>
<td>24 1/4</td>
</tr>
<tr>
<td>36N-EL90</td>
<td>36”</td>
<td>26</td>
</tr>
<tr>
<td>42N-EL90</td>
<td>42”</td>
<td>29 1/2</td>
</tr>
<tr>
<td>48N-EL90</td>
<td>48”</td>
<td>32 1/2</td>
</tr>
</tbody>
</table>

**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

**Materials Available:**

<table>
<thead>
<tr>
<th>Part No. (Pipe I.D.) N-EL15</th>
<th>304</th>
<th>316</th>
</tr>
</thead>
<tbody>
<tr>
<td>5N-EL15 43/16&quot;</td>
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<td></td>
</tr>
<tr>
<td>6N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8N-EL15 43/16&quot;</td>
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</tr>
<tr>
<td>10N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22N-EL15 43/16&quot;</td>
<td></td>
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<tr>
<td>24N-EL15 43/16&quot;</td>
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<td></td>
</tr>
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</tr>
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<td>28N-EL15 43/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30N-EL15 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32N-EL15 51/16&quot;</td>
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<td></td>
</tr>
<tr>
<td>36N-EL15 51/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42N-EL15 51/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48N-EL15 51/16&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**K = 0.06 flow resistance factor**

**Materials Available:**

| 304 | 316 |

**Tapered Increaser/Reducer**  
**USE:** Used when a pipe diameter change is required.

**CODE:** OT

**Materials Available:**

| 304 | 316 |

**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. \( K = N \left[ 1 - \left( \frac{A}{B} \right)^2 \right] \)  
   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

**Materials Available:**

| 304 | 316 |

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

**CODE:** TCN

**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

**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

**Materials Available:**

| 304 | 316 |

**Step Increaser/Reducer**  
**USE:** Used when pipe diameter change is required in a small space.

**CODE:** OS

**Materials Available:**

| 304 | 316 |
**CONNECTION ACCESSORIES**

**Fan Adapter FA**
**USE:** Designed to secure Model N to fan inlet.

**CODE:** FA

**Hood Transition**
**USE:** Securing Model N to flanged appliance outlets.

**CODE:** TS

**Hood Transition (Unflanged)**
**USE:** Securing Model N to unflanged appliance outlets.

**CODE:** TSU

**Materials Available:**
- 304
- 316

**JOINT ASSEMBLY PARTS**

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

**CODE:** SR

**Overlapping Vee Band**
**USE:** Used to seal the flange of two adjoining components.

**CODE:** VB

**Materials Available:**
- 304
- 316

**Notes:**
1. 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)

<table>
<thead>
<tr>
<th>Inner Diameter (inches)</th>
<th>5/6</th>
<th>8/10</th>
<th>12</th>
<th>14/16</th>
<th>18/20</th>
<th>22/24</th>
<th>26/28</th>
<th>30/32</th>
<th>36</th>
<th>42/48</th>
</tr>
</thead>
<tbody>
<tr>
<td>P600 &amp; P2000</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

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.
SUPPORT/GUIDE ACCESSORIES

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

Materials Available:
Painted Steel

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Bolt Hole</th>
<th>I.D. of Ring</th>
<th># of Holes</th>
<th>Size of Angle</th>
<th>Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>5N-HR</td>
<td>9</td>
<td>5'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>6N-HR</td>
<td>10</td>
<td>6'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>8N-HR</td>
<td>12</td>
<td>8'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>10N-HR</td>
<td>14</td>
<td>10'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>12N-HR</td>
<td>16</td>
<td>12'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>14N-HR</td>
<td>18</td>
<td>14'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>16N-HR</td>
<td>20</td>
<td>16'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>18N-HR</td>
<td>22</td>
<td>18'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>20N-HR</td>
<td>24</td>
<td>20'/4</td>
<td>6</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>22N-HR</td>
<td>26</td>
<td>22'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>24N-HR</td>
<td>28</td>
<td>24'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>26N-HR</td>
<td>30</td>
<td>26'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>28N-HR</td>
<td>32</td>
<td>28'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>30N-HR</td>
<td>34</td>
<td>30'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>32N-HR</td>
<td>36</td>
<td>32'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>36N-HR</td>
<td>40</td>
<td>36'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>42N-HR</td>
<td>46</td>
<td>42'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>48N-HR</td>
<td>52</td>
<td>48'/4</td>
<td>10</td>
<td>2</td>
<td>22.5</td>
</tr>
</tbody>
</table>

(1) Size of Angle = 1'/4 X 1'/4 X 1'/4
(2) Size of Angle = 2 X 2 X 1'/4
**STORM COLLAR**

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

**CODE:** SC

![Diagram of Storm Collar]

**Notes:**
1. Requires P600 sealant when installing.

**Materials Available:**

<table>
<thead>
<tr>
<th>Material</th>
<th>304</th>
<th>316</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminized or Galvanized Steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**TALL FLASHING TF**

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

**CODE:** TF

![Diagram of Tall Flashing TF]

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

**Materials Available:**

<table>
<thead>
<tr>
<th>Material</th>
<th>304</th>
<th>316</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminized or Galvanized Steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Pitched Tall Flashing PTF**

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

**CODE:** PTF

![Diagram of Pitched Tall Flashing 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:**

<table>
<thead>
<tr>
<th>Material</th>
<th>304</th>
<th>316</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminized or Galvanized Steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**STACK CAP**

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

**CODE:** SK

![Diagram of Stack Cap]

**Materials Available:**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dim. A</th>
<th>Dim. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>5N-SK</td>
<td>2(\frac{1}{2})</td>
<td>10(\frac{3}{4})</td>
</tr>
<tr>
<td>6N-SK</td>
<td>3</td>
<td>10(\frac{1}{2})</td>
</tr>
<tr>
<td>8N-SK</td>
<td>4</td>
<td>13(\frac{3}{4})</td>
</tr>
<tr>
<td>10N-SK</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>12N-SK</td>
<td>6</td>
<td>20(\frac{1}{2})</td>
</tr>
<tr>
<td>14N-SK</td>
<td>7</td>
<td>24</td>
</tr>
<tr>
<td>16N-SK</td>
<td>8</td>
<td>27(\frac{3}{8})</td>
</tr>
<tr>
<td>18N-SK</td>
<td>9</td>
<td>30(\frac{1}{4})</td>
</tr>
<tr>
<td>20N-SK</td>
<td>10</td>
<td>34(\frac{1}{4})</td>
</tr>
<tr>
<td>22N-SK</td>
<td>11</td>
<td>37(\frac{5}{8})</td>
</tr>
<tr>
<td>24N-SK</td>
<td>12</td>
<td>41</td>
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<tr>
<td>26N-SK</td>
<td>13</td>
<td>44(\frac{3}{4})</td>
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<tr>
<td>28N-SK</td>
<td>14</td>
<td>47(\frac{3}{8})</td>
</tr>
<tr>
<td>30N-SK</td>
<td>15</td>
<td>51(\frac{1}{4})</td>
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<td>32N-SK</td>
<td>16</td>
<td>54(\frac{3}{4})</td>
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<tr>
<td>36N-SK</td>
<td>18</td>
<td>61(\frac{1}{2})</td>
</tr>
<tr>
<td>42N-SK</td>
<td>21</td>
<td>71(\frac{3}{4})</td>
</tr>
<tr>
<td>48N-SK</td>
<td>24</td>
<td>82</td>
</tr>
</tbody>
</table>

**K = 0.5 Flow Resistance Factor**

**Materials Available:**

| 304 | 316 |

---

**EXIT CONE**

**USE:** Will increase stack exit velocity 1\(\frac{1}{2}\) times. Requires a drain at the bottom of stack.

**CODE:** EC

![Diagram of Exit Cone]

**Materials Available:**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dim. A</th>
</tr>
</thead>
<tbody>
<tr>
<td>5N-EC</td>
<td>4(\frac{3}{16})</td>
</tr>
<tr>
<td>6N-EC</td>
<td>4(\frac{1}{2})</td>
</tr>
<tr>
<td>8N-EC</td>
<td>6(\frac{1}{4})</td>
</tr>
<tr>
<td>10N-EC</td>
<td>8(\frac{1}{4})</td>
</tr>
<tr>
<td>12N-EC</td>
<td>9(\frac{3}{16})</td>
</tr>
<tr>
<td>14N-EC</td>
<td>11(\frac{1}{4})</td>
</tr>
<tr>
<td>16N-EC</td>
<td>13(\frac{3}{8})</td>
</tr>
<tr>
<td>18N-EC</td>
<td>14(\frac{1}{2})</td>
</tr>
<tr>
<td>20N-EC</td>
<td>16(\frac{1}{4})</td>
</tr>
<tr>
<td>22N-EC</td>
<td>18</td>
</tr>
<tr>
<td>24N-EC</td>
<td>19(\frac{1}{2})</td>
</tr>
<tr>
<td>26N-EC</td>
<td>21(\frac{1}{2})</td>
</tr>
<tr>
<td>28N-EC</td>
<td>24(\frac{1}{4})</td>
</tr>
<tr>
<td>30N-EC</td>
<td>24(\frac{3}{8})</td>
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<tr>
<td>32N-EC</td>
<td>26(\frac{3}{8})</td>
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<tr>
<td>36N-EC</td>
<td>29(\frac{3}{4})</td>
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<tr>
<td>42N-EC</td>
<td>34(\frac{3}{4})</td>
</tr>
<tr>
<td>48N-EC</td>
<td>39(\frac{3}{4})</td>
</tr>
</tbody>
</table>

**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
AMPACO 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.
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) 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.
6) 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.
7) 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.
8) 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.
9) 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.
10) 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.
11) 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.
12) 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.
13) 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.
14) 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.
15) 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.

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 (23 and 24) 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 AMPACO 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 INSTALLATION COVERAGE. SEE OUR AMPACO 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 AMPACO 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 failure to meet the above limited warranty, notify us in writing at: AMPACO, 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 failure 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 EXPENSE(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.
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