

FACTORY-BUILT GREASE DUCT SYSTEMS



For Kitchen Ventilation Systems



Making The Right Choice For Your Client




DESCRIPTION	METAL-FAB "G".SERIES		
	<p>Models 3G / 4G ALTERNATE TO FIRE RESISTIVE SHAFT ENCLOSURE Factory - Built</p>	<p>Models PIC / 1G / 2G REDUCED CLEARANCE TO COMBUSTIBLES Factory - Built</p>	<p>Models PSW SINGLE WALL STAINLESS STEEL Factory - Built</p>
			
<p>INSTALLED SPACE REQUIREMENTS 12" X 12" SQUARE DUCTS - 144 SQ. IN. 14" ROUND DUCT - 154 SQ. IN.</p>	<p>20" X 20"</p>	<p>20"/22" X 20"/22"</p>	<p>50" X 50"</p>
<p>CONSTRUCTION</p>	<p>Outer Casing (Integral Shaft Enclosure) Aluminized Carbon or Stainless Steel Insulation: 3" or 4" Ceramic Fiber Grease Duct - 20 Gauge Stainless Steel</p>	<p>Outer Casing - Aluminized Carbon or Stainless Steel Insulation: Air, 1" or 2" Ceramic Fiber Grease Duct - 20 Gauge Stainless Steel</p>	<p>Grease Duct - 20 Gauge Stainless Steel</p>
<p>CLEARANCES</p>	<p>Zero Clearance to Combustibles</p>	<p>See Chart for Reduced Clearances on Page 8</p>	<p>18 Inches to Combustibles 3 Inches to Limited Combustibles</p>
<p>CURRENT CODE ACCEPTANCE</p>	<p>YES 2021 IMC 2021 UMC 2021 NFPA 96 New York City: MEA-86-07-E Los Angeles: RR-8441 Wisconsin: 990074-H</p>	<p>YES 2021 IMC 2021 UMC 2021 NFPA 96 New York City: MEA-245-97-M</p>	<p>YES 2021 IMC 2021 UMC 2021 NFPA 96</p>
<p>APPLICABLE LISTINGS</p>	<p>UL1978 - Standard for Grease Ducts UL2221 - Tests of Fire Resistive Duct Enclosures UL103HT 6"-14" Diameters ASTM E 814 - Standard Test Method for Through Penetration Firestops ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction UL Evaluation Report UL ER 15388-01 Acceptance Criteria for Grease Duct Systems, Self-Enclosed</p>	<p>UL1978 - Standard for Grease Ducts UL2221 - Condition B, 2G Product Only, for 6"-18" Diameters UL103HT - 2G Product Only, for 6"-14" Diameters</p>	<p>UL1978 - Standard for Grease Ducts NFPA 96 - Requires duct and fire wrap to be listed together as an assembly for the intended application. Must be installed per the manufacturer's listing and their installation instructions.</p>
<p>INSTALLED COSTS</p>	<p>\$\$\$</p>	<p>\$\$</p>	<p>\$</p>
<p>WARRANTY</p>	<p>LIMITED LIFETIME</p>	<p>LIMITED LIFETIME</p>	<p>LIMITED LIFETIME</p>

CHART FOR REDUCED CLEARANCES



PSW Single Wall
6" - 48" Diameter - 18"



PIC 1" Air Space
6" - 10" Diameter - 5"
12" Diameter - 7"
14" Diameter - 9"
16" Diameter - 10"
18" Diameter - 12"
20" Diameter - 14"
22" - 48" Diameter - 18"



1G 1" Insulation
6" Diameter - 2"
8" - 18" Diameter - 3"
20" - 32" Diameter - 4"
34" - 42" Diameter - 5"
44" - 48" Diameter - 6"



2G 2" Insulation
6" - 18" Diameter - 1"
20" - 32" Diameter - 2"
34" - 42" Diameter - 3"
44" - 48" Diameter - 4"



3G 3" Insulation
6" - 36" Diameter - 0"



4G 4" Insulation
6" - 38" Diameter - 0"
40" - 48" Diameter - 1"

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MODEL CODES

ICC/IMC: International Code Council/International Mechanical Code

The ICC/IMC are not-for-profit organizations established by the International Conference of Building Officials, Building Officials and Code Administrators International, and the Southern Building Code Congress International to create a single set of comprehensive and coordinated international codes. This set is called the International Codes. ICBO, BOCA, and SBCCI no longer publish separate codes. Codes regarding chimneys and vents are in the International Mechanical Code (IMC).

IAPMO: International Association of Plumbing & Mechanical Officials

IAPMO publishes the Uniform Plumbing Code® (UPC), Uniform Mechanical Code® (UMC), and a number of other life safety codes. IAPMO is most recognized for their development of the Uniform Plumbing Code.

NFPA: National Fire Protection Association

NFPA develops codes and standards for fire safety. There are over 300 NFPA codes and standards.

STANDARDS/LISTINGS/CLASSIFICATIONS

NFPA 96	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
UL 1978	Test Standard For Grease Ducts
UL HNOB	Classification for "Grease Duct Assemblies" (Metal-Fab File No. R15388)
UL 2221	Tests of Fire Resistive Duct Enclosure Assemblies
UL 103HT	Standard For Safety, Factory-Built Chimneys for Residential and Building Heating Appliances. Solid Fuel 2100°F, high temp appliances.
ASTM E 119	Standard Test Methods for Fire Tests for Building Construction and Materials
ASTM E 814	Standard Test Method for Through-Penetration Fire Stops
AC121	ICC-ES Acceptance Criteria For Grease Duct Systems, Self-Enclosed
UL-ER	Evaluation Report No. ER15388-01*

* See Evaluation Report for allowable values and/or conditions of use.

GENERAL INFORMATION

Pertinent information is consolidated in this publication to assist you with application information, codes and standards, dimensional information, support requirements and other data of special interest. It is our goal to enable you to select the proper product to meet the requirements of your project confidently and efficiently. For additional information you may contact us via:

Web Sites: www.metal-fabcommercial.com / www.greaseduct.com
Telephone: 316-943-2351
Toll Free Phone: 800-835-2830
Fax: 316-771-4168
E-mail: cvpcs@metal-fabinc.com

Complete information for proper and safe installations is found in the Metal-Fab Installation Instructions for each product.

Factory-Built G Series Grease Duct Systems are suitable for venting Type I and Type II kitchen ventilation hoods. G Series systems are manufactured in a controlled environment to exacting standards. No other product has been so thoroughly tested and determined to be in compliance with more codes.

NOTE: Dimensions are American Standard (feet & inches), with metric in parentheses except where stated otherwise. Always consult appliance installation instructions for exhaust temperatures, pressures, and operating conditions. Appliance manufacturer may limit horizontal runs, elbows, offsets, vertical heights, etc.



CODE COMPLIANCE DATA						
PRODUCT MODEL	PIC	PSW	1G (IPIC-1)	2G (IPIC-2)	3G (IPIC-3)	4G (IPIC-4)
ULFile No. MH25506	X	X	X	X	X	X
NFPA 96	X	X	X	X	X	X
UL 1978	X	X	X	X	X	X
UL HNOB.15388					2 Hr.	3 Hr.
UL 2221				2 Hr.*	2 Hr.	2 Hr.
ASTM E 119-Fire Engulfment					2 Hr.	3 Hr.
ASTM E 119-Fire Resistance						2 Hr.
ASTM E814-Fire Stop F&T				3 Hr.*	3 Hr.	3 Hr.
ICBO AC121						X
ICBO ER 5301 / UL ER15388-01						X
SBCCI Eval Guide ON Fire Res. Const.						X
City of New York MEA 86-07-E						X
City of Los Angeles RR-8441						X
State of Wisconsin 990074-H						X

*Fire rated under UL 2221-Condition B, for diameters through 18". Reference UL Evaluation Report #ER15388-01 (P.11, Section 7.4).

MATERIAL SELECTIONS	
FLUE	CASING
430 Stainless Steel*	Aluminized Steel
304 Stainless Steel	430 Stainless Steel
316 Stainless Steel	304 Stainless Steel
	316 Stainless Steel

*Available with Aluminized or 430 Stainless Steel casing only

TEMPERATURE RATING	
Continuous	500°F (271°C)
Intermittent	2000°F (1084°C)

FLUE MATERIAL THICKNESS							
	PSW	PIC	1G	2G	3G	4G	
6"-36" (152-914)	.035"(.9)	.035"(.9)	.035"(.9)	.035"(.9)	.035"(.9)	.035"(.9)	
38"-48" (965-1219)	.048" (1.2)	.048" (1.2)	.048" (1.2)	.048" (1.2)	N/A	.048" (1.2)	
CASING MATERIAL THICKNESS – BASED ON FLUE DIAMETER – *ALUMINIZED/STAINLESS							
6"-18" (152-457)	Not Applicable	*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	
20"-22" (508-559)		*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)
24" (610)		*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.024"(.6) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)
26"-30" (660-762)		*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)
32" (813)		*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .035"(.9)
34" (864)		*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .035"(.9)	*.034"(.9) / .035"(.9)
36" (914)		*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .024"(.6)	*.034"(.9) / .035"(.9)	*.034"(.9) / .035"(.9)	*.034"(.9) / .035"(.9)
38"-48" (965-1219)		*.034"(.9) / .035"(.9)	*.034"(.9) / .035"(.9)	*.034"(.9) / .035"(.9)	*.034"(.9) / .035"(.9)	N/A	*.034"(.9) / .035"(.9)

INSULATION THICKNESS					
PSW	PIC	1G	2G	3G	4G
None	1" Air Space	1" Ceramic	2" Ceramic	3" Ceramic	4" Ceramic

CASING TEMPERATURE CHART						
500° F Operating Temperature						
Temperature Rise Degrees Above Ambient						
Flue Diameter	PSW	PIC	1G	2G	3G	4G
6" (152)	N/A	252°F	102°F	64°F	30°F	30°F
12" (305)	N/A	252°F	109°F	70°F	38°F	38°F
18" (457)	N/A	252°F	114°F	75°F	43°F	43°F
24" (610)	N/A	252°F	118°F	78°F	49°F	49°F
30" (762)	N/A	252°F	121°F	83°F	58°F	58°F
36" (914)	N/A	252°F	126°F	87°F	64°F	64°F
(Values are approximate)						

DEFINITIONS – NFPA

Access Panel: A closure device used to cover an opening into a duct, an enclosure, equipment or an appurtenance.

Authority Having Jurisdiction: The organization, office, or individual responsible for approving equipment, an installation, or procedure.

Classified: Products or materials of a specific group category that are constructed, inspected, tested and subsequently reinspected in accordance with an established set of requirements. The classification process is performed by an organization acceptable to the authority having jurisdiction.

Combustible Material: Material subject to an increase in combustibility or flame spread rating beyond the limits established in the definition of limited combustibles.

Continuous Enclosure: A recognized architectural or mechanical component of a building having a fire resistance rating as required for the structure and whose purpose is to enclose the vapor removal duct for its full length to its termination point outside the structure without any portion of the enclosure having a fire resistance rating less than the required value.

Continuous Weld: A metal-joining method that produces a product without visible interruption or variation in quality.

Factory-Built Grease Duct Enclosures: A listed factory-built grease duct system evaluated as an enclosure system for reduced clearances to combustibles and as an alternative to a duct with its fire-rated enclosure.

Field-Applied Grease Duct Enclosure: A listed system evaluated for reduced clearances to combustibles and as an alternative to a duct with its fire-rated enclosure.

Grease: Rendered animal fat, vegetable shortening, and other such oily matter used for the purposes of, and resulting from, cooking and/or preparing foods.

Grease Ducts: A containment system for the transportation of air and grease vapors that is designed and installed to reduce the possibility of the accumulation of combustible condensation and the occurrence of damage if a fire occurs within the system.

Grease-Tight: Constructed and performing in such a manner as not to permit the passage of any grease under normal cooking conditions.

Hood: A device provided for a cooking appliance(s) to direct and capture grease-laden vapors and exhaust gases.

Liquid-Tight: Constructed and performing in such a manner as not to permit the passage of any liquid at any temperature.

DEFINITIONS - NFPA (CONTINUED)

Listed Equipment. Materials or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

Non-combustible Material. A material not capable of supporting combustion.

Standard. A document, the main text of which contains only mandatory provisions using the word “shall” to indicate requirements, and which is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Non-mandatory provisions shall be located in an appendix or annex, footnote, or fine-print note and are not to be considered a part of the requirements of a standard.

Thermal Expansion: A change in temperature within a duct system, site-built or factory-built, causes thermal expansion of the duct. For example, when a grease duct temperature increases from ambient to a normal operating temperature of 75°F plus ambient, the duct expands 0.375 inches per 50 feet of duct length. Greater expansion and contraction under normal operating temperatures can fatigue welds causing leakage. If expansion is computed to exceed 0.375 inches between changes of direction or rigid supports, an adjustable length (AL) should be installed.

The formula for computing expansion is:

[Length (feet)/100] X [Temperature Rise (°F)/100]

Example: 50/100 X 75°F/100 = 0.375 inches

CHART FOR REDUCED CLEARANCES

NOTE: All clearances shown in this table comply with UL listings and classifications.

UL Listed/Classified Grease Duct Clearance to Combustibles						
Inside Duct Diameters	Models					
	PSW	PIC	1G	2G	3G	4G
6" (152)	18" (457)	5" (127)	2" (51)	1" (25)	0"	0"
8" (203)	18" (457)	5" (127)	3" (76)	1" (25)	0"	0"
10" (254)	18" (457)	5" (127)	3" (76)	1" (25)	0"	0"
12" (305)	18" (457)	7" (178)	3" (76)	1" (25)	0"	0"
14" (356)	18" (457)	9" (229)	3" (76)	1" (25)	0"	0"
16" (406)	18" (457)	10" (254)	3" (76)	1" (25)	0"	0"
18" (457)	18" (457)	12" (305)	3" (76)	1" (25)	0"	0"
20" (508)	18" (457)	14" (356)	4" (102)	2" (51)	0"	0"
22"-24" (559-610)	18" (457)	18" (457)	4" (102)	2" (51)	0"	0"
26"-32" (660-813)	18" (457)	18" (457)	4" (102)	2" (51)	0"	0"
34"-36" (864-914)	18" (457)	18" (457)	5" (127)	3" (76)	0"	0"
38" (965)	18" (457)	18" (457)	5" (127)	3" (76)	N/A	0"
40"-42" (1016-1067)	18" (457)	18" (457)	5" (127)	3" (76)	N/A	1" (25)
44"-48" (1118-1219)	18" (457)	18" (457)	6" (152)	4" (102)	N/A	1" (25)
Clearance to Non-Combustibles: 0", all products						

DESIGN CONSIDERATIONS

NFPA 96: Requires provisions for the inspection of, and access for, cleaning of grease ducts. Openings are to be located on the top or side of the duct at changes or direction, to access and inspect fire suppression components within the duct, within 3 ft. of the inlet and outlet of any inline fan. Horizontal portions of ducts 20 inches by 20 inches or larger shall provide at least one opening for personnel entry. Smaller horizontal ducts shall provide openings large enough for cleaning at 12 ft. intervals. Refer to NFPA 96, section 7 for complete information.

Duct Slope: Nationally recognized codes require horizontal ducts to slope at a minimum of 1/4 unit vertical in 12 units of horizontal toward the hood or grease reservoir. In addition, where horizontal ducts exceed 75 feet in length, the slope shall not be less than one unit vertical in 12 units horizontal. This general rule for duct slope is prescribed for grease ducts that are not listed and/or evaluated by an accredited third body testing agency.

DESIGN CONSIDERATIONS (CONTINUED)

For factory-built grease ducts that are listed to UL1978 and have been further tested and/or analyzed to provide equivalent or better flow characteristics as compared to field-installed grease ducts, reduce duct slope is allowed per the factory-built grease duct listing.

For Metal-Fab factory built grease ducts listed to UL1978, install at a duct slope not less than 1/16 unit vertical slope in 12 units of horizontal toward the hood or toward the grease reservoir. Where Metal-Fab grease ducts listed to UL1978 exceed 75 feet in length, the slope shall not be less than 1/4 unit vertical slope in 12 units horizontal. This minimum slope is a result of tests and analysis performed by Underwriters Laboratories, where factory-built grease duct was compared to rectangular field-applied grease duct for performance of flow characteristics. Consult with AHJ for acceptance of this alternate method.

SUPPORT DATA

SUPPORTS - VERTICAL	Maximum Supported Height					
	PSW	PIC	1G	2G	3G	4G
Plate Support (PS)	100' (30.5m)	100' (30.5m)	85' (25.9m)	75' (22.9m)	73' (22.3m)	73' (22.3m)
Roof Support Assembly (RSA)	30' (9.1m)	30' (9.1m)	25' (7.6m)	22' (6.7m)	22' (6.7m)	22' (6.7m)
Wall Support Assembly (WSA)	40' (12.2m)	40' (12.2m)	34' (10.4m)	30' (9.1m)	29' (8.8m)	29' (8.8m)
Stack Support Assembly (SSA)	100' (30.5m)	100' (30.5m)	100' (30.5m)	100' (30.5m)	100' (30.5m)	100' (30.5m)
Pier or Structural Support	100' (30.5m)	100' (30.5m)	85' (25.9m)	75' (22.9m)	73' (22.3m)	73' (22.3m)

Values shown are the maximum distance between supports. Guides are also required.

GUIDES - HORIZONTAL	Maximum Spacing - Horizontal					
	(See Components Section for guide selection)					
PRODUCT	PSW	PIC	1G	2G	3G	4G
Component Choices:						
Half Angle Ring (HAR)	12' 6" (3.8m)	12' 6" (3.8m)	10' (3.1m)	9' (2.7m)	9' (2.7m)	9' (2.7m)
Full Angle Ring (FAR)	12' 6" (3.8m)	12' 6" (3.8m)	10' (3.1m)	9' (2.7m)	9' (2.7m)	9' (2.7m)
Plate Support (PS)	12' 6" (3.8m)	12' 6" (3.8m)	10' (3.1m)	9' (2.7m)	9' (2.7m)	9' (2.7m)

GUIDES- VERTICAL	Maximum Spacing VERTICAL/OUTSIDE - Adjacent to Structure					
	(See Components Section for guide selection)					
Flue Diameter - Inches	PSW	PIC	1G	2G	3G	4G
6" (152)	17' (5.2m)	17' (5.2m)	17' (5.2m)	10' 6" (3.2m)	8' 3" (2.5m)	8' 3" (2.5m)
8" (203)	17' 6" (5.3m)	17' 6" (5.3m)	17' 6" (5.3m)	12' (3.7m)	9' 7" (2.9m)	9' 7" (2.9m)
10" (254)	18' 6" (5.6m)	18' 6" (5.6m)	18' 6" (5.6m)	13' 3" (4.0m)	10' 9" (3.3m)	10' 9" (3.3m)
12" (305)	20' (6.1m)	20' (6.1m)	20' (6.1m)	14' 6" (4.4m)	11' 11" (3.6m)	11' 11" (3.6m)
14" (356)	21' (6.4m)	21' (6.4m)	21' (6.4m)	15' 11" (4.8m)	13' 2" (4.0m)	13' 2" (4.0m)
16" (406)	22' (6.7m)	22' (6.7m)	22' (6.7m)	17' (5.2m)	14' 2" (4.3m)	14' 2" (4.3m)
18" (457)	23' (7.0m)	23' (7.0m)	23' (7.0m)	18' 3" (5.6m)	15' 4" (4.7m)	15' 4" (4.7m)
20" (508)	24' (7.3m)	24' (7.3m)	24' (7.3m)	19' 6" (5.9m)	16' 4" (5.0m)	16' 4" (5.0m)
22" (559)	24' 6" (7.5m)	24' 6" (7.5m)	24' 6" (7.5m)	20' 2" (6.2m)	17' (5.2m)	17' (5.2m)
24" (610)	25' (7.6m)	25' (7.6m)	25' (7.6m)	20' 9" (6.3m)	17' 7" (5.4m)	17' 7" (5.4m)
26" (660)	26' (7.9m)	26' (7.9m)	26' (7.9m)	21' 5" (6.5m)	18' 2" (5.5m)	18' 2" (5.5m)
28" (711)	27' (8.2m)	27' (8.2m)	27' (8.2m)	22' 1" (6.9m)	18' 9" (5.7m)	18' 9" (5.7m)
30" (762)	27' (8.2m)	27' (8.2m)	27' (8.2m)	22' 8" (7.1m)	19' 4" (5.9m)	19' 4" (5.9m)
32" (813)	28' 6" (8.7m)	28' 6" (8.7m)	28' 6" (8.7m)	23' 4" (7.3m)	19' 11" (6.0m)	19' 11" (6.1m)
34" (864)	29' (8.8m)	29' (8.8m)	29' (8.8m)	24' (7.3m)	20' 6" (6.2m)	20' 6" (6.2m)
36" (914)	30' (9.1m)	30' (9.1m)	30' (9.1m)	24' 7" (7.5m)	21' (6.4m)	21' (6.4m)
38" (965)	30' 6" (9.3m)	30' 6" (9.3m)	30' 6" (9.3m)	24' 7" (7.5m)	N/A	21' (6.4m)
40" (1016)	31' (9.4m)	31' (9.4m)	31' (9.4m)	24' 7" (7.5m)	N/A	21' (6.4m)
42" (1067)	32' (9.8m)	32' (9.8m)	32' (9.8m)	24' 7" (7.5m)	N/A	21' (6.4m)
44" (1118)	32' 6" (9.9m)	32' 6" (9.9m)	32' 6" (9.9m)	24' 7" (7.5m)	N/A	21' (6.4m)
46" (1168)	33' 6" (10.2m)	33' 6" (10.2m)	33' 6" (10.2m)	24' 7" (7.5m)	N/A	21' (6.4m)
48" (1219)	34' 6" (10.5m)	34' 6" (10.5m)	34' 6" (10.5m)	24' 7" (7.5m)	N/A	21' (6.4m)

GUIDES - VERTICAL	Max. Vertical Spacing-VERTICAL/INSIDE					
	Below Roofline					
(See Components section for guide selection)						
PRODUCT	PSW	PIC	1G	2G	3G	4G
All Dia. Full Angle Ring (FAR)	25' (7.6m)	25' (7.6m)	21' (6.4m)	19' (5.8m)	18' (5.5m)	18' (5.5m)

*Per ICBO-ES Report ER5301/ICC-ESESR-2627, spacing is reduced to 13' for 3G/4G.

WEIGHT/LIFT INFORMATION

The average weight of the chimney, per foot of length, can be calculated using the following formula:

$$\text{Weight (lbs. per lineal foot)} = (\text{Pipe Dia. in inches}) \times \text{"Weight Factor"}$$

Weight Factor:

PSW	= 0.40	2G	= 1.05
PIC	= 0.80	3G	= 1.45
1G	= 0.95	4G	= 1.45

Example: 8" 1G Weight calculated: 8 x 0.95 = 7.6 lbs. per lineal foot.

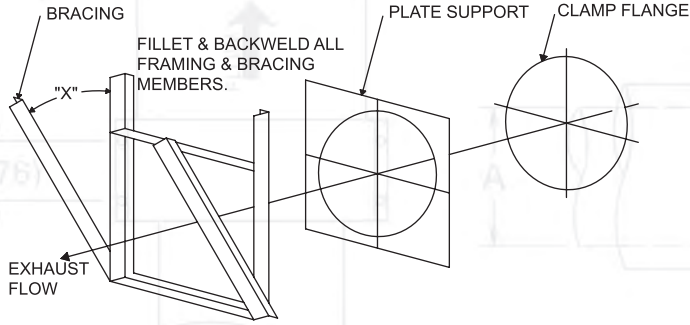
STACK LIFT CHART

This chart indicates the maximum height that can be suspended from overhead.

	PSW	PIC	1G	2G	3G	4G
PIPE DIA.	Height	Height	Height	Height	Height	Height
6" (152)	220' (67.1m)	110' (33.5m)	90' (27.4m)	80' (24.4m)	60' (18.3m)	60' (18.3m)
8" (203)	190' (57.9m)	90' (27.4m)	80' (24.4m)	70' (21.3m)	50' (15.2m)	50' (15.2m)
10" (254)	170' (51.8m)	80' (24.4m)	70' (21.3m)	60' (18.3m)	40' (12.2m)	40' (12.2m)
12" (305)	150' (45.7m)	80' (24.4m)	70' (21.3m)	60' (18.3m)	40' (12.2m)	40' (12.2m)
14" (356)	140' (42.7m)	70' (21.3m)	60' (18.3m)	50' (15.2m)	40' (12.2m)	40' (12.2m)
16" (406)	130' (39.6m)	70' (21.3m)	60' (18.3m)	50' (15.2m)	40' (12.2m)	40' (12.2m)
18" (457)	120' (36.6m)	60' (18.3m)	50' (15.2m)	50' (15.2m)	40' (12.2m)	40' (12.2m)
20" (508)	110' (33.5m)	60' (18.3m)	50' (15.2m)	40' (12.2m)	30' (9.1m)	30' (9.1m)
22" (559)	110' (33.5m)	50' (15.2m)	40' (12.2m)	40' (12.2m)	30' (9.1m)	30' (9.1m)
24" (610)	100' (30.5m)	50' (15.2m)	40' (12.2m)	40' (12.2m)	30' (9.1m)	30' (9.1m)
26" (660)	90' (27.4m)	50' (15.2m)	40' (12.2m)	40' (12.2m)	30' (9.1m)	30' (9.1m)
28" (711)	90' (27.4m)	40' (12.2m)	40' (12.2m)	30' (9.1m)	20' (6.1m)	20' (6.1m)
30" (762)	80' (24.4m)	40' (12.2m)	40' (12.2m)	30' (9.1m)	20' (6.1m)	20' (6.1m)
32" (813)	80' (24.4m)	40' (12.2m)	30' (9.1m)	30' (9.1m)	20' (6.1m)	20' (6.1m)
34" (864)	70' (21.3m)	40' (12.2m)	30' (9.1m)	20' (6.1m)	20' (6.1m)	20' (6.1m)
36" (914)	70' (21.3m)	30' (9.1m)	30' (9.1m)	20' (6.1m)	15' (4.6m)	15' (4.6m)
38" (965)	60' (18.3m)	30' (9.1m)	20' (6.1m)	20' (6.1m)	N/A	15' (4.6m)
40" (1016)	60' (18.3m)	30' (9.1m)	20' (6.1m)	20' (6.1m)	N/A	15' (4.6m)
42" (1067)	60' (18.3m)	30' (9.1m)	20' (6.1m)	20' (6.1m)	N/A	15' (4.6m)
44" (1118)	60' (18.3m)	30' (9.1m)	20' (6.1m)	20' (6.1m)	N/A	15' (4.6m)
46" (1168)	50' (15.2m)	20' (6.1m)	20' (6.1m)	20' (6.1m)	N/A	10' (3.0m)
48" (1219)	50' (15.2m)	20' (6.1m)	20' (6.1m)	20' (6.1m)	N/A	10' (3.0m)

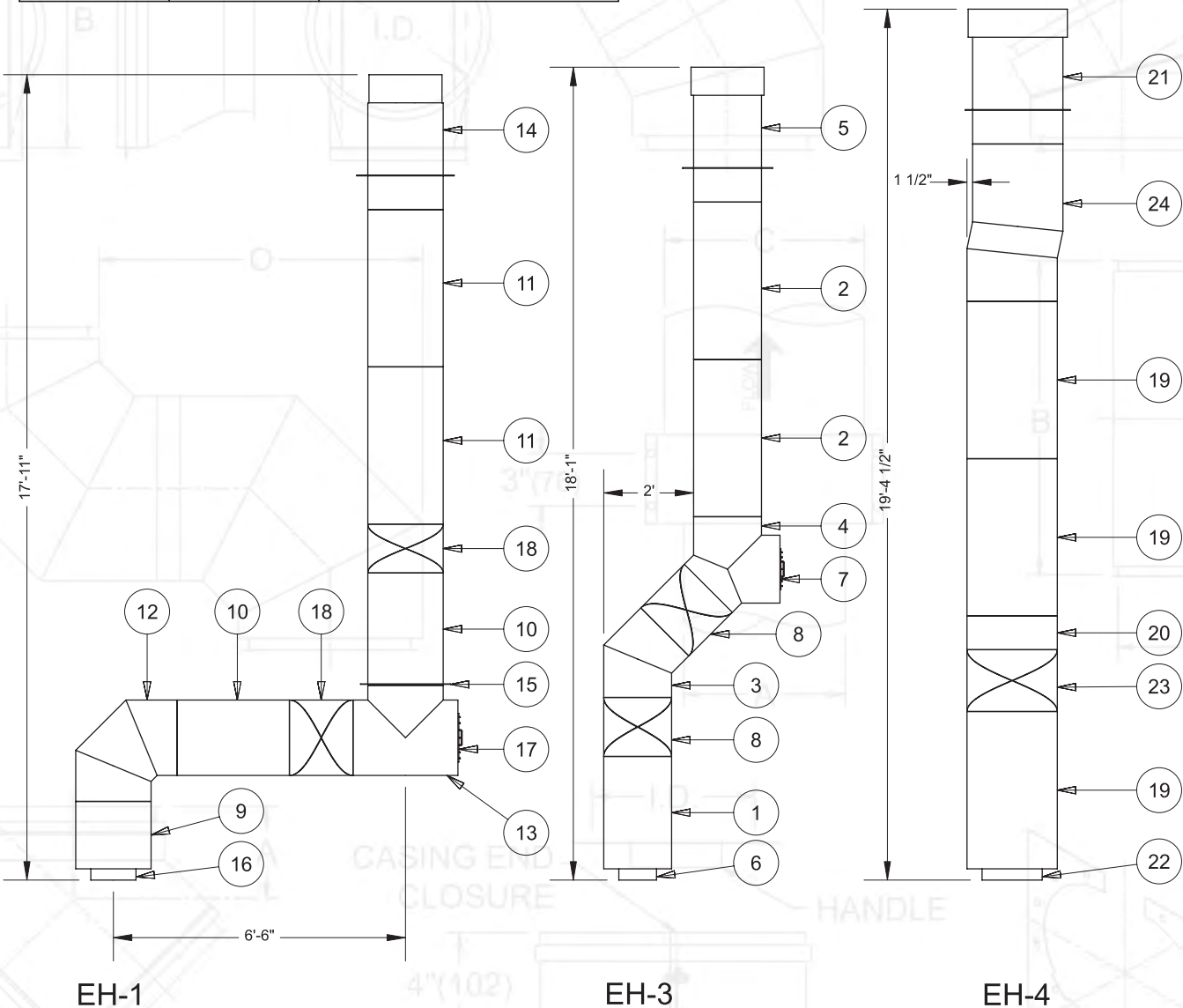
METAL-FAB GENERATED CAD

SUGGESTED BRACING FOR PLATE SUPPORT BY OTHERS.

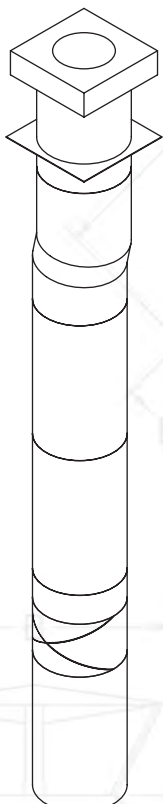
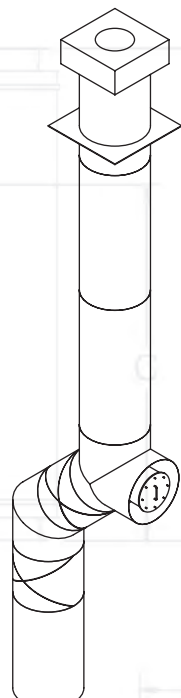
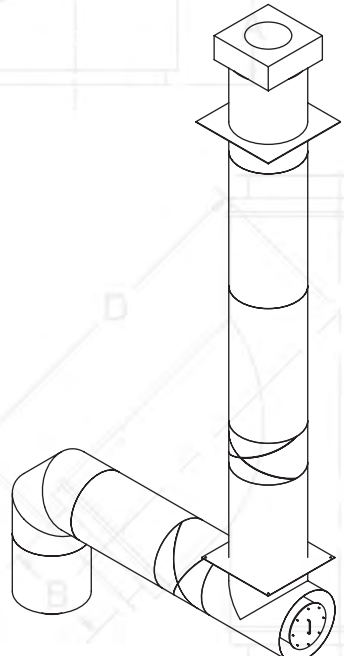


"X" IS A MIN. OF 30 DEG. WHEN BRACING IS USED. A WELDED FRAME MUST BE ADEQUATELY ATTACHED TO STRUCTURAL MEMBER FOR FRAMEWORK RIGIDITY, IF BRACING ISN'T USED.

DIAMETER OF PIPE	PIC PS PLATE THICKNESS	BRACING FOR PIC PLATE SUPPORT HEIGHT OF STACK.	
		50'	100'
6" - 20"	3/16"	1 1/4" X 1 1/4" X 1/8"	2" X 2" X 1/4"
22" - 36"	1/4"	2" X 2" X 1/8"	3" X 3" X 1/4"
38" - 48"	1/4"	3" CHANNEL (3" X 1 1/2" X 1/4")	
DIAMETER OF PIPE	PIC PS PLATE THICKNESS	FRAMEWORK FOR PIC PLATE SUPPORT HEIGHT OF STACK.	
		50'	100'
6" - 20"	3/16"	1 3/4" X 1 3/4" X 1/8"	3" X 2" X 3/16"
22" - 36"	1/4"	2" X 2" X 1/4"	4" X 3" X 1/4"
38" - 48"	1/4"	3" CHANNEL (3" X 1 1/2" X 1/4")	



INCLUDES BILL OF MATERIALS & ISOMETRIC ILLUSTRATIONS



Parts List				
ITEM #	QTY	PART NUMBER	CTO	DESCRIPTION
1	1	10PIC30-4	4A3	PIPE LENGTH
2	2	10PIC42-4	4A3	PIPE LENGTH
3	1	10PIC45L-4	4A3	45 DEG ELBOW
4	1	10PIC90Y-4	4A3	90 DEG WYE
5	1	10PICFCT195	4A3	FAN CURB TERMINATION
6	1	10PICRHCK-4	4A3	ROUND HOOD COLLAR KIT
7	1	10PICTAP-4	4A3	TOOLESS ACCESS PANEL
8	2	10PICVL-4	4A3	VARIABLE LENGTH
9	1	12PIC18-4	4A3	PIPE LENGTH
10	2	12PIC30-4	4A3	PIPE LENGTH
11	2	12PIC42-4	4A3	PIPE LENGTH
12	1	12PIC90L-4	4A3	90 DEG ELBOW
13	1	12PIC90MT-4	4A3	90 DEG MANIFOLD TEE
14	1	12PICFCT195	4A3	FAN CURB TERMINATION
15	1	12PICPS-4	4A3	PLATE SUPPORT
16	1	12PICRHCK-4	4A3	ROUND HOOD COLLAR KIT
17	1	12PICTAP-4	4A3	TOOLESS ACCESS PANEL
18	2	12PICVL-4	4A3	VARIABLE LENGTH
19	3	16PIC42-4	4A3	PIPE LENGTH
20	1	16PIC9-4	4A3	PIPE LENGTH
21	1	16PICFCT265	4A3	FAN CURB TERMINATION
22	1	16PICRHCK-4	4A3	ROUND HOOD COLLAR KIT
23	1	16PICVL-4	4A3	VARIABLE LENGTH
24	1	16PICVOK-4	4A3	VARIABLE OFFSET KIT
	7	P080	4A3	GREASE DUCT SEALANT

NOTES:

1. MATERIALS: (CTO: 4A3) 304 S.S INNER/ ALUMINIZED OUTER/ 3" INSULATION.
2. ALL ADDITIONAL SUPPORTS BY OTHERS.

BASED ON INFORMATION PROVIDED, METAL-FAB INC. HAS CREATED THIS DRAWING FOR YOUR REVIEW.

THIS DRAWING IS PROVIDED FOR YOUR CONVENIENCE. METAL-FAB INC. ASSUMES NO LIABILITY FOR ACCURACY WITHOUT YOUR APPROVAL.

YOUR REVIEW AND APPROVAL ASSURES THAT THE INFORMATION PROVIDED IS CORRECT AND THAT ALL MATERIAL DETAILED ON THE BILL-OF-MATERIALS REPRESENT ALL COMPONENTS REQUIRED TO COMPLETE THE INSTALLATION.

APPROVED:

SPECIFYING ENGINEER _____

INSTALLING CONTRACTOR _____

METAL-FAB INC. REP. _____

DATE _____

THE SUBMITTAL DRAWING HAS BEEN PREPARED AT THE REQUEST OF A METAL-FAB REPRESENTATIVE, IT IS THE RESPONSIBILITY OF THE SPECIFYING ENGINEER OR END USER TO ASSURE COMPLIANCE WITH LOCAL CODES.

JOB: GREASE DUCT			
DATE: 11/2/2017	SHEET SIZE: B	DRAWN BY: JONH	DRAWING NUMBER: S842C4N52
REVISION:		METAL-FAB INC.	
SHEET:			

COMPONENTS

Components are identified by Part number and CTO (Configured To Order) code. The part number identifies the flue diameter and the component. EXAMPLE: 24PIC30L = 24" diameter-30 degree elbow. The CTO code indicates materials and insulation thickness. EXAMPLE: 4A2 = 304 Stainless Steel Flue, Aluminized Steel Casing, and 2 inches of ceramic insulation. See the table below for CTO options.

CTO CODES		
First Position	Second Position	Third Position
(Flue Material)	(Casing Material)	(Insulation)
3 = 430 Stainless Steel*	A = Aluminized Steel	0 = 1" Airspace
4 = 304 Stainless Steel	3 = 430 Stainless Steel	1 = 1" Ceramic
6 = 316 Stainless Steel	4 = 304 Stainless Steel	2 = 2" Ceramic
	6 = 316 Stainless Steel	3 = 3" Ceramic
		4 = 4" Ceramic

*Available with Aluminized or 430 Stainless Steel casing only.

PIPE LENGTHS

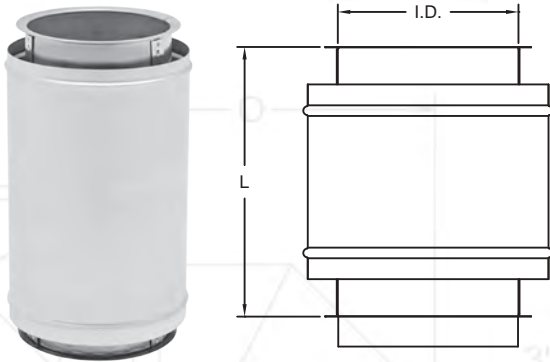
- 9" (229)
- 18" (457)
- 30" (762)
- 42" (1067)

Flow Resistance $K = .4 \left(\frac{L}{I.D.} \right)$ for 6" - 16" diameters

Flow Resistance $K = .3 \left(\frac{L}{I.D.} \right)$ for 18" - 48" diameters

L = pipe length (feet)

I.D. = pipe diameter (inches)



NOTE: Custom lengths available, please contact factory.

PIPE I.D.	PIPE O.D.				
	PSW	PIC / 1G	2G	3G	4G
6" (152)	8" (203)	10" (254)	12" (305)	14" (356)	16" (406)
8" (203)	10" (254)	12" (305)	14" (356)	16" (406)	18" (457)
10" (254)	12" (305)	14" (356)	16" (406)	18" (457)	20" (508)
12" (305)	14" (356)	16" (406)	18" (457)	20" (508)	22" (559)
14" (356)	16" (406)	18" (457)	20" (508)	22" (559)	24" (610)
16" (406)	18" (457)	20" (508)	22" (559)	24" (610)	26" (660)
18" (457)	20" (508)	22" (559)	24" (610)	26" (660)	28" (711)
20" (508)	22" (559)	24" (610)	26" (660)	28" (711)	30" (762)
22" (559)	24" (610)	26" (660)	28" (711)	30" (762)	32" (813)
24" (610)	26" (660)	28" (711)	30" (762)	32" (813)	34" (864)
26" (660)	28" (711)	30" (762)	32" (813)	34" (864)	36" (914)
28" (711)	30" (762)	32" (813)	34" (864)	36" (914)	38" (965)
30" (762)	32" (813)	34" (864)	36" (914)	38" (965)	40" (1016)
32" (813)	34" (864)	36" (914)	38" (965)	40" (1016)	42" (1067)
34" (864)	36" (914)	38" (965)	40" (1016)	42" (1067)	44" (1118)
36" (914)	38" (965)	40" (1016)	42" (1067)	N/A	46" (1168)
38" (965)	40" (1016)	42" (1067)	N/A	N/A	48" (1219)
40" (1016)	42" (1067)	44" (1118)	N/A	N/A	50" (1270)
42" (1067)	44" (1118)	46" (1168)	N/A	N/A	52" (1321)
44" (1118)	46" (1168)	48" (1219)	N/A	N/A	54" (1372)
46" (1168)	48" (1219)	50" (1270)	N/A	N/A	56" (1422)
48" (1219)	50" (1270)	52" (1321)	N/A	N/A	

ADJUSTABLE LENGTH EXPANSION JOINT (AL)

Flow Resistance $K = .4 \left(\frac{L}{I.D.} \right)$

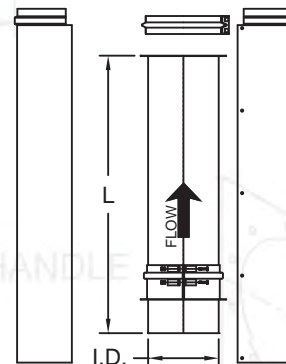
L = pipe length (feet)

Field adjusted to fill gaps between standard length components and compensates for thermal expansion or contraction between two fixed points.

INSTALLED LENGTH

Minimum: 5.5"

Maximum: 22"



COMPONENTS

VARIABLE LENGTH (VL)

Flow Resistance $K = .4(\frac{L}{I.D.})$

L = pipe length (feet)

I.D. = flue diameter (inches)

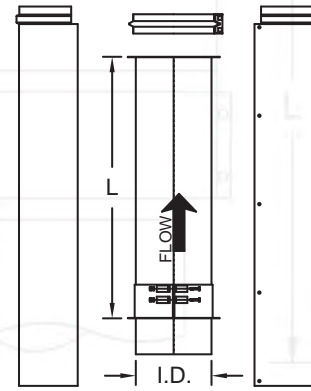
Fills gaps between standard length components.

INSTALLED LENGTH

Minimum: 4"

Maximum: 26"

NOTE: Does not allow for thermal expansion



TAPERED INCREASER (TI)

6" - 36" Diameters

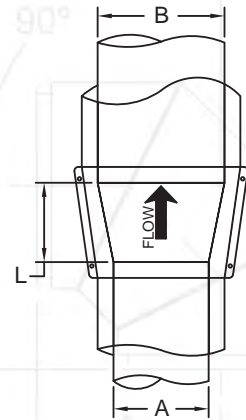
Flow Resistance $K = .51 \frac{[1 - (\frac{A}{B})^2]^2}{(\frac{A}{B})^4}$

Tapered increasers are preferred over step increasers when space permits. Refer to the table below to determine component length. One-step equals 2" increase in flue diameter.

Step	1	2	3	4	5	6
"L" Length	5" (127)	10" (254)	15" (381)	20" (508)	25" (635)	30" (762)

NOTES:

1. When ordering specify both diameters with small diameter first (ie. 18PICTI22 for 18" to 22").
2. Please contact factory for larger diameters.



ECCENTRIC TAPERED INCREASER (ETI)

6" - 36" Diameters

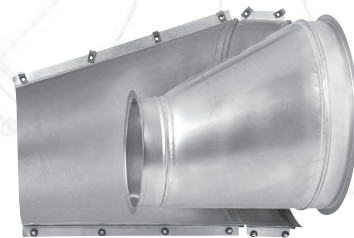
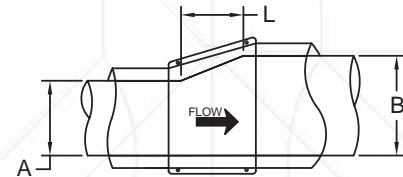
Flow Resistance $K = .51 \frac{[1 - (\frac{A}{B})^2]^2}{(\frac{A}{B})^4}$

Tapered increasers are preferred over step increasers when space permits. Refer to the table below to determine component length. One-step equals 2" increase in flue diameter.

Step	1	2	3	4	5	6
"L" Length	10" (254)	10" (254)	15" (381)	20" (508)	25" (635)	30" (762)

NOTES:

1. When ordering specify both diameters with small diameter first (ie. 18PICETI22 for 18" to 22").
2. Please contact factory for larger diameters.



COMPONENTS

15° ELBOW (15L)

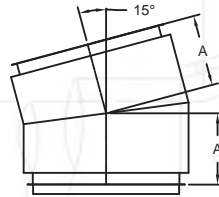
Flow Resistance K = 0.06

Offset Distance:

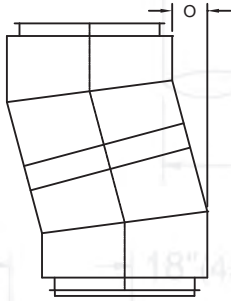
$$O = 2 \times "A" \times 0.259$$

Offset distance with pipe length between elbows:

$$O = (2 \times "A" + \text{pipe length}) \times 0.259$$



PIPE I.D.	A			
	PSW / PIC / 1G	2G	3G	4G
18" (457)	7.75" (197)	7.75" (197)	7.75" (197)	7.75" (197)
20" (508)	7.75" (197)	7.75" (197)	7.75" (197)	8.50" (216)
22" (559)	7.75" (197)	7.75" (197)	8.50" (216)	8.50" (216)
24" (610)	7.75" (197)	8.50" (216)	8.50" (216)	8.50" (216)
26" (660)	8.50" (216)	8.50" (216)	8.50" (216)	8.50" (216)
28" (711)	8.50" (216)	8.50" (216)	8.50" (216)	8.50" (216)
30" (762)	8.50" (216)	8.50" (216)	8.50" (216)	8.50" (216)
32" (813)	8.50" (216)	8.50" (216)	8.50" (216)	11.00" (279)
34" (864)	8.50" (216)	8.50" (216)	8.50" (216)	11.00" (279)
36" (914)	8.50" (216)	11.00" (279)	11.00" (279)	11.00" (279)
38" (965)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
40" (1016)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
42" (1067)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
44" (1118)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
46" (1168)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
48" (1219)	11.00" (279)	11.00" (279)	N/A	11.00" (279)



PIPE I.D.	A			
	PSW / PIC / 1G	2G	3G	4G
6" (152)	6.00" (152)	6.00" (152)	6.00" (152)	6.00" (152)
8" (203)	6.00" (152)	6.00" (152)	6.00" (152)	7.75" (197)
10" (254)	6.00" (152)	6.00" (152)	7.75" (197)	7.75" (197)
12" (305)	6.00" (152)	7.75" (197)	7.75" (197)	7.75" (197)
14" (356)	7.75" (197)	7.75" (197)	7.75" (197)	7.75" (197)
16" (406)	7.75" (197)	7.75" (197)	7.75" (197)	7.75" (197)

30° ELBOW (30L)

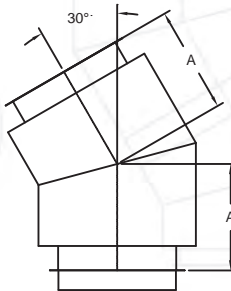
Flow Resistance K = 0.12

Offset Distance:

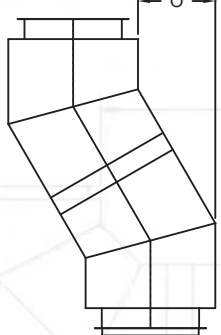
$$O = 2 \times "A" \times 0.5$$

Offset distance with pipe length between elbows:

$$O = (2 \times "A" + \text{pipe length}) \times 0.5$$



PIPE I.D.	A			
	PSW / PIC / 1G	2G	3G	4G
18" (457)	7.75" (197)	7.75" (197)	7.75" (197)	7.75" (197)
20" (508)	7.75" (197)	7.75" (197)	7.75" (197)	8.50" (216)
22" (559)	7.75" (197)	7.75" (197)	8.50" (216)	8.50" (216)
24" (610)	7.75" (197)	8.50" (216)	8.50" (216)	8.50" (216)
26" (660)	8.50" (216)	8.50" (216)	8.50" (216)	8.50" (216)
28" (711)	8.50" (216)	8.50" (216)	8.50" (216)	8.50" (216)
30" (762)	8.50" (216)	8.50" (216)	8.50" (216)	8.50" (216)
32" (813)	8.50" (216)	8.50" (216)	8.50" (216)	11.00" (279)
34" (864)	8.50" (216)	8.50" (216)	11.00" (279)	11.00" (279)
36" (914)	8.50" (216)	11.00" (279)	11.00" (279)	11.00" (279)
38" (965)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
40" (1016)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
42" (1067)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
44" (1118)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
46" (1168)	11.00" (279)	11.00" (279)	N/A	11.00" (279)
48" (1219)	11.00" (279)	11.00" (279)	N/A	11.00" (279)



PIPE I.D.	A			
	PSW / PIC / 1G	2G	3G	4G
6" (152)	6.00" (152)	6.00" (152)	6.00" (152)	6.00" (152)
8" (203)	6.00" (152)	6.00" (152)	6.00" (152)	7.75" (197)
10" (254)	6.00" (152)	6.00" (152)	7.75" (197)	7.75" (197)
12" (305)	6.00" (152)	7.75" (197)	7.75" (197)	7.75" (197)
14" (356)	7.75" (197)	7.75" (197)	7.75" (197)	7.75" (197)
16" (406)	7.75" (197)	7.75" (197)	7.75" (197)	7.75" (197)

45° ELBOW (45L)

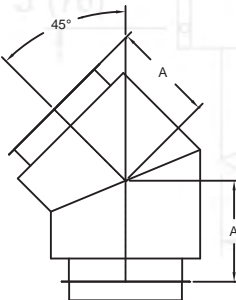
Flow Resistance K = 0.15

Offset Distance:

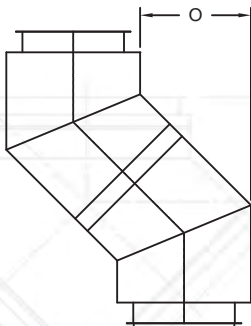
$$O = 2 \times "A" \times 0.707$$

Offset distance with pipe length between elbows:

$$O = (2 \times "A" + \text{pipe length}) \times 0.707$$



PIPE I.D.	A			
	PSW / PIC / 1G	2G	3G	4G
18" (457)	10.25" (260)	10.25" (260)	10.25" (260)	10.25" (260)
20" (508)	10.25" (260)	10.25" (260)	10.25" (260)	11.75" (298)
22" (559)	10.25" (260)	10.25" (260)	11.75" (298)	11.75" (298)
24" (610)	10.25" (260)	11.75" (298)	11.75" (298)	11.75" (298)
26" (660)	11.75" (298)	11.75" (298)	11.75" (298)	11.75" (298)
28" (711)	11.75" (298)	11.75" (298)	11.75" (298)	11.75" (298)
30" (762)	11.75" (298)	11.75" (298)	11.75" (298)	11.75" (298)
32" (813)	11.75" (298)	11.75" (298)	11.75" (298)	14.00" (356)
34" (864)	11.75" (298)	11.75" (298)	14.00" (356)	14.00" (356)
36" (914)	11.75" (298)	14.00" (356)	14.00" (356)	14.00" (356)
38" (965)	14.00" (356)	14.00" (356)	N/A	14.00" (356)
40" (1016)	14.00" (356)	14.00" (356)	N/A	14.00" (356)
42" (1067)	14.00" (356)	14.00" (356)	N/A	14.00" (356)
44" (1118)	14.00" (356)	14.00" (356)	N/A	15.25" (387)
46" (1168)	14.00" (356)	14.00" (356)	N/A	15.25" (387)
48" (1219)	14.00" (356)	15.25" (387)	N/A	15.25" (387)



PIPE I.D.	A			
	PSW / PIC / 1G	2G	3G	4G
6" (152)	7.00" (178)	7.00" (178)	7.00" (178)	7.00" (178)
8" (203)	7.00" (178)	7.00" (178)	7.00" (178)	10.00" (254)
10" (254)	7.00" (178)	7.00" (178)	10.00" (254)	10.25" (260)
12" (305)	7.00" (178)	10.00" (254)	10.25" (260)	10.25" (260)
14" (356)	10.00" (254)	10.25" (260)	10.25" (260)	10.25" (260)
16" (406)	10.25" (260)	10.25" (260)	10.25" (260)	10.25" (260)

COMPONENTS

90° ELBOW (90L)

Flow Resistance K:

6" - 8" = 0.38

10" - 18" = 0.42

20" - 26" = 0.54

28" - 36" = 0.66

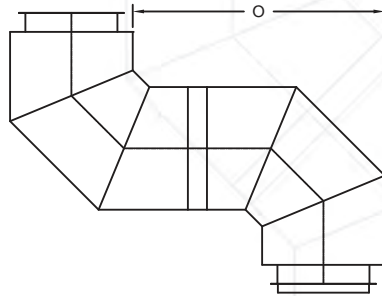
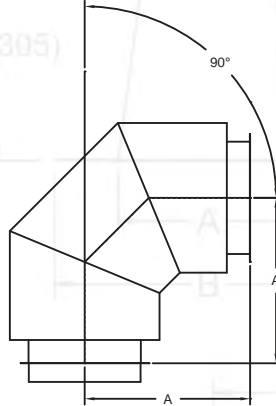
38" - 48" = 0.72

Offset Distance:

O = 2 x "A"

Offset Distance with pipe length between elbows:

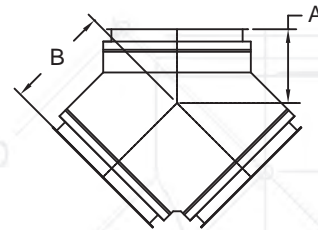
O = 2 x "A" + pipe length



PIPE I.D.	A			
	PSW / PIC / 1G	2G	3G	4G
6" (152)	11" (279)	12" (305)	13" (330)	14" (356)
8" (203)	12" (305)	13" (330)	14" (356)	15" (381)
10" (254)	13" (330)	14" (356)	15" (381)	16" (406)
12" (305)	14" (356)	15" (381)	16" (406)	17" (432)
14" (356)	15" (381)	16" (406)	17" (432)	18" (457)
16" (406)	16" (406)	17" (432)	18" (457)	19" (483)
18" (457)	17" (432)	18" (457)	19" (483)	20" (508)
20" (508)	18" (457)	19" (483)	20" (508)	21" (533)
22" (559)	19" (483)	20" (508)	21" (533)	22" (559)
24" (610)	20" (508)	21" (533)	22" (559)	23" (584)
26" (660)	21" (533)	22" (559)	23" (584)	24" (610)
28" (711)	22" (559)	23" (584)	24" (610)	25" (635)
30" (762)	23" (584)	24" (610)	25" (635)	26" (660)
32" (813)	24" (610)	25" (635)	26" (660)	27" (686)
34" (864)	25" (635)	26" (660)	27" (686)	28" (711)
36" (914)	26" (660)	27" (686)	28" (711)	29" (737)
38" (965)	27" (686)	28" (711)	N/A	30" (762)
40" (1016)	28" (711)	29" (737)	N/A	31" (787)
42" (1067)	29" (737)	30" (762)	N/A	32" (813)
44" (1118)	30" (762)	31" (787)	N/A	33" (838)
46" (1168)	31" (787)	32" (813)	N/A	34" (864)
48" (1219)	32" (813)	33" (838)	N/A	35" (889)

90° WYE (90Y)

Flow Resistance K = 0.6



PIPE I.D.	PSW / PIC / 1G		2G		3G		4G	
	A	B	A	B	A	B	A	B
6" (152)	5.12" (130)	9" (229)	5.62" (143)	10" (254)	6.00" (152)	11" (279)	6.50" (165)	12" (305)
8" (203)	5.62" (143)	10" (254)	6.00" (152)	11" (279)	6.50" (165)	12" (305)	7.00" (178)	13" (330)
10" (254)	6.00" (152)	11" (279)	6.50" (165)	12" (305)	7.00" (178)	13" (330)	7.25" (184)	14" (356)
12" (305)	6.50" (165)	12" (305)	7.00" (178)	13" (330)	7.25" (184)	14" (356)	7.75" (197)	15" (381)
14" (356)	7.00" (178)	13" (330)	7.25" (184)	14" (356)	7.75" (197)	15" (381)	8.12" (206)	16" (406)
16" (406)	7.25" (184)	14" (356)	7.75" (197)	15" (381)	8.12" (206)	16" (406)	8.50" (216)	17" (432)
18" (457)	7.75" (197)	15" (381)	8.12" (206)	16" (406)	8.50" (216)	17" (432)	9.00" (229)	18" (457)
20" (508)	8.12" (206)	16" (406)	8.50" (216)	17" (432)	9.00" (229)	18" (457)	9.37" (238)	19" (483)
22" (559)	8.50" (216)	17" (432)	9.00" (229)	18" (457)	9.37" (238)	19" (483)	9.75" (248)	20" (508)
24" (610)	9.00" (229)	18" (457)	9.37" (238)	19" (483)	9.75" (248)	20" (508)	10.25" (260)	21" (533)
26" (660)	9.37" (238)	19" (483)	9.75" (248)	20" (508)	10.25" (260)	21" (533)	10.62" (270)	22" (559)
28" (711)	9.75" (248)	20" (508)	10.25" (260)	21" (533)	10.62" (270)	22" (559)	11.12" (282)	23" (584)
30" (762)	10.25" (260)	21" (533)	10.62" (270)	22" (559)	11.12" (282)	23" (584)	11.50" (292)	24" (610)
32" (813)	10.62" (270)	22" (559)	11.12" (282)	23" (584)	11.50" (292)	24" (610)	11.87" (302)	25" (635)
34" (864)	11.12" (282)	23" (584)	11.50" (292)	24" (610)	11.87" (302)	25" (635)	12.25" (311)	26" (660)
36" (914)	11.50" (292)	24" (610)	11.87" (302)	25" (635)	12.25" (311)	26" (660)	12.62" (321)	27" (686)

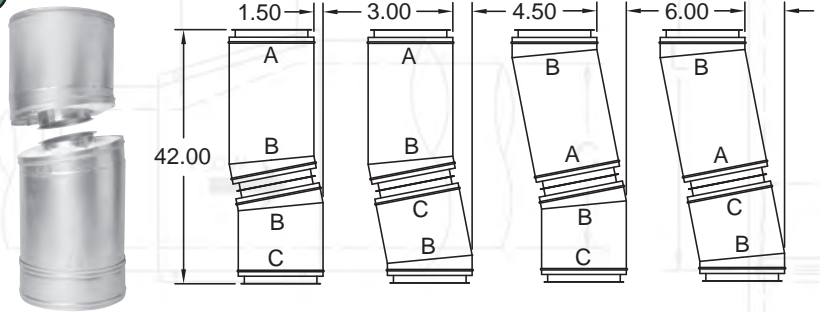
COMPONENTS

VARIABLE OFFSET KIT (VOK)

Flow Resistance $K = 0.09$
Assembled Length = 42"

ENDS JOINED	OFFSET
B-B	1.50"
B-C	3.00"
A-B	4.50"
A-C	6.00"

Provides offsets of 1.5", 3.0", 4.5", & 6" by rotating components.



90° MANIFOLD TEE (90MT)

Flow Resistance $K = 1.25$

A = Pipe I.D.

B = "C" + (2 x "D")

C = Tap I.D.

D = PSW/PIC/IPIC-1 = 5"

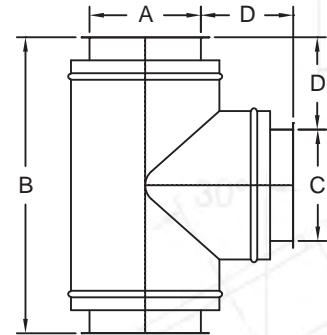
IPIC-2 = 6"

IPIC-3 = 7"

IPIC-4 = 8"

NOTES:

- Specify tap diameter (C) at time of order
- Tap diameter can be reduced by 1-4 steps as standard.



BOOT TEE (BT)

6" - 30" Diameters

Flow Resistance $K = 0.65$

A = Pipe I.D.

B = "C" + "E" + "F"

C = Tap I.D.

D, E, F =

PSW/PIC/IPIC-1 = 6", 5" & 7"

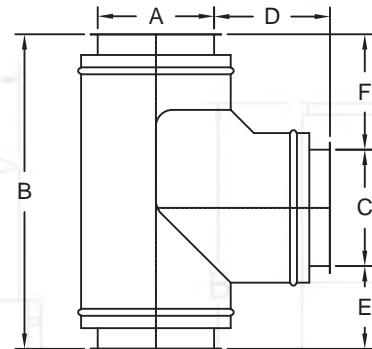
IPIC-2 = 7", 6" & 8"

IPIC-3 = 8", 7" & 9"

IPIC-4 = 9", 8" & 10"

NOTES:

- Specify tap diameter (C) at time of order
- Tap diameter can be reduced by 1-4 steps as standard.



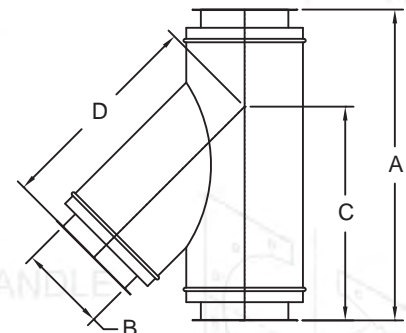
45° MANIFOLD TEE (45MT)

Flow Resistance $K = 0.4$

For low resistance flow into a vertical or horizontal run.

NOTES:

- Specify tap diameter (B) when ordering.
- Tap diameter can be reduced by 1-4 steps as standard.
- For dimensional information see tables on pages 28-35.



COMPONENTS

DOUBLE LATERAL (DL)

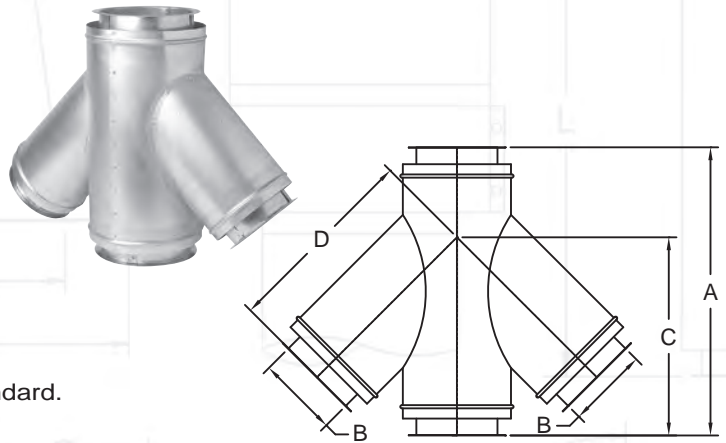
8" - 48" Diameters

Flow Resistance K = 0.4

For use when centrally connecting two appliances being manifolded into a common chimney.

NOTES:

1. Specify tap diameter (B) when ordering; tap diameter must be less than body diameter.
2. For dimensional information see tables on pages 28-35.
3. Tap diameter can be reduced by 1-4 steps as standard.

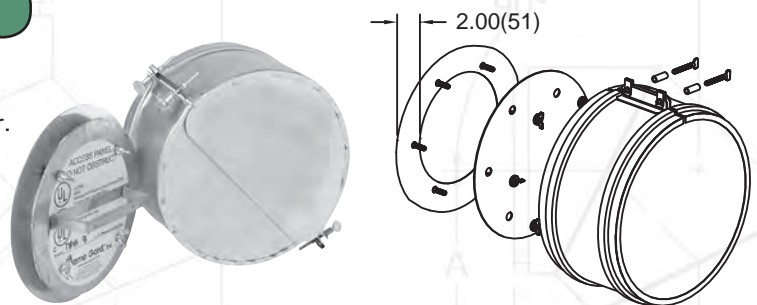


TOOLESS ACCESS PANEL (TAP)

6" - 36" Diameters

Provides toolless access for inspection and cleaning. Opening is 3" less than flue diameter.

NOTE: Custom lengths available; please contact factory.



SIDEWALL TOOLES ACCESS PANEL (STAP)

10" - 36" Diameters

Facilitates inspections and cleaning. Can be installed in horizontal/vertical runs.

NOTE: Horizontal run opening must be above the centerline of the duct.

Duct Diameters	Opening Dimension	Pipe Length
10" - 14"	8" X 4"	18"
16" - 20"	12" X 8"	22"
22" - 36"	16" X 12"	26"



DRAIN TEE CAP W/ CASING END CLOSURE (TC)

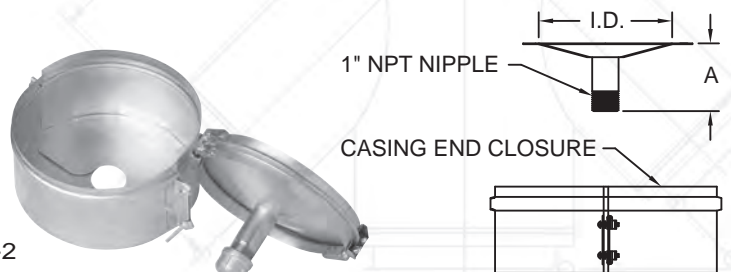
Provides drain port for rain or condensation.

NOTE: To compute length:

$$A = \frac{(I.D. - 1.343)}{2} \times .268 + \text{Nipple Length}$$

Add 3" for Nipple on PSW/PIC/IPIC-1/IPIC-2

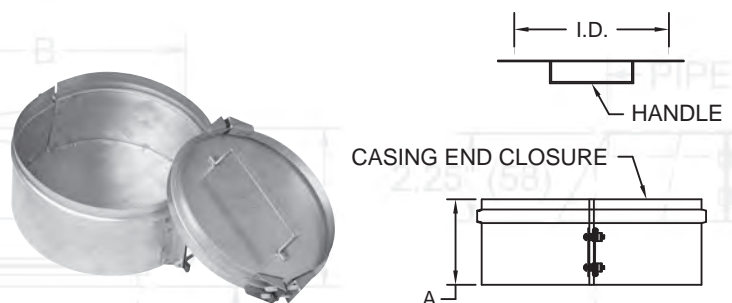
Add 5" for Nipple on IPIC-3 & IPIC-4



TEE CAP LESS DRAIN W/ CASING END CLOSURE (TCN)

Closes and seals unused port of Tees, Wyes, and Laterals.

NOTE: A = 5.375" PIC/IPIC-1
6.375" IPIC-2
7.375" IPIC-3
8.375" IPIC-4



COMPONENTS

STACK CAP (C/CB)

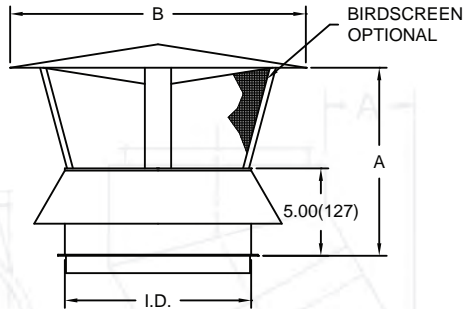
6" - 36" Diameters

Flow resistance $K = 0.5$

Provides partial rain protection.
Use of Tee Cap or Drain Section is recommended.

NOTE: Also available with bird screen; order as (CB).

PIPE I.D.	A	B	PIPE I.D.	A	B
6" (152)	8.00" (203)	11.00" (279)	22" (559)	20.00" (508)	38.00" (965)
8" (203)	10.00" (254)	14.00" (356)	24" (610)	22.00" (559)	41.00" (1041)
10" (254)	12.00" (305)	17.00" (432)	26" (660)	23.00" (584)	44.00" (1118)
12" (305)	13.00" (330)	21.00" (533)	28" (711)	25.00" (635)	48.00" (1219)
14" (356)	14.00" (356)	24.00" (610)	30" (762)	27.00" (686)	52.00" (1321)
16" (406)	16.00" (406)	28.00" (711)	32" (813)	28.00" (711)	56.00" (1422)
18" (457)	17.00" (432)	31.00" (787)	34" (864)	30.00" (762)	60.00" (1524)
20" (508)	19.00" (483)	34.00" (864)	36" (914)	31.00" (787)	64.00" (1626)



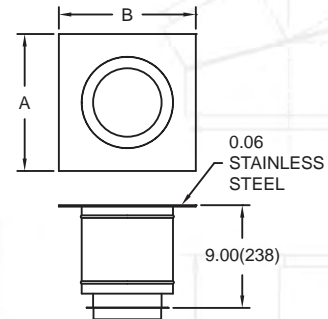
FAN ADAPTER PLATE (FAP)

6" - 36" Diameters

Connects to the inlet of an upblast fan.

Plate dimensions (A by B) = outside dimensions of curb less .25".

NOTE: Provide dimensions at order entry.
Specify O.D. of curb or plate.

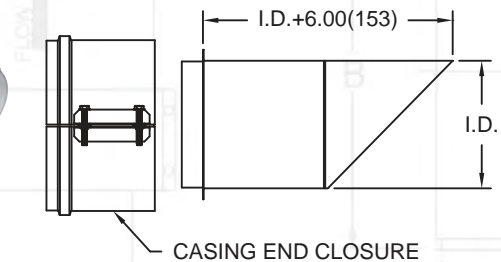
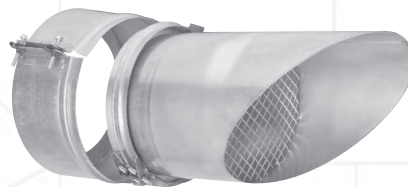


MITER CUT (MC)

6" - 36" Diameters

Horizontal termination;
standard with bird screen.

NOTE: Please contact factory
for larger diameters.



COMPONENTS

VENTILATED THIMBLE ASSEMBLIES (VTA-FPVTA) ROOF SUPPORT ASSEMBLIES (RSA-FPRSA)

STORM COLLAR



SUPPORT COLLAR (RSA ONLY)



LATERAL SPACER RING



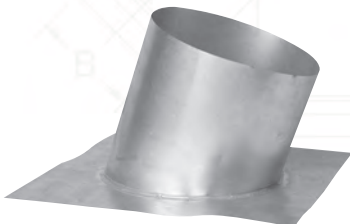
THIMBLE



FLASHING



FIXED PITCH FLASHING



For use when pipe passes through a combustible roof structure to reduce clearance to combustibles. The **VTA** allows for pipe expansion and contraction through the roof. The **RSA** will support up to 30 ft. of pipe from the roof structure.

Framing Dimensions:

- PIC/IPIC-1: I.D. + 8"
- IPIC-2: I.D. + 10"
- IPIC-3: I.D. + 12"
- IPIC-4: I.D. + 14"

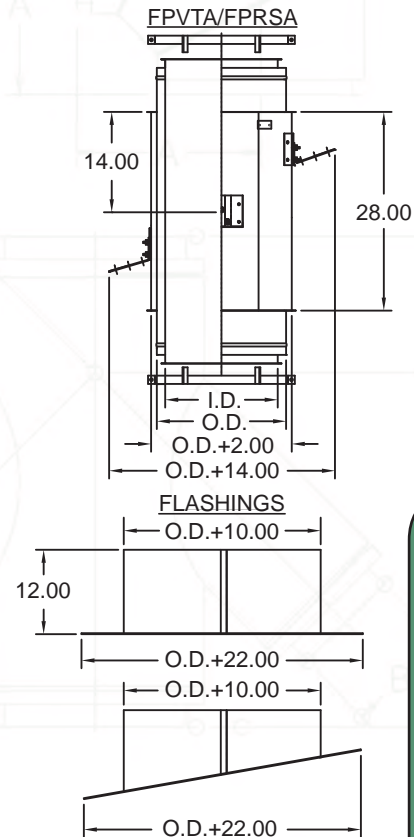
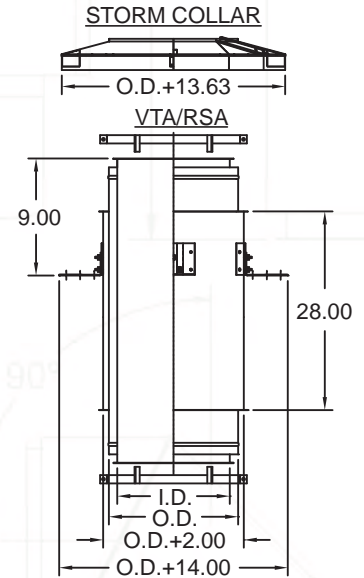
NOTES:

1. Thimble for flat roof extends 9" into flashing.
2. Use VTA / RSA on flat to 1/12 pitch applications.
3. Use FPVTA / FPRSA on 1/12 - 12/12 pitch applications.
4. Specify pitch when ordering
Example: 4/12 pitch = PICFPVTA4 or PICFPRSA4

MAXIMUM PITCH FOR FPVTA & FPRSA (28" LENGTH THIMBLE)

	PIC	IPIC-1	IPIC-2	IPIC-3	IPIC-4
6PICFPVTA & RSA	12/12	12/12	12/12	11/12	11/12
8PICFPVTA & RSA	12/12	12/12	12/12	10/12	10/12
10PICFPVTA & RSA	12/12	12/12	11/12	9/12	9/12
12PICFPVTA & RSA	11/12	11/12	10/12	9/12	9/12
14PICFPVTA & RSA	10/12	10/12	9/12	8/12	8/12
16PICFPVTA & RSA	9/12	9/12	9/12	8/12	8/12
18PICFPVTA & RSA	9/12	9/12	8/12	7/12	7/12
20PICFPVTA & RSA	8/12	8/12	8/12	7/12	7/12
22PICFPVTA & RSA	8/12	8/12	7/12	7/12	7/12
24PICFPVTA & RSA	7/12	7/12	7/12	6/12	6/12
26PICFPVTA & RSA	7/12	7/12	7/12	6/12	6/12
28PICFPVTA & RSA	7/12	7/12	6/12	6/12	6/12
30PICFPVTA & RSA	6/12	6/12	6/12	5/12	5/12
32PICFPVTA & RSA	6/12	6/12	6/12	5/12	5/12
34PICFPVTA & RSA	6/12	6/12	5/12	5/12	5/12
36PICFPVTA & RSA	5/12	5/12	5/12	5/12	5/12

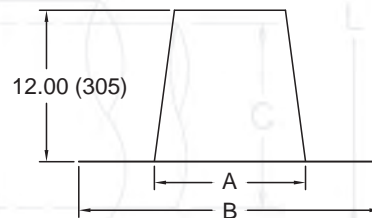
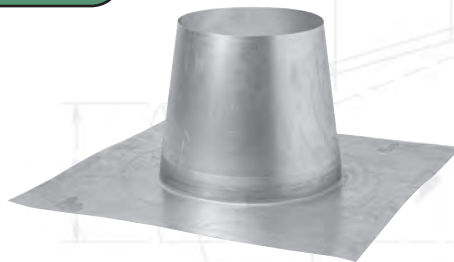
NOTE: For pitches not listed, please contact factory.



COMPONENTS

TALL CONE FLASHING (F)

Flat roof applications



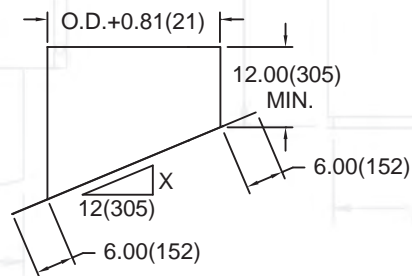
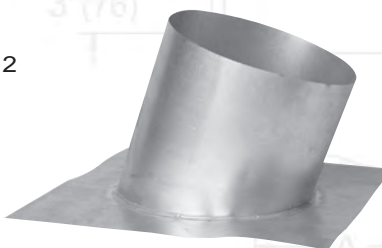
PIPE I.D.	PSW		PIC/1G		2G		3G		4G	
	A	B	A	B	A	B	A	B	A	B
6" (152)	10.00" (254)	22.00" (559)	12.00" (305)	24.00" (610)	14.00" (356)	26.00" (660)		28.00" (711)	18.00" (457)	30.00" (762)
8" (203)	12.00" (305)	24.00" (610)	14.00" (356)	26.00" (660)	16.00" (406)	28.00" (711)	18.00" (457)	30.00" (762)	20.00" (508)	32.00" (813)
10" (254)	14.00" (356)	26.00" (660)	16.00" (406)	28.00" (711)	18.00" (457)	30.00" (762)	20.00" (508)	32.00" (813)	22.00" (559)	34.00" (864)
12" (305)	16.00" (406)	28.00" (711)	18.00" (457)	30.00" (762)	20.00" (508)	32.00" (813)	22.00" (559)	34.00" (864)	24.00" (610)	36.00" (914)
14" (356)	18.00" (457)	30.00" (762)	20.00" (508)	32.00" (813)	22.00" (559)	34.00" (864)	24.00" (610)	36.00" (914)	26.00" (660)	38.00" (965)
16" (406)	20.00" (508)	32.00" (813)	22.00" (559)	34.00" (864)	24.00" (610)	36.00" (914)	26.00" (660)	38.00" (965)	28.00" (711)	40.00" (1016)
18" (457)	22.00" (559)	34.00" (864)	24.00" (610)	36.00" (914)	26.00" (660)	38.00" (965)	28.00" (711)	40.00" (1016)	30.00" (762)	42.00" (1067)
20" (508)	24.00" (610)	36.00" (914)	26.00" (660)	38.00" (965)	28.00" (711)	40.00" (1016)	30.00" (762)	42.00" (1067)	32.00" (813)	44.00" (1118)
22" (559)	26.00" (660)	38.00" (965)	28.00" (711)	40.00" (1016)	30.00" (762)	42.00" (1067)	32.00" (813)	44.00" (1118)	34.00" (864)	46.00" (1168)
24" (610)	28.00" (711)	40.00" (1016)	30.00" (762)	42.00" (1067)	32.00" (813)	44.00" (1118)	34.00" (864)	46.00" (1168)	36.00" (914)	48.00" (1219)
26" (660)	30.00" (762)	42.00" (1067)	32.00" (813)	44.00" (1118)	34.00" (864)	46.00" (1168)	36.00" (914)	48.00" (1219)	38.00" (965)	50.00" (1270)
28" (711)	32.00" (813)	44.00" (1118)	34.00" (864)	46.00" (1168)	36.00" (914)	48.00" (1219)	38.00" (965)	50.00" (1270)	40.00" (1016)	52.00" (1321)
30" (762)	34.00" (864)	46.00" (1168)	36.00" (914)	48.00" (1219)	38.00" (965)	50.00" (1270)	40.00" (1016)	52.00" (1321)	42.00" (1067)	54.00" (1372)
32" (813)	36.00" (914)	48.00" (1219)	38.00" (965)	50.00" (1270)	40.00" (1016)	52.00" (1321)	42.00" (1067)	54.00" (1372)	44.00" (1118)	56.00" (1422)
34" (864)	38.00" (965)	50.00" (1270)	40.00" (1016)	52.00" (1321)	42.00" (1067)	54.00" (1372)	44.00" (1118)	56.00" (1422)	46.00" (1168)	58.00" (1473)
36" (914)	40.00" (1016)	52.00" (1321)	42.00" (1067)	54.00" (1372)	44.00" (1118)	56.00" (1422)	46.00" (1168)	58.00" (1473)	48.00" (1219)	60.00" (1524)
38" (965)	42.00" (1067)	54.00" (1372)	44.00" (1118)	56.00" (1422)	46.00" (1168)	58.00" (1473)	N/A	N/A	50.00" (1270)	62.00" (1575)
40" (1016)	44.00" (1118)	56.00" (1422)	46.00" (1168)	58.00" (1473)	48.00" (1219)	60.00" (1524)	N/A	N/A	52.00" (1321)	64.00" (1626)
42" (1067)	46.00" (1168)	58.00" (1473)	48.00" (1219)	60.00" (1524)	50.00" (1270)	62.00" (1575)	N/A	N/A	54.00" (1372)	66.00" (1676)
44" (1118)	48.00" (1219)	60.00" (1524)	50.00" (1270)	62.00" (1575)	52.00" (1321)	64.00" (1626)	N/A	N/A	56.00" (1422)	68.00" (1727)
46" (1168)	50.00" (1270)	62.00" (1575)	52.00" (1321)	64.00" (1626)	54.00" (1372)	66.00" (1676)	N/A	N/A	58.00" (1473)	70.00" (1778)
48" (1219)	52.00" (1321)	64.00" (1626)	54.00" (1372)	66.00" (1676)	56.00" (1422)	68.00" (1727)	N/A	N/A	60.00" (1524)	72.00" (1829)

FIXED PITCH FLASHING (FPF)

6" - 36" Diameters

NOTES:

1. $X = \text{Pitch} \left(\frac{\text{Rise}}{\text{Run}} \right)$; Available in 1/12 - 12/12
2. Please specify pitch when ordering.
3. Storm Collar is included with Flashing.
Example: 4/12 pitch = PICFPF4

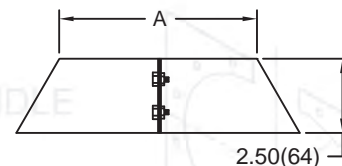


STACK CLOSURE RING (CR)

A = Pipe Diameter (I.D.)

Attaches to flue and shields insulation from the weather when open stack is desired.

NOTE: Provide a Tee Cap or Drain Section for moisture removal.

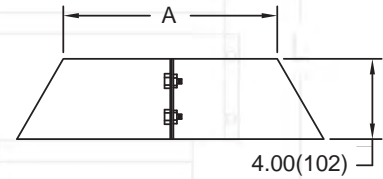


COMPONENTS

STORM COLLAR (SC)

A = Pipe Diameter (O.D.)

NOTE: Order according to I.D.



FULL ANGLE RING (FAR)

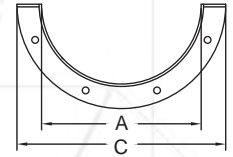
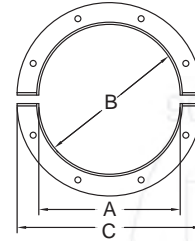
Provides lateral support for vertical runs.
(Zinc Plated)

NOTE: Allows pipe movement for thermal expansion.



FULL ANGLE RING

HALF ANGLE RING



HALF ANGLE RING (HAR)

Provides support for horizontal runs.
(Zinc Plated)



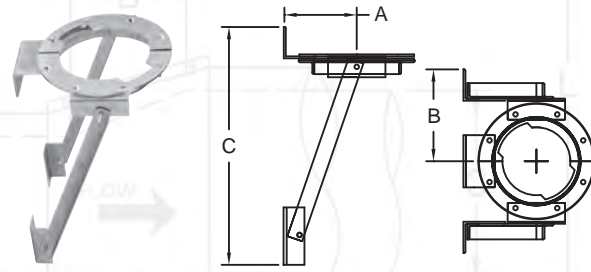
PRODUCT					DIMENSIONS			
PIPE I.D.					Inside	Hole Centerline	Outside	Hole Qty.
PSW	PIC/IPIC	IPIC-2	IPIC-3	IPIC-4	A	B	C	D
6" (152)	-	-	-	-	6.12" (155)	7.50" (191)	8.62" (219)	8
8" (203)	6" (152)	-	-	-	8.12" (206)	9.50" (241)	10.62" (270)	8
10" (254)	8" (203)	6" (152)	-	-	10.19" (259)	11.56" (294)	12.69" (322)	8
12" (305)	10" (254)	8" (203)	6" (152)	-	12.19" (310)	13.81" (351)	15.19" (386)	12
14" (356)	12" (305)	10" (254)	8" (203)	6" (152)	14.19" (360)	15.81" (402)	17.19" (437)	12
16" (406)	14" (356)	12" (305)	10" (254)	8" (203)	16.25" (413)	18.12" (460)	19.75" (502)	16
18" (457)	16" (406)	14" (356)	12" (305)	10" (254)	18.25" (464)	20.12" (511)	21.75" (552)	16
20" (508)	18" (457)	16" (406)	14" (356)	12" (305)	20.25" (514)	22.12" (562)	23.75" (603)	20
22" (559)	20" (508)	18" (457)	16" (406)	14" (356)	22.25" (565)	24.12" (613)	25.75" (654)	20
24" (610)	22" (559)	20" (508)	18" (457)	16" (406)	24.25" (616)	26.12" (663)	27.75" (705)	20
26" (660)	24" (610)	22" (559)	20" (508)	18" (457)	26.25" (667)	28.50" (724)	30.25" (768)	24
28" (711)	26" (660)	24" (610)	22" (559)	20" (508)	28.25" (718)	30.50" (775)	32.25" (819)	24
30" (762)	28" (711)	26" (660)	24" (610)	22" (559)	30.25" (768)	32.50" (826)	34.25" (870)	28
32" (813)	30" (762)	28" (711)	26" (660)	24" (610)	32.25" (819)	34.50" (876)	36.25" (921)	28
34" (864)	32" (813)	30" (762)	28" (711)	26" (660)	34.25" (870)	36.50" (927)	38.25" (972)	32
36" (914)	34" (864)	32" (813)	30" (762)	28" (711)	36.25" (921)	38.50" (978)	40.25" (1022)	32
38" (965)	36" (914)	34" (864)	32" (813)	30" (762)	38.25" (972)	40.50" (1029)	42.25" (1073)	36
40" (1016)	38" (965)	36" (914)	34" (864)	32" (813)	40.25" (1022)	42.50" (1080)	44.25" (1124)	36
42" (1067)	40" (1016)	38" (965)	36" (914)	34" (864)	42.25" (1073)	44.50" (1130)	46.25" (1175)	40
44" (1118)	42" (1067)	40" (1016)	38" (965)	36" (914)	44.25" (1124)	46.50" (1181)	48.25" (1226)	40
46" (1168)	44" (1118)	42" (1067)	40" (1016)	38" (965)	46.25" (1175)	48.50" (1232)	50.25" (1276)	44
48" (1219)	46" (1168)	44" (1118)	42" (1067)	40" (1016)	48.25" (1226)	50.50" (1283)	52.25" (1327)	44
-	48" (1219)	46" (1168)	44" (1118)	42" (1067)	50.25" (1276)	52.50" (1334)	54.25" (1378)	48
-	-	48" (1219)	46" (1168)	44" (1118)	52.25" (1327)	54.50" (1384)	56.25" (1429)	48
-	-	-	48" (1219)	46" (1168)	54.25" (1378)	56.50" (1435)	58.25" (1480)	48
-	-	-	-	48" (1219)	56.25" (1429)	58.50" (1486)	60.25" (1530)	50

COMPONENTS

WALL SUPPORT ASSEMBLY (WSA)

Provides vertical rigid support.

NOTE: Does not allow pipe movement for thermal expansion. (Zinc Plated)



PIPE I.D.	PSW / PIC / 1G			2G		
	A	B	C	A	B	C
6" (152)	7.87" (200)	7.25" (184)	26.25" (667)	8.87" (225)	8.12" (206)	26.00" (660)
8" (203)	8.87" (225)	8.12" (206)	26.00" (660)	10.12" (257)	9.50" (241)	29.50" (749)
10" (254)	10.12" (257)	9.50" (241)	29.50" (749)	11.12" (282)	10.50" (267)	29.00" (737)
12" (305)	11.12" (282)	10.50" (267)	29.00" (737)	12.37" (314)	11.75" (298)	28.50" (724)
14" (356)	12.37" (314)	11.75" (298)	28.50" (724)	13.37" (340)	12.75" (324)	31.25" (794)
16" (406)	13.37" (340)	12.75" (324)	31.25" (794)	14.37" (365)	13.75" (349)	30.75" (781)
18" (457)	14.37" (365)	13.75" (349)	30.75" (781)	15.37" (390)	14.75" (375)	34.75" (883)
20" (508)	15.37" (390)	14.75" (375)	34.75" (883)	16.37" (416)	15.75" (400)	34.25" (870)
22" (559)	16.37" (416)	15.75" (400)	34.25" (870)	17.62" (448)	17.00" (432)	33.75" (857)
24" (610)	17.62" (448)	17.00" (432)	33.75" (857)	18.62" (473)	18.00" (457)	38.75" (984)
26" (660)	18.62" (473)	18.00" (457)	38.75" (984)	19.62" (498)	19.00" (483)	38.25" (972)
28" (711)	19.62" (498)	19.00" (483)	38.25" (972)	20.62" (524)	20.00" (508)	37.75" (959)
30" (762)	20.62" (524)	20.00" (508)	37.75" (959)	21.62" (549)	21.00" (533)	45.25" (1149)
32" (813)	21.62" (549)	21.00" (533)	45.25" (1149)	23.12" (587)	22.50" (572)	44.75" (1137)
34" (864)	23.12" (587)	22.50" (572)	44.75" (1137)	24.12" (613)	23.50" (597)	44.00" (1118)
36" (914)	24.12" (613)	23.50" (597)	44.00" (1118)	25.12" (638)	24.50" (622)	53.75" (1365)

PIPE I.D.	3G			4G		
	A	B	C	A	B	C
6" (152)	10.17" (258)	10.36" (263)	29.00" (737)	11.14" (283)	11.33" (288)	29.62" (752)
8" (203)	10.93" (278)	11.36" (289)	28.50" (724)	12.39" (314)	12.57" (319)	29.00" (737)
10" (254)	12.39" (315)	12.58" (320)	31.25" (794)	13.37" (340)	13.55" (344)	31.86" (809)
12" (305)	13.37" (340)	13.55" (344)	30.75" (781)	14.43" (367)	14.61" (371)	31.00" (787)
14" (356)	14.43" (367)	14.61" (371)	34.75" (883)	15.41" (391)	15.60" (396)	35.36" (898)
16" (406)	15.41" (391)	15.60" (396)	34.25" (870)	16.40" (417)	16.59" (421)	34.88" (886)
18" (457)	16.40" (417)	16.59" (421)	33.75" (845)	17.63" (448)	17.82" (453)	34.17" (868)
20" (508)	17.63" (448)	17.81" (452)	38.75" (984)	18.62" (473)	18.81" (478)	39.37" (1000)
22" (559)	18.62" (473)	18.81" (478)	38.25" (972)	19.65" (499)	19.83" (504)	38.78" (985)
24" (610)	19.65" (499)	19.83" (504)	37.75" (959)	20.64" (524)	20.43" (519)	38.14" (969)
26" (660)	20.64" (524)	20.83" (529)	45.25" (1149)	21.66" (550)	21.85" (555)	45.86" (1165)
28" (711)	21.66" (550)	21.85" (555)	44.75" (1137)	22.66" (576)	22.85" (580)	45.12" (1146)
30" (762)	22.66" (576)	22.85" (581)	44.00" (1118)	23.67" (601)	23.86" (606)	44.60" (1133)
32" (813)	23.67" (601)	23.86" (606)	53.75" (1365)	24.67" (627)	24.86" (631)	54.25" (1378)
34" (864)	24.67" (627)	25.86" (657)	53.25" (1353)	25.66" (652)	25.87" (657)	53.25" (1353)
36" (914)	25.66" (652)	25.87" (657)	52.75" (1340)	26.68" (678)	26.87" (682)	53.21" (1352)

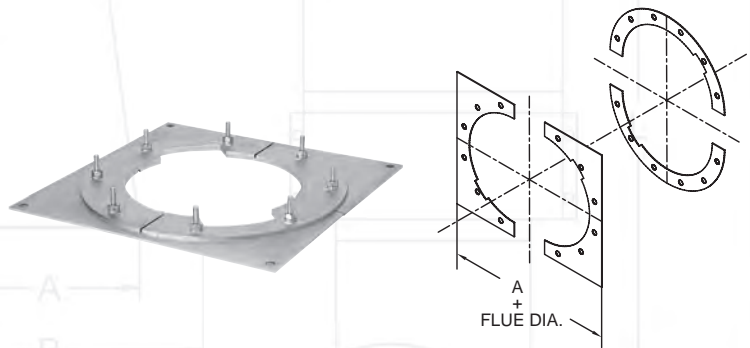
COMPONENTS

PLATE SUPPORT (PS)

Provides vertical or horizontal rigid support. Includes split plates (Zinc Plated), clamp flanges, and 1/2 closure bands.

PSW/PIC/IPIC-1	A=6"
IPIC-2	A=8"
IPIC-3	A=12"
IPIC-4	A=12"

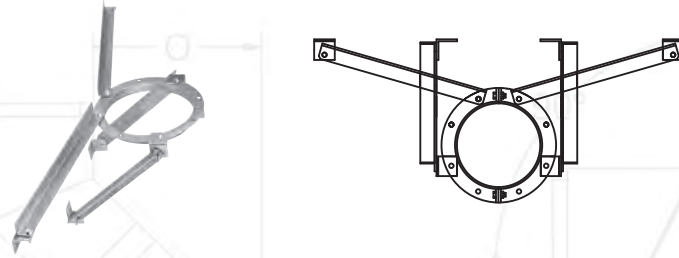
NOTE: Does not allow pipe movement for thermal expansion.



WALL GUIDE (WG)

Provides lateral support. (Zinc Plated)

NOTE: Allows pipe movement for thermal expansion.



FLOOR GUIDE (FG)

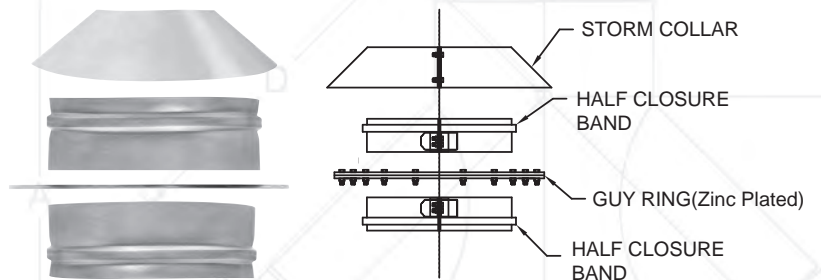
For use at each floor to ensure correct alignment through floor opening. (Zinc Plated)



GUY RING (GR)

Installed at the flange to flange joint of two sections of pipe. Storm Collar and half closure bands are included.

NOTE: See installation instructions for correct location.

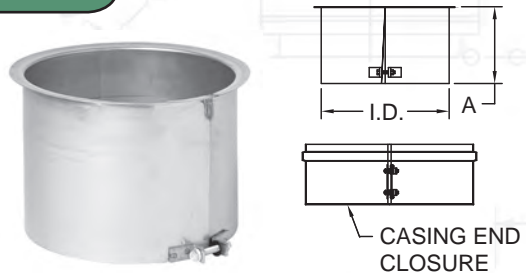


SINGLE WALL BOILER ADAPTER (SBA/SBA4)

Flow Resistance K= same as pipe
Attaches pipe to straight collar outlets.
PIC and IPIC applications include Casing End Closure.

A = 6" or 4" (opt.), specify when ordering
e.g. 6PICSBA - A=6" or 6PICSBA4 - A=4"

NOTE: Casing End Closure not used on PSW applications.

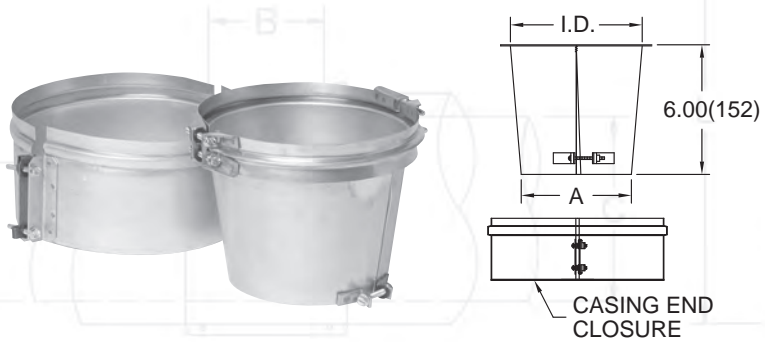


COMPONENTS

REDUCER COLLAR (RC)

Flow Resistance K= same as pipe
Attaches pipe to an outlet source of smaller diameter. Specify "A" dimension when ordering e.g. 6PIC4RC

NOTE: Maximum of 2" reduction recommended.



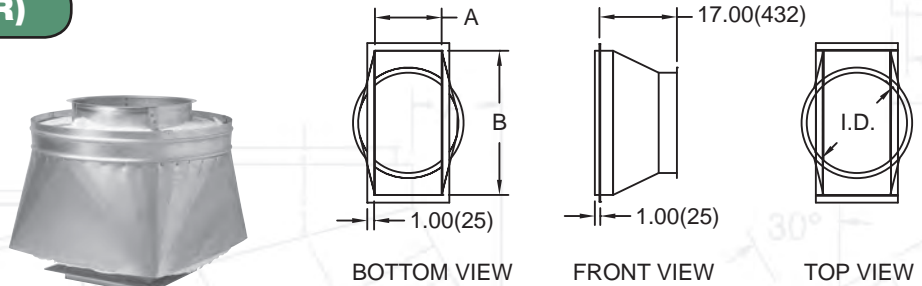
SQUARE TO ROUND (STR)

6" - 36" Diameters

Transitions from square duct to round duct.

NOTES:

1. Specify dimensional data when ordering.
2. Eccentric and Offset STR's available as custom options upon request.



ROUND HOOD COLLAR (RHC)

NOTES:

1. Can be field welded to hood or supplied to hood manufacturer for installation.
2. Confirm dimensions with hood manufacturer.
3. Requires Round Hood Connection Kit (RHCK) to complete installation.



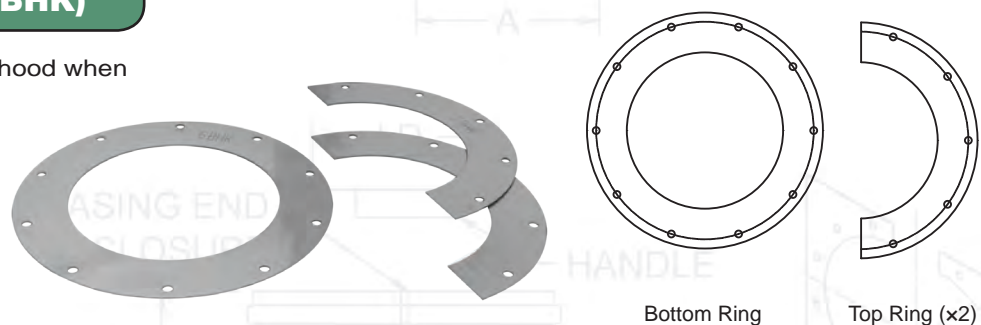
ROUND HOOD CONNECTION KIT (RHCK)

Required for Round Hood Collar (RHC). Enclose Round Hood Collar and connect first pipe section to collar.



BOLTED HOOD KIT (BHK)

Allows bolted connection to hood when used with RHC and RHCK.



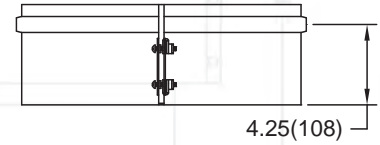
COMPONENTS

CASING END CLOSURE (CEC)

For use as an end cover when transitioning from double wall to single wall.

NOTE: When ordering, specify

- PICCEC
- IPIECEC-1
- 2
- 3
- 4

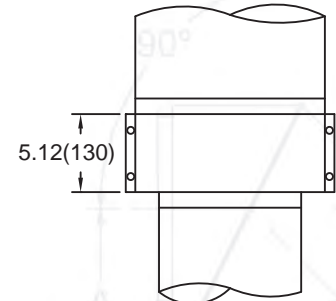


TRANSITION BAND (TB)

For use as a joint closure when transitioning from one insulation thickness to another.

NOTE: When ordering, specify

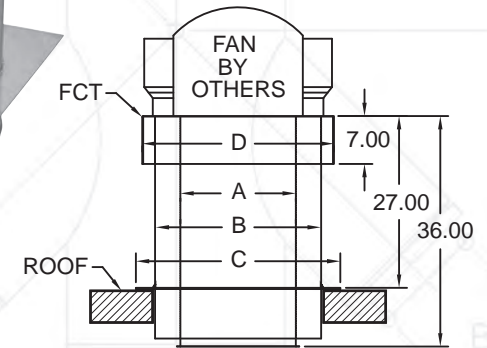
- PICTB-1-2 -2-3
- 1-3 -2-4
- 1-4 -3-4



FAN CURB TERMINATION (FCT)

Available for 3G & 4G systems only. Eliminates curb. With zero clearance to combustibles, roofing materials can be flashed directly to casings.

- A = Pipe I.D.
- B = Outer Casing Diameter
 - 3G: Flue Diameter + 6"
 - 4G: Flue Diameter + 8"
- C = Square Mounting Support:
 - Casing Diameter + 6"
- D = Fan Curb: See Table



Curb Size - Inches	Pipe I.D.						
	8	10	12	14	16	18	20
18 X 18	X	X	X	3G			
19.5 X 19.5	X	X	X	3G	3G		
22 X 22	X	X	X	X	X		
23 X 23		X	X	X	X		
26.5 X 26.5				X	X	X	X
28 X 28					X	X	X
31.5 X 31.5							X

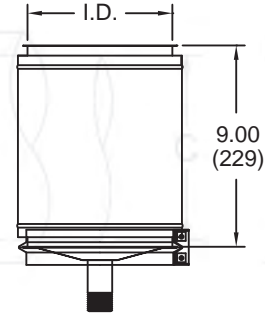
"3G" - Only available on 3G systems.
Specify Curb Dimensions when ordering.
Example: Curb 19.5" x 19.5" = FCT195

COMPONENTS

DRAIN BUCKET (DB)

6" - 36" Diameters

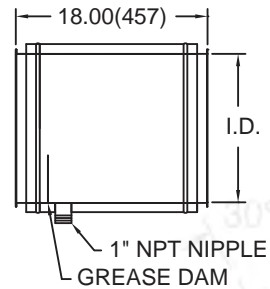
Used at the base of a vertical riser as a drain reservoir and provides cleanout access.



DUCT DRAIN (DR)

6" - 36" Diameters

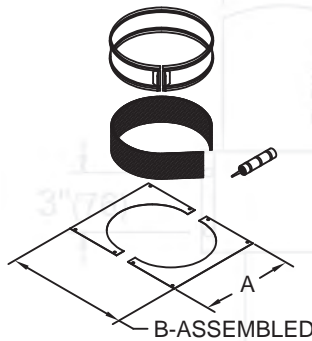
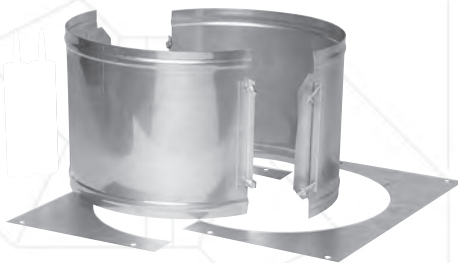
Used as a drain point for horizontal runs.



THROUGH PENETRATION FIRESTOP KIT (PPK)

6" - 36" Diameters

1. Kit consists of closure band, plate, insulation and caulk.
2. Used to maintain fire resistance rating of floor or wall at duct penetration.
3. Diameter of penetration is casing diameter + 2".
4. Closure band height is 12"(306)
5. For use on 3G/4G products only.



PIPE I.D.	A	B
6" (152)	18" (457)	18" (457)
8" (203)	20" (508)	20" (508)
10" (254)	22" (559)	22" (559)
12" (305)	24" (610)	24" (610)
14" (356)	26" (660)	26" (660)
16" (406)	28" (711)	28" (711)
18" (457)	30" (762)	30" (762)
20" (508)	32" (813)	32" (813)
22" (559)	34" (864)	34" (864)
24" (610)	36" (914)	36" (914)
26" (660)	38" (965)	38" (965)
28" (711)	40" (1016)	40" (1016)
30" (762)	42" (1067)	42" (1067)
32" (813)	44" (1118)	44" (1118)
34" (864)	46" (1168)	46" (1168)
36" (914)	48" (1219)	48" (1219)

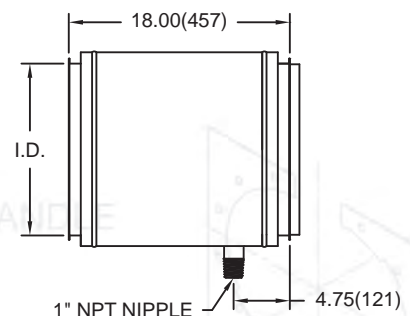
NOTE: Wall penetration requires two kits; please consult factory.

NOZZLE SECTION (NS)

6" - 36" Diameters

For use with wash down nozzles, fire suppression systems or as a drain section in a horizontal run.

NOTE: Please contact factory for larger diameters.



COMPONENTS

SEALANT REQUIREMENTS

P080 Joint Sealant, use for flue connection - Type I Hoods.

P077 Joint Sealant, use for flue connection - Type II Hoods and casing bands exposed to moisture.

P071 Joint Sealant, use for UL103HT Appliances (>600° F.)

NOTE: Refer to the installation instructions for additional information relating to proper sealant selection.

Flue Diameter	Tubes / Joint	Joints / Tube
6"	0.20	5.00
8"	0.20	5.00
10"	0.20	5.00
12"	0.25	4.00
14"	0.25	4.00
16"	0.25	4.00
18"	0.33	3.00
20"	0.33	3.00
22"	0.33	3.00
24"	0.50	2.00
26"	0.50	2.00
28"	0.50	2.00
30"	0.67	1.00
32"	0.67	1.50
34"	0.67	1.50
36"	0.67	1.50
38"	1.00	1.00
40"	1.00	1.00
42"	1.00	1.00
44"	1.00	1.00
46"	1.20	0.80
48"	1.20	0.80

JOINT ASSEMBLY

1. Apply continuous bead of sealant 1/4" wide to one flange.
2. Join to next section.
3. Fill the flange/vee band with sealant and install around flanges.
4. Gently tap flange/vee band with a soft mallet while tightening band to assure tight seal.
5. Insert insulation strips (IPIC-1, -2, -3, -4) between pipe sections.
6. Install casing band. (Seal if external to structure to prevent moisture infiltration.)

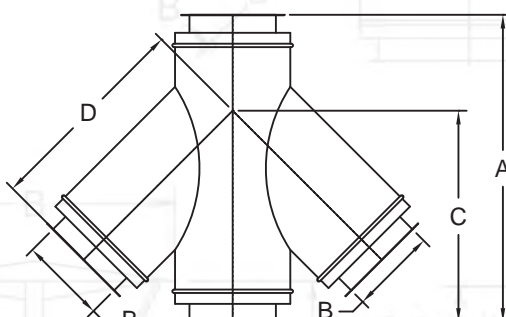


COMPONENTS

BODY I.D.	TAP I.D.	TAP I.D.													
		48	46	44	42	40	38	36	34	32	30	28	26	24	
48PIC	"A"	80.71	77.88	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.26	52.43	50.60	48.77	
	"B"	48	46	44	42	40	38	36	34	32	30	28	26	24	
	"C"	65.35	63.94	62.53	61.11	59.70	58.28	56.87	55.46	54.04	52.63	51.21	49.80	48.39	
	"D"	65.35	64.35	63.35	62.35	61.35	60.35	59.35	58.35	57.35	56.35	55.35	54.35	53.35	
46PIC	"A"	77.88	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.26	52.43	49.60	47.77	46.94	
	"B"	46	44	42	40	38	36	34	32	30	28	26	24	22	
	"C"	62.94	61.53	60.11	58.70	57.28	55.87	54.46	53.04	51.63	50.21	48.80	47.39	45.97	
	"D"	62.94	61.94	60.94	59.94	58.94	57.94	56.94	55.94	54.94	53.94	52.94	51.94	50.94	
44PIC	"A"	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.26	52.43	49.60	46.77	45.94	44.11	
	"B"	44	42	40	38	36	34	32	30	28	26	24	22	20	
	"C"	60.53	59.11	57.70	56.28	54.87	53.46	52.04	50.63	49.21	47.80	46.39	44.97	43.56	
	"D"	60.53	59.53	58.53	57.53	56.53	55.53	54.53	53.53	52.53	51.53	50.53	49.53	48.53	
42PIC	"A"	72.22	69.40	66.57	63.74	60.91	58.08	55.26	52.43	49.60	46.77	44.94	43.11	41.28	
	"B"	42	40	38	36	34	32	30	28	26	24	22	20	18	
	"C"	58.11	56.70	55.28	53.87	52.46	51.04	49.63	48.21	46.80	45.39	43.97	42.56	41.14	
	"D"	58.11	57.11	56.11	55.11	54.11	53.11	52.11	51.11	50.11	49.11	48.11	47.11	46.11	
40PIC	"A"	69.40	66.57	63.74	60.91	58.08	55.26	52.43	49.60	46.77	43.94	42.11	40.28	39.46	
	"B"	40	38	36	34	32	30	28	26	24	22	20	18	16	
	"C"	55.70	54.28	52.87	51.46	50.04	48.63	47.21	45.80	44.39	42.97	41.56	40.14	38.73	
	"D"	55.70	54.70	53.70	52.70	51.70	50.70	49.70	48.70	47.70	46.70	45.70	44.70	43.70	
38PIC	"A"	66.57	63.74	60.91	58.08	55.26	52.43	49.60	46.77	43.94	41.11	39.28	38.46	37.63	
	"B"	38	36	34	32	30	28	26	24	22	20	18	16	14	
	"C"	53.28	51.87	50.46	49.04	47.63	46.21	44.80	43.39	41.97	40.56	39.14	37.73	36.31	
	"D"	53.28	52.28	51.28	50.28	49.28	48.28	47.28	46.28	45.28	44.28	43.28	42.28	41.28	
36PIC	"A"	63.74	60.91	58.08	55.26	52.43	49.60	46.77	43.94	41.11	38.28	37.46	36.63	34.80	
	"B"	36	34	32	30	28	26	24	22	20	18	16	14	12	
	"C"	50.87	49.46	48.04	46.63	45.21	43.80	42.39	40.97	39.56	38.14	36.73	35.31	33.90	
	"D"	50.87	49.87	48.87	47.87	46.87	45.87	44.87	43.87	42.87	41.87	40.87	39.87	38.87	
34PIC	"A"	60.91	58.08	55.26	52.43	49.60	46.77	43.94	41.11	38.28	36.46	35.63	33.80	31.97	
	"B"	34	32	30	28	26	24	22	20	18	16	14	12	10	
	"C"	48.46	47.04	45.63	44.21	42.80	41.39	39.97	38.56	37.14	35.73	34.31	32.90	31.49	
	"D"	48.46	47.46	46.46	45.46	44.46	43.46	42.46	41.46	40.46	39.46	38.46	37.46	36.46	
32PIC	"A"	58.08	55.26	52.43	49.60	46.77	43.94	41.11	38.28	35.46	34.63	32.80	30.97	29.14	
	"B"	32	30	28	26	24	22	20	18	16	14	12	10	8	
	"C"	46.04	44.63	43.21	41.80	40.39	38.97	37.56	36.14	34.73	33.31	31.90	30.49	29.07	
	"D"	46.04	45.04	44.04	43.04	42.04	41.04	40.04	39.04	38.04	37.04	36.04	35.04	34.04	
30PIC	"A"	55.26	52.43	49.60	46.77	43.94	41.11	38.28	35.46	32.63	31.80	29.97	28.14	27.31	
	"B"	30	28	26	24	22	20	18	16	14	12	10	8	6	
	"C"	43.63	42.21	40.80	39.39	37.97	36.56	35.14	33.73	32.31	30.90	29.49	28.07	26.66	
	"D"	43.63	42.63	41.63	40.63	39.63	38.63	37.63	36.63	35.63	34.63	33.63	32.63	31.63	
28PIC	"A"	52.43	49.60	46.77	43.94	41.11	38.28	35.46	32.63	30.80	28.97	27.14	26.31	25.48	
	"B"	28	26	24	22	20	18	16	14	12	10	8	6	4	
	"C"	41.21	39.80	38.39	36.97	35.56	34.14	32.73	31.31	29.90	28.49	27.07	25.66	24.25	
	"D"	41.21	40.21	39.21	38.21	37.21	36.21	35.21	34.21	33.21	32.21	31.21	30.21	29.21	
26PIC	"A"	49.60	46.77	43.94	41.11	38.28	35.46	32.63	29.80	27.97	26.14	25.31	24.48	23.65	
	"B"	26	24	22	20	18	16	14	12	10	8	6	4	2	
	"C"	38.80	37.39	35.97	34.56	33.14	31.73	30.31	28.90	27.49	26.07	24.66	23.25	21.84	
	"D"	38.80	37.80	36.80	35.80	34.80	33.80	32.80	31.80	30.80	29.80	28.80	27.80	26.80	
24PIC	"A"	46.77	43.94	41.11	38.28	35.46	32.63	29.80	26.97	25.14	24.31	23.48	22.65	21.82	
	"B"	24	22	20	18	16	14	12	10	8	6	4	2	0	
	"C"	36.39	34.97	33.56	32.14	30.73	29.31	27.90	26.49	25.07	23.66	22.25	20.84	19.43	
	"D"	36.39	35.39	34.39	33.39	32.39	31.39	30.39	29.39	28.39	27.39	26.39	25.39	24.39	
22PIC	"A"	43.94	41.11	38.28	35.46	32.63	29.80	26.97	24.14	23.31	22.48	21.65	20.82	19.99	
	"B"	22	20	18	16	14	12	10	8	6	4	2	0	-2	
	"C"	33.97	32.56	31.14	29.73	28.31	26.90	25.49	24.07	22.66	21.25	20.84	19.43	18.02	
	"D"	33.97	32.97	31.97	30.97	29.97	28.97	27.97	26.97	25.97	24.97	23.97	22.97	21.97	
20PIC	"A"	41.11	38.28	35.46	32.63	29.80	26.97	24.14	22.31	21.48	20.65	19.82	18.99	18.16	
	"B"	20	18	16	14	12	10	8	6	4	2	0	-2	-4	
	"C"	31.56	30.14	28.73	27.31	25.90	24.49	23.07	21.66	20.25	18.84	17.43	16.02	14.61	
	"D"	31.56	30.56	29.56	28.56	27.56	26.56	25.56	24.56	23.56	22.56	21.56	20.56	19.56	
18PIC	"A"	38.28	35.46	32.63	29.80	26.97	24.14	22.31	21.48	20.65	19.82	18.99	18.16	17.33	
	"B"	18	16	14	12	10	8	6	4	2	0	-2	-4	-6	
	"C"	29.14	27.73	26.31	24.90	23.49	22.07	20.66	19.25	17.84	16.43	15.02	13.61	12.20	
	"D"	29.14	28.14	27.14	26.14	25.14	24.14	23.14	22.14	21.14	20.14	19.14	18.14	17.14	
16PIC	"A"	35.46	32.63	29.80	26.97	24.14	22.31	21.48	20.65	19.82	18.99	18.16	17.33	16.50	
	"B"	16	14	12	10	8	6	4	2	0	-2	-4	-6	-8	
	"C"	26.73	25.31	23.90	22.49	21.07	19.66	18.25	16.84	15.43	14.02	12.61	11.20	9.79	
	"D"	26.73	25.73	24.73	23.73	22.73	21.73	20.73	19.73	18.73	17.73	16.73	15.73	14.73	
14PIC	"A"	32.63	29.80	26.97	24.14	22.31	21.48	20.65	19.82	18.99	18.16	17.33	16.50	15.67	
	"B"	14	12	10	8	6	4	2	0	-2	-4	-6	-8	-10	
	"C"	24.31	22.90	21.49	20.07	18.66	17.25	15.84	14.43	13.02	11.61	10.20	8.79	7.38	
	"D"	24.31	23.31	22.31	21.31	20.31	19.31	18.31	17.31	16.31	15.31	14.31	13.31	12.31	
12PIC	"A"	29.80	26.97	24.14	22.31	21.48	20.65	19.82	18.99	18.16	17.33	16.50	15.67	14.84	
	"B"	12	10	8	6	4	2	0	-2	-4	-6	-8	-10	-12	
	"C"	21.90	20.49	19.07	17.66	16.25	14.84	13.43	12.02	10.61	9.20	7.79	6.38	4.97	
	"D"	21.90	20.90	19.90	18.90	17.90	16.90	15.90	14.90	13.90	12.90	11.90	10.90	9.90	
10PIC	"A"	26.97	24.14	22.31	21.48	20.65	19.82	18.99	18.16	17.33	16.50	15.67	14.84	14.01	
	"B"	10	8	6	4	2	0	-2	-4	-6	-8	-10	-12	-14	
	"C"	19.49	18.07	16.66	15.25	13.84	12.43	11.02	9.61	8.20	6.79	5.38	3.97	2.56	
	"D"	19.49	18.49	17.49	16.49	15.49	14.49	13.49	12.49	11.49	10.49	9.49	8.49	7.49	
8PIC	"A"	24.14	22.31	21.48	20.65	19.82	18.99	18.16	17.33	16.50	15.67	14.84	14.01	13.18	
	"B"	8	6	4	2	0</									

COMPONENTS

		TAP I.D.												
		48	46	44	42	40	38	36	34	32	30	28	26	24
BODY I.D.	48PIC	*A* 2050 *B* 1219 *C* 1660 *D* 1660	1978 1168 1624 1634	1906 1118 1588 1609	1834 1067 1552 1584	1763 1016 1516 1558	1691 965 1480 1533	1619 914 1444 1507	1547 864 1409 1482	1475 813 1373 1457	1404 762 1337 1431	1332 711 1301 1406	1285 660 1265 1380	1239 610 1229 1355
	46PIC	*A* 1978 *B* 1168 *C* 1599 *D* 1599	1906 1118 1563 1573	1834 1067 1527 1548	1763 1016 1491 1522	1691 965 1455 1497	1619 914 1419 1472	1547 864 1383 1446	1475 813 1347 1421	1404 762 1311 1395	1332 711 1275 1370	1260 610 1240 1345	1213 559 1204 1319	1192 508 1168 1294
	44PIC	*A* 1906 *B* 1118 *C* 1537 *D* 1537	1834 1067 1501 1512	1763 1016 1466 1487	1691 965 1430 1461	1619 914 1394 1436	1547 864 1358 1410	1475 813 1322 1385	1404 762 1286 1360	1332 711 1250 1334	1260 610 1214 1309	1188 559 1178 1283	1167 508 1142 1258	1120 457 1106 1233
	42PIC	*A* 1834 *B* 1067 *C* 1476 *D* 1476	1763 1016 1440 1451	1691 965 1404 1425	1619 914 1368 1400	1547 864 1332 1374	1475 813 1296 1349	1404 762 1261 1324	1332 711 1225 1298	1260 610 1189 1273	1188 559 1153 1247	1118 508 1117 1222	1095 457 1081 1197	1049 457 1045 1171
	40PIC	*A* 1763 *B* 1016 *C* 1415 *D* 1415	1691 965 1379 1389	1619 914 1343 1364	1547 864 1307 1339	1475 813 1271 1313	1404 762 1235 1288	1332 711 1199 1262	1260 610 1163 1237	1188 559 1128 1212	1118 508 1091 1186	1070 457 1056 1161	1023 406 1020 1135	1002 406 984 1110
	38PIC	*A* 1691 *B* 965 *C* 1353 *D* 1353	1619 914 1317 1328	1547 864 1282 1303	1475 813 1246 1277	1404 762 1210 1252	1332 711 1174 1226	1260 610 1138 1201	1188 559 1102 1176	1116 508 1066 1150	1044 457 1030 1125	998 406 994 1099	977 356 958 1074	956 356 922 1049
	36PIC	*A* 1619 *B* 914 *C* 1292 *D* 1292	1547 864 1256 1267	1475 813 1220 1241	1404 762 1184 1216	1332 711 1148 1190	1260 610 1113 1165	1188 559 1077 1140	1116 508 1041 1114	1044 457 1005 1089	972 406 969 1063	951 356 933 1038	930 305 897 1013	884 305 861 987
	34PIC	*A* 1547 *B* 864 *C* 1231 *D* 1231	1475 813 1195 1205	1404 762 1159 1180	1332 711 1123 1155	1260 610 1087 1129	1188 559 1051 1104	1116 508 1015 1078	1044 457 979 1053	972 406 943 1028	901 356 908 1002	880 305 871 977	833 254 836 951	787 203 800 926
	32PIC	*A* 1475 *B* 813 *C* 1169 *D* 1169	1404 762 1134 1144	1332 711 1098 1119	1260 610 1062 1093	1188 559 1026 1068	1116 508 990 1042	1044 457 954 1017	972 406 918 992	901 356 882 966	880 305 846 941	833 254 810 915	787 203 774 890	740 203 738 865
	30PIC	*A* 1404 *B* 762 *C* 1108 *D* 1108	1332 711 1072 1083	1260 610 1036 1057	1188 559 1001 1032	1116 508 964 1007	1044 457 929 981	972 406 893 956	901 356 857 930	829 305 821 905	808 254 785 880	761 203 749 854	715 152 713 829	694 152 677 803
	28PIC	*A* 1332 *B* 711 *C* 1047 *D* 1047	1260 610 1011 1021	1188 559 975 996	1116 508 939 971	1044 457 903 945	972 406 867 920	901 356 831 894	829 305 795 869	782 305 759 844	736 254 724 818	689 203 688 793	668 152 652 767	
	26PIC	*A* 1260 *B* 660 *C* 986 *D* 986	1188 610 950 960	1116 559 914 935	1044 508 878 909	972 457 842 884	901 356 806 859	829 305 770 833	757 305 734 808	710 254 698 782	664 203 662 757	643 152 626 732		
	24PIC	*A* 1188 *B* 610 *C* 924 *D* 924	1116 559 888 899	1044 508 852 874	972 457 816 848	901 406 781 823	829 356 744 797	757 305 709 772	685 254 673 747	639 203 637 721	617 152 601 696			
	22PIC	*A* 1116 *B* 559 *C* 863 *D* 863	1044 508 827 837	972 457 791 812	901 406 755 787	829 356 719 761	757 305 683 736	685 254 647 710	613 203 611 685	592 152 576 660				
	20PIC	*A* 1044 *B* 508 *C* 802 *D* 802	972 457 766 776	901 406 730 751	829 356 694 725	757 305 658 700	685 254 622 675	613 203 586 649	567 152 550 624					
	18PIC	*A* 972 *B* 457 *C* 740 *D* 740	901 406 704 715	829 356 668 689	757 305 632 664	685 254 597 639	613 203 561 613	541 152 525 588						
	16PIC	*A* 901 *B* 406 *C* 679 *D* 679	829 356 643 654	757 305 607 628	685 254 571 603	613 203 535 577	541 152 499 552							
	14PIC	*A* 829 *B* 356 *C* 617 *D* 617	757 305 582 592	685 254 546 567	613 203 510 541	541 152 474 516								
	12PIC	*A* 757 *B* 305 *C* 556 *D* 556	685 254 520 531	613 203 484 505	541 152 449 480									
	10PIC	*A* 685 *B* 254 *C* 495 *D* 495	613 203 459 470	541 152 423 444										
8PIC	*A* 613 *B* 203 *C* 434 *D* 434	541 152 398 408												
6PIC	*A* 541 *B* 152 *C* 372 *D* 372													



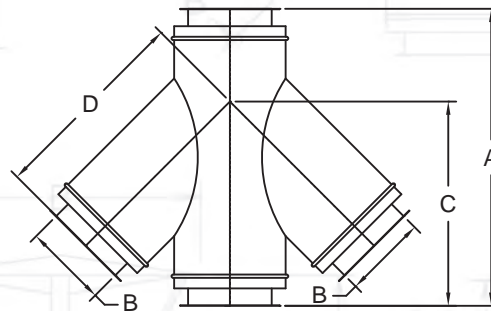
PSW, PIC AND 1G 45MT & DL TABLE IN METRIC

COMPONENTS

BODY I.D.	TAP I.D.	TAP I.D.													
		48	46	44	42	40	38	36	34	32	30	28	26	24	22
48PIC	"A"	83.53	80.70	77.87	75.05	72.22	69.39	66.56	63.73	60.91	58.08	55.25	52.42	49.59	46.77
	"B"	48	46	44	42	40	38	36	34	32	30	28	26	24	22
	"C"	67.77	66.35	64.94	63.52	62.11	60.70	59.28	57.87	56.45	55.04	53.63	52.21	50.80	49.38
	"D"	67.77	66.77	65.77	64.77	63.77	62.77	61.77	60.77	59.77	58.77	57.77	56.77	55.77	54.77
46PIC	"A"	80.70	77.87	75.05	72.22	69.39	66.56	63.73	60.91	58.08	55.25	52.42	49.59	46.77	43.94
	"B"	46	44	42	40	38	36	34	32	30	28	26	24	22	20
	"C"	65.35	63.94	62.52	61.11	59.70	58.28	56.87	55.45	54.04	52.63	51.21	49.80	48.38	46.97
	"D"	65.35	64.35	63.35	62.35	61.35	60.35	59.35	58.35	57.35	56.35	55.35	54.35	53.35	52.35
44PIC	"A"	77.87	75.05	72.22	69.39	66.56	63.73	60.91	58.08	55.25	52.42	49.59	46.77	43.94	41.11
	"B"	44	42	40	38	36	34	32	30	28	26	24	22	20	18
	"C"	62.94	61.52	60.11	58.70	57.28	55.87	54.45	53.04	51.63	50.21	48.80	47.38	45.97	44.56
	"D"	62.94	61.94	60.94	59.94	58.94	57.94	56.94	55.94	54.94	53.94	52.94	51.94	50.94	49.94
42PIC	"A"	75.05	72.22	69.39	66.56	63.73	60.91	58.08	55.25	52.42	49.59	46.77	43.94	41.11	38.28
	"B"	42	40	38	36	34	32	30	28	26	24	22	20	18	16
	"C"	60.52	59.11	57.70	56.28	54.87	53.45	52.04	50.63	49.21	47.80	46.38	44.97	43.56	42.14
	"D"	60.52	59.52	58.52	57.52	56.52	55.52	54.52	53.52	52.52	51.52	50.52	49.52	48.52	47.52
40PIC	"A"	72.22	69.39	66.56	63.73	60.91	58.08	55.25	52.42	49.59	46.77	43.94	41.11	38.28	35.45
	"B"	40	38	36	34	32	30	28	26	24	22	20	18	16	14
	"C"	58.11	56.70	55.28	53.87	52.45	51.04	49.63	48.21	46.80	45.38	43.97	42.56	41.14	39.73
	"D"	58.11	57.11	56.11	55.11	54.11	53.11	52.11	51.11	50.11	49.11	48.11	47.11	46.11	45.11
38PIC	"A"	69.39	66.56	63.73	60.91	58.08	55.25	52.42	49.59	46.77	43.94	41.11	38.28	35.45	32.63
	"B"	38	36	34	32	30	28	26	24	22	20	18	16	14	12
	"C"	55.70	54.28	52.87	51.45	50.04	48.63	47.21	45.80	44.38	42.97	41.56	40.14	38.73	37.31
	"D"	55.70	54.70	53.70	52.70	51.70	50.70	49.70	48.70	47.70	46.70	45.70	44.70	43.70	42.70
36PIC	"A"	66.56	63.73	60.91	58.08	55.25	52.42	49.59	46.77	43.94	41.11	38.28	35.45	32.63	29.80
	"B"	36	34	32	30	28	26	24	22	20	18	16	14	12	10
	"C"	53.28	51.87	50.45	49.04	47.63	46.21	44.80	43.38	41.97	40.56	39.14	37.73	36.31	34.90
	"D"	53.28	52.28	51.28	50.28	49.28	48.28	47.28	46.28	45.28	44.28	43.28	42.28	41.28	40.28
34PIC	"A"	63.73	60.91	58.08	55.25	52.42	49.59	46.77	43.94	41.11	38.28	35.45	32.63	29.80	27.00
	"B"	34	32	30	28	26	24	22	20	18	16	14	12	10	8
	"C"	50.87	49.45	48.04	46.63	45.21	43.80	42.38	40.97	39.56	38.14	36.73	35.31	33.90	32.49
	"D"	50.87	49.87	48.87	47.87	46.87	45.87	44.87	43.87	42.87	41.87	40.87	39.87	38.87	37.87
32PIC	"A"	60.91	58.08	55.25	52.42	49.59	46.77	43.94	41.11	38.28	35.45	32.63	29.80	27.00	24.19
	"B"	32	30	28	26	24	22	20	18	16	14	12	10	8	6
	"C"	48.45	47.04	45.63	44.21	42.80	41.38	39.97	38.56	37.14	35.73	34.31	32.90	31.49	30.07
	"D"	48.45	47.45	46.45	45.45	44.45	43.45	42.45	41.45	40.45	39.45	38.45	37.45	36.45	35.45
30PIC	"A"	58.08	55.25	52.42	49.59	46.77	43.94	41.11	38.28	35.45	32.63	29.80	27.00	24.19	21.38
	"B"	30	28	26	24	22	20	18	16	14	12	10	8	6	4
	"C"	46.04	44.63	43.21	41.80	40.38	38.97	37.56	36.14	34.73	33.31	31.90	30.49	29.07	27.66
	"D"	46.04	45.04	44.04	43.04	42.04	41.04	40.04	39.04	38.04	37.04	36.04	35.04	34.04	33.04
28PIC	"A"	55.25	52.42	49.59	46.77	43.94	41.11	38.28	35.45	32.63	29.80	27.00	24.19	21.38	18.57
	"B"	28	26	24	22	20	18	16	14	12	10	8	6	4	2
	"C"	43.63	42.21	40.80	39.38	37.97	36.56	35.14	33.73	32.31	30.90	29.49	28.07	26.66	25.25
	"D"	43.63	42.63	41.63	40.63	39.63	38.63	37.63	36.63	35.63	34.63	33.63	32.63	31.63	30.63
26PIC	"A"	52.42	49.59	46.77	43.94	41.11	38.28	35.45	32.63	29.80	27.00	24.19	21.38	18.57	15.76
	"B"	26	24	22	20	18	16	14	12	10	8	6	4	2	0
	"C"	41.21	39.80	38.38	36.97	35.56	34.14	32.73	31.31	29.90	28.49	27.07	25.66	24.25	22.84
	"D"	41.21	40.21	39.21	38.21	37.21	36.21	35.21	34.21	33.21	32.21	31.21	30.21	29.21	28.21
24PIC	"A"	49.59	46.77	43.94	41.11	38.28	35.45	32.63	29.80	27.00	24.19	21.38	18.57	15.76	12.95
	"B"	24	22	20	18	16	14	12	10	8	6	4	2	0	-2
	"C"	38.80	37.38	35.97	34.56	33.14	31.73	30.31	28.90	27.49	26.07	24.66	23.25	21.84	20.43
	"D"	38.80	37.80	36.80	35.80	34.80	33.80	32.80	31.80	30.80	29.80	28.80	27.80	26.80	25.80
22PIC	"A"	46.77	43.94	41.11	38.28	35.45	32.63	29.80	27.00	24.19	21.38	18.57	15.76	12.95	10.14
	"B"	22	20	18	16	14	12	10	8	6	4	2	0	-2	-4
	"C"	36.38	34.97	33.56	32.14	30.73	29.31	27.90	26.49	25.07	23.66	22.25	20.84	19.43	18.02
	"D"	36.38	35.38	34.38	33.38	32.38	31.38	30.38	29.38	28.38	27.38	26.38	25.38	24.38	23.38
20PIC	"A"	43.94	41.11	38.28	35.45	32.63	29.80	27.00	24.19	21.38	18.57	15.76	12.95	10.14	7.33
	"B"	20	18	16	14	12	10	8	6	4	2	0	-2	-4	-6
	"C"	33.97	32.56	31.14	29.73	28.31	26.90	25.49	24.07	22.66	21.25	19.84	18.43	17.02	15.61
	"D"	33.97	32.97	31.97	30.97	29.97	28.97	27.97	26.97	25.97	24.97	23.97	22.97	21.97	20.97
18PIC	"A"	41.11	38.28	35.45	32.63	29.80	27.00	24.19	21.38	18.57	15.76	12.95	10.14	7.33	4.52
	"B"	18	16	14	12	10	8	6	4	2	0	-2	-4	-6	-8
	"C"	31.56	30.14	28.73	27.31	25.90	24.49	23.07	21.66	20.25	18.84	17.43	16.02	14.61	13.20
	"D"	31.56	30.56	29.56	28.56	27.56	26.56	25.56	24.56	23.56	22.56	21.56	20.56	19.56	18.56
16PIC	"A"	38.28	35.45	32.63	29.80	27.00	24.19	21.38	18.57	15.76	12.95	10.14	7.33	4.52	1.71
	"B"	16	14	12	10	8	6	4	2	0	-2	-4	-6	-8	-10
	"C"	29.14	27.73	26.31	24.90	23.49	22.07	20.66	19.25	17.84	16.43	15.02	13.61	12.20	10.79
	"D"	29.14	28.14	27.14	26.14	25.14	24.14	23.14	22.14	21.14	20.14	19.14	18.14	17.14	16.14
14PIC	"A"	35.45	32.63	29.80	27.00	24.19	21.38	18.57	15.76	12.95	10.14	7.33	4.52	1.71	-1.10
	"B"	14	12	10	8	6	4	2	0	-2	-4	-6	-8	-10	-12
	"C"	26.73	25.31	23.90	22.49	21.07	19.66	18.25	16.84	15.43	14.02	12.61	11.20	9.79	8.38
	"D"	26.73	25.73	24.73	23.73	22.73	21.73	20.73	19.73	18.73	17.73	16.73	15.73	14.73	13.73
12PIC	"A"	32.63	29.80	27.00	24.19	21.38	18.57	15.76	12.95	10.14	7.33	4.52	1.71	-1.10	-3.30
	"B"	12	10	8	6	4	2	0	-2	-4	-6	-8	-10	-12	-14
	"C"	24.31	22.90	21.49	20.07	18.66	17.25	15.84	14.43	13.02	11.61	10.20	8.79	7.38	5.97
	"D"	24.31	23.31	22.31	21.31	20.31	19.31	18.31	17.31	16.31	15.31	14.31	13.31	12.31	11.31
10PIC	"A"	29.													

COMPONENTS

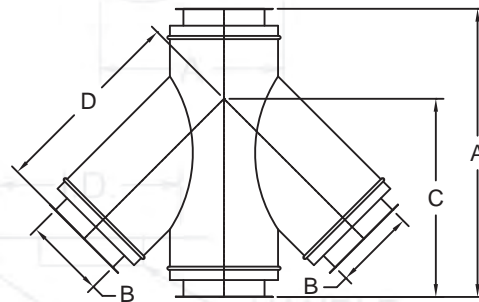
		TAP I.D.														
		48	46	44	42	40	38	36	34	32	30	28	26	24	22	
BODY I.D.	48PIC	"A"	2122	2050	1978	1906	1834	1763	1691	1619	1547	1475	1403	1357	1310	1290
		"B"	1219	1168	1118	1067	1016	965	914	864	813	762	711	660	610	559
		"C"	1721	1685	1649	1613	1578	1542	1506	1470	1434	1398	1362	1326	1290	1254
		"D"	1721	1696	1671	1645	1620	1594	1569	1544	1518	1493	1467	1442	1417	1391
	46PIC	"A"	46	44	42	40	38	36	34	32	30	28	26	24	22	20
		"B"	1168	1118	1067	1016	965	914	864	813	762	711	660	610	559	508
		"C"	1660	1624	1588	1552	1516	1480	1444	1408	1373	1337	1301	1265	1229	1193
		"D"	1660	1634	1609	1584	1558	1533	1507	1482	1457	1431	1406	1380	1355	1330
	44PIC	"A"	44	42	40	38	36	34	32	30	28	26	24	22	20	18
		"B"	1978	1906	1834	1763	1691	1619	1547	1475	1403	1331	1260	1239	1192	1146
		"C"	1118	1067	1016	965	914	864	813	762	711	660	610	559	508	457
		"D"	1599	1563	1527	1491	1455	1419	1383	1347	1311	1275	1240	1203	1168	1132
	42PIC	"A"	42	40	38	36	34	32	30	28	26	24	22	20	18	16
		"B"	1906	1834	1763	1691	1619	1547	1475	1403	1331	1260	1213	1167	1120	1099
		"C"	1067	1016	965	914	864	813	762	711	660	610	559	508	457	406
		"D"	1537	1501	1466	1430	1394	1358	1322	1286	1250	1214	1178	1142	1106	1070
40PIC	"A"	40	38	36	34	32	30	28	26	24	22	20	18	16	14	
	"B"	1834	1763	1691	1619	1547	1475	1403	1331	1260	1188	1141	1095	1074	1032	
	"C"	1016	965	914	864	813	762	711	660	610	559	508	457	406	356	
	"D"	1476	1440	1404	1368	1332	1296	1260	1225	1189	1153	1117	1081	1045	1009	
38PIC	"A"	38	36	34	32	30	28	26	24	22	20	18	16	14	12	
	"B"	1763	1691	1619	1547	1475	1403	1331	1260	1188	1116	1070	1049	1007	981	
	"C"	965	914	864	813	762	711	660	610	559	508	457	406	356	305	
	"D"	1415	1379	1343	1307	1271	1235	1199	1163	1127	1091	1056	1020	984	948	
36PIC	"A"	36	34	32	30	28	26	24	22	20	18	16	14	12	10	
	"B"	1691	1619	1547	1475	1403	1331	1260	1188	1116	1044	1023	981	956	909	
	"C"	914	864	813	762	711	660	610	559	508	457	406	356	305	254	
	"D"	1353	1317	1281	1246	1210	1174	1138	1102	1066	1030	994	958	922	886	
34PIC	"A"	34	32	30	28	26	24	22	20	18	16	14	12	10	8	
	"B"	1619	1547	1475	1403	1331	1260	1188	1116	1044	998	956	930	884	837	
	"C"	864	813	762	711	660	610	559	508	457	406	356	305	254	203	
	"D"	1292	1256	1220	1184	1148	1113	1076	1041	1005	969	933	897	861	825	
32PIC	"A"	32	30	28	26	24	22	20	18	16	14	12	10	8	6	
	"B"	1547	1475	1403	1331	1260	1188	1116	1044	972	930	905	859	812	797	
	"C"	813	762	711	660	610	559	508	457	406	356	305	254	203	152	
	"D"	1231	1196	1159	1123	1087	1051	1015	979	943	908	871	836	800	764	
30PIC	"A"	30	28	26	24	22	20	18	16	14	12	10	8	6		
	"B"	1475	1403	1331	1260	1188	1116	1044	972	900	880	833	787	772		
	"C"	762	711	660	610	559	508	457	406	356	305	254	203	152		
	"D"	1169	1134	1098	1062	1026	990	954	918	882	846	810	774	738		
28PIC	"A"	28	26	24	22	20	18	16	14	12	10	8	6			
	"B"	1403	1331	1260	1188	1116	1044	972	900	854	808	761	747			
	"C"	711	660	610	559	508	457	406	356	305	254	203	152			
	"D"	1108	1072	1036	1000	964	929	893	857	821	785	749	713			
26PIC	"A"	26	24	22	20	18	16	14	12	10	8	6				
	"B"	1331	1260	1188	1116	1044	972	900	829	782	736	721				
	"C"	660	610	559	508	457	406	356	305	254	203	152				
	"D"	1047	1011	975	939	903	867	831	795	759	724	688				
24PIC	"A"	24	22	20	18	16	14	12	10	8	6					
	"B"	1260	1188	1116	1044	972	900	829	757	710	696					
	"C"	610	559	508	457	406	356	305	254	203	152					
	"D"	986	949	914	878	842	806	770	734	698	662					
22PIC	"A"	22	20	18	16	14	12	10	8	6						
	"B"	1188	1116	1044	972	900	829	757	707	685	670					
	"C"	559	508	457	406	356	305	254	203	152						
	"D"	924	888	852	816	781	744	709	673	637						
20PIC	"A"	20	18	16	14	12	10	8	6							
	"B"	1116	1044	972	900	829	757	685	613							
	"C"	508	457	406	356	305	254	203	152							
	"D"	863	827	791	755	719	683	647	611							
18PIC	"A"	18	16	14	12	10	8	6								
	"B"	1044	972	900	829	757	685	613								
	"C"	457	406	356	305	254	203	152								
	"D"	802	766	730	694	658	622	586								
16PIC	"A"	16	14	12	10	8	6									
	"B"	972	900	829	757	685	613									
	"C"	406	356	305	254	203	152									
	"D"	740	704	668	632	597	561									
14PIC	"A"	14	12	10	8	6										
	"B"	900	829	757	685	613										
	"C"	356	305	254	203	152										
	"D"	679	643	607	571	535										
12PIC	"A"	12	10	8	6											
	"B"	829	757	685	613											
	"C"	305	254	203	152											
	"D"	617	582	546	510											
10PIC	"A"	10	8	6												
	"B"	757	685	613												
	"C"	254	203	152												
	"D"	556	520	484												
8PIC	"A"	8	6													
	"B"	685	613													
	"C"	203	152													
	"D"	495	459													
6PIC	"A"	6														
	"B"	613														
	"C"	152														
	"D"	434														



2G 45MT & DL TABLE IN METRIC

COMPONENTS

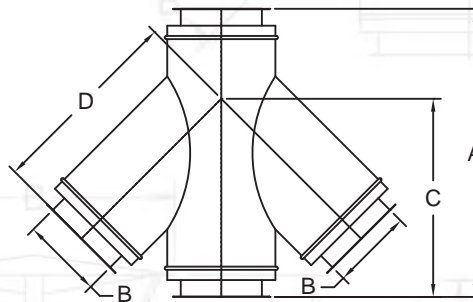
BODY I.D.	TAP I.D.										
		36	34	32	30	28	26	24	22	20	18
36PIC	"A"	69.39	66.57	63.74	60.91	58.08	55.25	52.43	49.59	46.76	43.93
	"B"	36	34	32	30	28	26	24	22	20	18
	"C"	55.70	54.28	52.87	51.46	50.04	48.63	47.21	45.80	44.38	42.96
	"D"	55.70	54.70	53.70	52.70	51.70	50.70	49.70	48.70	47.70	46.70
34PIC	"A"	66.57	63.74	60.91	58.08	55.25	52.43	49.59	46.76	43.93	42.10
	"B"	34	32	30	28	26	24	22	20	18	16
	"C"	53.28	51.87	50.46	49.04	47.63	46.21	44.80	43.38	41.96	40.55
	"D"	53.28	52.28	51.28	50.28	49.28	48.28	47.28	46.28	45.28	44.28
32PIC	"A"	63.74	60.91	58.08	55.25	52.43	49.59	46.76	43.93	41.10	36.63
	"B"	32	30	28	26	24	22	20	18	16	14
	"C"	50.87	49.46	48.04	46.63	45.21	43.80	42.38	40.96	39.55	38.14
	"D"	50.87	49.87	48.87	47.87	46.87	45.87	44.87	43.87	42.87	41.87
30PIC	"A"	60.91	58.08	55.25	52.43	49.59	46.76	43.93	41.10	38.27	34.63
	"B"	30	28	26	24	22	20	18	16	14	12
	"C"	48.46	47.04	45.63	44.21	42.80	41.38	39.96	38.55	37.14	35.72
	"D"	48.46	47.46	46.46	45.46	44.46	43.46	42.46	41.46	40.46	39.46
28PIC	"A"	58.08	55.25	52.43	49.59	46.76	43.93	41.10	38.27	33.63	31.80
	"B"	28	26	24	22	20	18	16	14	12	10
	"C"	46.04	44.63	43.21	41.80	40.38	38.96	37.55	36.14	34.72	33.31
	"D"	46.04	45.04	44.04	43.04	42.04	41.04	40.04	39.04	38.04	37.04
26PIC	"A"	55.25	52.43	49.59	46.76	43.93	41.10	38.27	35.45	30.80	30.79
	"B"	26	24	22	20	18	16	14	12	10	8
	"C"	43.63	42.21	40.80	39.38	37.96	36.55	35.14	33.72	32.31	30.89
	"D"	43.63	42.63	41.63	40.63	39.63	38.63	37.63	36.63	35.63	34.63
24PIC	"A"	52.43	49.59	46.76	43.93	41.10	38.27	35.45	32.62	29.79	26.97
	"B"	24	22	20	18	16	14	12	10	8	6
	"C"	41.21	39.80	38.38	36.96	35.55	34.14	32.72	31.31	29.89	28.48
	"D"	41.21	40.21	39.21	38.21	37.21	36.21	35.21	34.21	33.21	32.21
22PIC	"A"	49.59	46.76	43.93	41.10	38.27	35.45	32.62	29.79	26.97	
	"B"	22	20	18	16	14	12	10	8	6	
	"C"	38.80	37.38	35.96	34.55	33.14	31.72	30.31	28.89	27.48	
	"D"	38.80	37.80	36.80	35.80	34.80	33.80	32.80	31.80	30.80	
20PIC	"A"	46.76	43.93	41.10	38.27	35.45	32.62	29.79	26.97		
	"B"	20	18	16	14	12	10	8	6		
	"C"	36.38	34.96	33.55	32.14	30.72	29.31	27.89	26.48		
	"D"	36.38	35.38	34.38	33.38	32.38	31.38	30.38	29.38		
18PIC	"A"	43.93	41.10	38.27	35.45	32.62	29.79	26.97			
	"B"	18	16	14	12	10	8	6			
	"C"	33.96	32.55	31.14	29.72	28.31	26.89	25.48			
	"D"	33.96	32.96	31.96	30.96	29.96	28.96	27.96			
16PIC	"A"	41.10	38.27	35.45	32.62	29.79	26.97				
	"B"	16	14	12	10	8	6				
	"C"	31.55	30.14	28.72	27.31	25.89	24.48				
	"D"	31.55	30.55	29.55	28.55	27.55	26.55				
14PIC	"A"	38.27	35.45	32.62	29.79	26.97					
	"B"	14	12	10	8	6					
	"C"	29.14	27.72	26.31	24.89	23.48					
	"D"	29.14	28.14	27.14	26.14	25.14					
12PIC	"A"	35.45	32.62	29.79	26.97						
	"B"	12	10	8	6						
	"C"	26.72	25.31	23.89	22.48						
	"D"	26.72	25.72	24.72	23.72						
10PIC	"A"	32.62	29.79	26.97							
	"B"	10	8	6							
	"C"	24.31	22.89	21.48							
	"D"	24.31	23.31	22.31							
8PIC	"A"	29.79	26.97								
	"B"	8	6								
	"C"	21.89	20.48								
	"D"	21.89	20.89								
6PIC	"A"	26.97									
	"B"	6									
	"C"	19.48									
	"D"	19.48									



3G 45MT & DL TABLE IN INCHES

COMPONENTS

BODY I.D.	TAP I.D.										
	36	34	32	30	28	26	24	22	20	18	
36PIC	"A"	1763	1691	1619	1547	1475	1403	1332	1260	1188	1116
	"B"	914	864	813	762	711	660	610	559	508	457
	"C"	1415	1379	1343	1307	1271	1235	1199	1163	1127	1091
	"D"	1415	1389	1364	1339	1313	1288	1262	1237	1212	1186
34PIC	"A"	1691	1619	1547	1475	1403	1332	1260	1188	1116	1069
	"B"	864	813	762	711	660	610	559	508	457	406
	"C"	1353	1317	1282	1246	1210	1174	1138	1102	1066	1030
	"D"	1353	1328	1303	1277	1252	1226	1201	1176	1150	1125
32PIC	"A"	1619	1547	1475	1403	1332	1260	1188	1116	1044	930
	"B"	813	762	711	660	609	558	507	456	405	356
	"C"	1292	1256	1220	1184	1148	1113	1076	1040	1005	969
	"D"	1292	1267	1241	1216	1190	1165	1140	1114	1089	1063
30PIC	"A"	1547	1475	1403	1332	1260	1188	1116	1044	972	880
	"B"	762	711	660	610	559	508	457	406	356	305
	"C"	1231	1195	1159	1123	1087	1051	1015	979	943	907
	"D"	1231	1205	1180	1155	1129	1104	1078	1053	1028	1002
28PIC	"A"	1475	1403	1332	1260	1188	1116	1044	972	854	808
	"B"	711	660	610	559	508	457	406	356	305	254
	"C"	1169	1134	1098	1062	1026	990	954	918	882	846
	"D"	1169	1144	1119	1093	1068	1042	1017	992	966	941
26PIC	"A"	1403	1332	1260	1188	1116	1044	972	900	782	782
	"B"	660	610	559	508	457	406	356	305	254	203
	"C"	1108	1072	1036	1000	964	928	893	856	821	785
	"D"	1108	1083	1057	1032	1007	981	956	930	904	878
24PIC	"A"	1332	1260	1188	1116	1044	972	900	829	757	685
	"B"	610	559	508	457	406	356	305	254	203	152
	"C"	1047	1011	975	939	903	867	831	795	759	723
	"D"	1047	1021	996	971	945	920	894	869	844	818
22PIC	"A"	1260	1188	1116	1044	972	900	829	757	685	685
	"B"	559	508	457	406	356	305	254	203	152	152
	"C"	986	949	913	878	842	806	770	734	698	698
	"D"	986	960	935	909	884	859	833	808	782	782
20PIC	"A"	1188	1116	1044	972	900	829	757	685	685	685
	"B"	508	457	406	356	305	254	203	152	152	152
	"C"	924	888	852	816	780	744	708	673	637	637
	"D"	924	899	873	848	822	797	772	746	746	746
18PIC	"A"	1116	1044	972	900	829	757	685	685	685	685
	"B"	457	406	356	305	254	203	152	152	152	152
	"C"	863	827	791	755	719	683	647	611	575	575
	"D"	863	837	812	786	761	736	710	710	710	710
16PIC	"A"	1044	972	900	829	757	685	685	685	685	685
	"B"	406	356	305	254	203	152	152	152	152	152
	"C"	801	766	729	694	658	622	586	550	514	514
	"D"	801	776	751	725	700	674	674	674	674	674
14PIC	"A"	972	900	829	757	685	685	685	685	685	685
	"B"	356	305	254	203	152	152	152	152	152	152
	"C"	740	704	668	632	596	560	524	488	452	452
	"D"	740	715	689	664	639	639	639	639	639	639
12PIC	"A"	900	829	757	685	685	685	685	685	685	685
	"B"	305	254	203	152	152	152	152	152	152	152
	"C"	679	643	607	571	535	499	463	427	391	391
	"D"	679	653	628	602	602	602	602	602	602	602
10PIC	"A"	829	757	685	685	685	685	685	685	685	685
	"B"	254	203	152	152	152	152	152	152	152	152
	"C"	617	581	546	510	474	438	402	366	330	330
	"D"	617	592	567	567	567	567	567	567	567	567
8PIC	"A"	757	685	685	685	685	685	685	685	685	685
	"B"	203	152	152	152	152	152	152	152	152	152
	"C"	556	520	520	520	520	520	520	520	520	520
	"D"	556	531	531	531	531	531	531	531	531	531
6PIC	"A"	685	685	685	685	685	685	685	685	685	685
	"B"	152	152	152	152	152	152	152	152	152	152
	"C"	495	495	495	495	495	495	495	495	495	495
	"D"	495	495	495	495	495	495	495	495	495	495



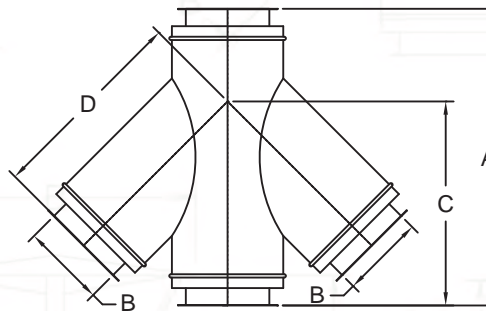
3G 45MT & DL TABLE IN METRIC

COMPONENTS

BODY I.D.	TAP I.D.													
	48	46	44	42	40	38	36	34	32	30	28	26	24	
48PIC	"A"	89.19	86.36	83.54	80.71	77.88	75.05	72.22	69.40	66.57	63.74	60.91	58.08	56.25
	"B"	48	46	44	42	40	38	36	34	32	30	28	26	24
	"C"	72.60	71.18	69.77	68.35	66.94	65.53	64.11	62.70	61.28	59.87	58.45	57.04	55.63
	"D"	72.60	71.60	70.60	69.60	68.60	67.60	66.60	65.60	64.60	63.60	62.60	61.60	60.60
46PIC	"A"	86.36	83.54	80.71	77.88	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.25	54.42
	"B"	46	44	42	40	38	36	34	32	30	28	26	24	22
	"C"	70.18	68.77	67.35	65.94	64.53	63.11	61.70	60.28	58.87	57.45	56.04	54.63	53.21
	"D"	70.18	69.18	68.18	67.18	66.18	65.18	64.18	63.18	62.18	61.18	60.18	59.18	58.18
44PIC	"A"	83.54	80.71	77.88	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.25	53.42	51.60
	"B"	44	42	40	38	36	34	32	30	28	26	24	22	20
	"C"	67.77	66.35	64.94	63.53	62.11	60.70	59.28	57.87	56.45	55.04	53.63	52.21	50.80
	"D"	67.77	66.77	65.77	64.77	63.77	62.77	61.77	60.77	59.77	58.77	57.77	56.77	55.77
42PIC	"A"	80.71	77.88	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.25	52.42	50.60	49.77
	"B"	42	40	38	36	34	32	30	28	26	24	22	20	18
	"C"	65.35	63.94	62.53	61.11	59.70	58.28	56.87	55.45	54.04	52.63	51.21	49.80	48.38
	"D"	65.35	64.35	63.35	62.35	61.35	60.35	59.35	58.35	57.35	56.35	55.35	54.35	53.35
40PIC	"A"	77.88	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.25	52.42	49.60	48.77	46.94
	"B"	40	38	36	34	32	30	28	26	24	22	20	18	16
	"C"	62.94	61.53	60.11	58.70	57.28	55.87	54.45	53.04	51.63	50.21	48.80	47.38	45.97
	"D"	62.94	61.94	60.94	59.94	58.94	57.94	56.94	55.94	54.94	53.94	52.94	51.94	50.94
38PIC	"A"	75.05	72.22	69.40	66.57	63.74	60.91	58.08	55.25	52.42	49.60	47.77	45.94	44.11
	"B"	38	36	34	32	30	28	26	24	22	20	18	16	14
	"C"	60.53	59.11	57.70	56.28	54.87	53.45	52.04	50.63	49.21	47.80	46.38	44.97	43.56
	"D"	60.53	59.53	58.53	57.53	56.53	55.53	54.53	53.53	52.53	51.53	50.53	49.53	48.53
36PIC	"A"	72.22	69.40	66.57	63.74	60.91	58.08	55.25	52.42	49.60	46.77	44.94	43.11	42.28
	"B"	36	34	32	30	28	26	24	22	20	18	16	14	12
	"C"	58.11	56.70	55.28	53.87	52.45	51.04	49.63	48.21	46.80	45.38	43.97	42.56	41.14
	"D"	58.11	57.11	56.11	55.11	54.11	53.11	52.11	51.11	50.11	49.11	48.11	47.11	46.11
34PIC	"A"	69.40	66.57	63.74	60.91	58.08	55.25	52.42	49.60	46.77	43.94	42.11	41.28	39.46
	"B"	34	32	30	28	26	24	22	20	18	16	14	12	10
	"C"	55.70	54.28	52.87	51.45	50.04	48.63	47.21	45.80	44.38	42.97	41.56	40.14	38.73
	"D"	55.70	54.70	53.70	52.70	51.70	50.70	49.70	48.70	47.70	46.70	45.70	44.70	43.70
32PIC	"A"	66.57	63.74	60.91	58.08	55.25	52.42	49.60	46.77	43.94	41.11	40.28	38.46	36.63
	"B"	32	30	28	26	24	22	20	18	16	14	12	10	8
	"C"	53.28	51.87	50.45	49.04	47.63	46.21	44.80	43.38	41.97	40.56	39.14	37.73	36.31
	"D"	53.28	52.28	51.28	50.28	49.28	48.28	47.28	46.28	45.28	44.28	43.28	42.28	41.28
30PIC	"A"	63.74	60.91	58.08	55.25	52.42	49.60	46.77	43.94	41.11	39.28	37.46	35.63	34.80
	"B"	30	28	26	24	22	20	18	16	14	12	10	8	6
	"C"	50.87	49.45	48.04	46.63	45.21	43.80	42.38	40.97	39.56	38.14	36.73	35.31	33.90
	"D"	50.87	49.87	48.87	47.87	46.87	45.87	44.87	43.87	42.87	41.87	40.87	39.87	38.87
28PIC	"A"	60.91	58.08	55.25	52.42	49.60	46.77	43.94	41.11	38.28	36.46	34.63	33.80	32.97
	"B"	28	26	24	22	20	18	16	14	12	10	8	6	4
	"C"	48.45	47.04	45.63	44.21	42.80	41.38	39.97	38.56	37.14	35.73	34.31	32.90	31.48
	"D"	48.45	47.45	46.45	45.45	44.45	43.45	42.45	41.45	40.45	39.45	38.45	37.45	36.45
26PIC	"A"	58.08	55.25	52.42	49.60	46.77	43.94	41.11	38.28	35.46	33.63	32.80	31.97	31.14
	"B"	26	24	22	20	18	16	14	12	10	8	6	4	2
	"C"	46.04	44.63	43.21	41.80	40.38	38.97	37.56	36.14	34.73	33.31	31.90	30.48	29.07
	"D"	46.04	45.04	44.04	43.04	42.04	41.04	40.04	39.04	38.04	37.04	36.04	35.04	34.04
24PIC	"A"	55.25	52.42	49.60	46.77	43.94	41.11	38.28	35.46	32.63	31.80	30.97	30.14	29.31
	"B"	24	22	20	18	16	14	12	10	8	6	4	2	0
	"C"	43.63	42.21	40.80	39.38	37.97	36.56	35.14	33.73	32.31	30.90	29.48	28.07	26.65
	"D"	43.63	42.63	41.63	40.63	39.63	38.63	37.63	36.63	35.63	34.63	33.63	32.63	31.63
22PIC	"A"	52.42	49.60	46.77	43.94	41.11	38.28	35.46	32.63	31.80	30.97	30.14	29.31	28.48
	"B"	22	20	18	16	14	12	10	8	6	4	2	0	-2
	"C"	41.21	39.80	38.38	36.97	35.56	34.14	32.73	31.31	29.90	28.48	27.07	25.65	24.24
	"D"	41.21	40.21	39.21	38.21	37.21	36.21	35.21	34.21	33.21	32.21	31.21	30.21	29.21
20PIC	"A"	49.60	46.77	43.94	41.11	38.28	35.46	32.63	31.80	30.97	30.14	29.31	28.48	27.65
	"B"	20	18	16	14	12	10	8	6	4	2	0	-2	-4
	"C"	38.80	37.38	35.97	34.56	33.14	31.73	30.31	28.90	27.48	26.07	24.65	23.24	21.82
	"D"	38.80	37.80	36.80	35.80	34.80	33.80	32.80	31.80	30.80	29.80	28.80	27.80	26.80
18PIC	"A"	46.77	43.94	41.11	38.28	35.46	32.63	31.80	30.97	30.14	29.31	28.48	27.65	26.82
	"B"	18	16	14	12	10	8	6	4	2	0	-2	-4	-6
	"C"	36.38	34.97	33.56	32.14	30.73	29.31	27.90	26.48	25.07	23.65	22.24	20.82	19.41
	"D"	36.38	35.38	34.38	33.38	32.38	31.38	30.38	29.38	28.38	27.38	26.38	25.38	24.38
16PIC	"A"	43.94	41.11	38.28	35.46	32.63	31.80	30.97	30.14	29.31	28.48	27.65	26.82	25.99
	"B"	16	14	12	10	8	6	4	2	0	-2	-4	-6	-8
	"C"	33.97	32.56	31.14	29.73	28.31	26.90	25.48	24.07	22.65	21.24	19.82	18.41	17.00
	"D"	33.97	32.97	31.97	30.97	29.97	28.97	27.97	26.97	25.97	24.97	23.97	22.97	21.97
14PIC	"A"	41.11	38.28	35.46	32.63	31.80	30.97	30.14	29.31	28.48	27.65	26.82	25.99	25.16
	"B"	14	12	10	8	6	4	2	0	-2	-4	-6	-8	-10
	"C"	31.56	30.14	28.73	27.31	25.90	24.48	23.07	21.65	20.24	18.82	17.41	16.00	14.58
	"D"	31.56	30.56	29.56	28.56	27.56	26.56	25.56	24.56	23.56	22.56	21.56	20.56	19.56
12PIC	"A"	38.28	35.46	32.63	31.80	30.97	30.14	29.31	28.48	27.65	26.82	25.99	25.16	24.33
	"B"	12	10	8	6	4	2	0	-2	-4	-6	-8	-10	-12
	"C"	29.14	27.73	26.31	24.90	23.48	22.07	20.65	19.24	17.82	16.41	15.00	13.58	12.17
	"D"	29.14	28.14	27.14	26.14	25.14	24.14	23.14	22.14	21.14	20.14	19.14	18.14	17.14
10PIC	"A"	35.46	32.63	31.80	30.97	30.14	29.31	28.48	27.65	26.82	25.99	25.16	24.33	23.50
	"B"	10	8	6	4	2	0	-2	-4	-6	-8	-10	-12	-14
	"C"	26.73	25.31	23.90	22.48	21.07	19.65	18.24	16.82	15.41	14.00	12.58	11.17	9.75
	"D"	26.73	25.73	24.73	23.73	22.73	21.73	20.73	19.73	18.73	17.73	16.73	15.73	14.73
8PIC	"A"	32.63	31.80	30.97	30.14	29.31	28.48	27.65	26.82	25.99	25.16	24.33	23.50	22.67
	"B"	8	6	4	2									

COMPONENTS

		TAP I.D.												
		48	46	44	42	40	38	36	34	32	30	28	26	24
48PIC	"A"	2265	2194	2122	2050	1978	1906	1834	1763	1691	1619	1547	1475	1429
	"B"	1219	1168	1118	1067	1016	965	914	864	813	762	711	660	610
	"C"	1844	1808	1772	1736	1700	1664	1628	1593	1557	1521	1485	1449	1413
	"D"	1844	1819	1793	1768	1742	1717	1692	1666	1641	1615	1590	1565	1539
46PIC	"A"	46	44	42	40	38	36	34	32	30	28	26	24	22
	"B"	2194	2122	2050	1978	1906	1834	1763	1691	1619	1547	1475	1403	1382
	"C"	1168	1118	1067	1016	965	914	864	813	762	711	660	610	559
	"D"	1783	1747	1711	1675	1639	1603	1567	1531	1495	1459	1423	1388	1352
44PIC	"A"	44	42	40	38	36	34	32	30	28	26	24	22	20
	"B"	2122	2050	1978	1906	1834	1763	1691	1619	1547	1475	1403	1357	1311
	"C"	1118	1067	1016	965	914	864	813	762	711	660	610	559	508
	"D"	1721	1685	1649	1614	1578	1542	1506	1470	1434	1398	1362	1326	1290
42PIC	"A"	42	40	38	36	34	32	30	28	26	24	22	20	18
	"B"	2050	1978	1906	1834	1763	1691	1619	1547	1475	1403	1331	1285	1264
	"C"	1067	1016	965	914	864	813	762	711	660	610	559	508	457
	"D"	1660	1624	1588	1552	1516	1480	1444	1408	1373	1337	1301	1265	1229
40PIC	"A"	40	38	36	34	32	30	28	26	24	22	20	18	16
	"B"	1978	1906	1834	1763	1691	1619	1547	1475	1403	1331	1260	1239	1192
	"C"	1016	965	914	864	813	762	711	660	610	559	508	457	406
	"D"	1599	1563	1527	1491	1455	1419	1383	1347	1311	1275	1240	1203	1168
38PIC	"A"	38	36	34	32	30	28	26	24	22	20	18	16	14
	"B"	1906	1834	1763	1691	1619	1547	1475	1403	1331	1260	1213	1167	1120
	"C"	965	914	864	813	762	711	660	610	559	508	457	406	356
	"D"	1537	1501	1466	1430	1394	1358	1322	1286	1250	1214	1178	1142	1106
36PIC	"A"	36	34	32	30	28	26	24	22	20	18	16	14	12
	"B"	1834	1763	1691	1619	1547	1475	1403	1331	1260	1188	1141	1095	1074
	"C"	914	864	813	762	711	660	610	559	508	457	406	356	305
	"D"	1476	1440	1404	1368	1332	1296	1261	1225	1189	1153	1117	1081	1045
34PIC	"A"	34	32	30	28	26	24	22	20	18	16	14	12	10
	"B"	1763	1691	1619	1547	1475	1403	1331	1260	1188	1116	1070	1049	1002
	"C"	864	813	762	711	660	610	559	508	457	406	356	305	254
	"D"	1415	1379	1343	1307	1271	1235	1199	1163	1127	1091	1056	1020	984
32PIC	"A"	32	30	28	26	24	22	20	18	16	14	12	10	8
	"B"	1691	1619	1547	1475	1403	1331	1260	1188	1116	1044	1023	977	930
	"C"	813	762	711	660	610	559	508	457	406	356	305	254	203
	"D"	1353	1317	1281	1246	1210	1174	1138	1102	1066	1030	994	958	922
30PIC	"A"	30	28	26	24	22	20	18	16	14	12	10	8	6
	"B"	1619	1547	1475	1403	1331	1260	1188	1116	1044	998	951	905	884
	"C"	762	711	660	610	559	508	457	406	356	305	254	203	152
	"D"	1292	1256	1220	1184	1148	1113	1076	1041	1005	969	933	897	861
28PIC	"A"	28	26	24	22	20	18	16	14	12	10	8	6	
	"B"	1547	1475	1403	1331	1260	1188	1116	1044	972	926	880	859	
	"C"	711	660	610	559	508	457	406	356	305	254	203	152	
	"D"	1231	1195	1159	1123	1087	1051	1015	979	943	908	871	836	
26PIC	"A"	26	24	22	20	18	16	14	12	10	8	6		
	"B"	1475	1403	1331	1260	1188	1116	1044	972	901	854	833		
	"C"	660	610	559	508	457	406	356	305	254	203	152		
	"D"	1169	1134	1098	1062	1026	990	954	918	882	846	810		
24PIC	"A"	24	22	20	18	16	14	12	10	8	6			
	"B"	1403	1331	1260	1188	1116	1044	972	901	829	808			
	"C"	610	559	508	457	406	356	305	254	203	152			
	"D"	1108	1072	1036	1000	964	929	893	857	821	785			
22PIC	"A"	22	20	18	16	14	12	10	8	6				
	"B"	1331	1260	1188	1116	1044	972	901	829	757				
	"C"	559	508	457	406	356	305	254	203	152				
	"D"	1047	1011	975	939	903	867	831	795	759				
20PIC	"A"	20	18	16	14	12	10	8	6					
	"B"	1260	1188	1116	1044	972	901	829	757					
	"C"	508	457	406	356	305	254	203	152					
	"D"	986	949	914	878	842	806	770	734					
18PIC	"A"	18	16	14	12	10	8	6						
	"B"	1188	1116	1044	972	901	829	757						
	"C"	457	406	356	305	254	203	152						
	"D"	924	888	852	816	781	744	709						
16PIC	"A"	16	14	12	10	8	6							
	"B"	1116	1044	972	901	829	757							
	"C"	406	356	305	254	203	152							
	"D"	863	827	791	755	719	683							
14PIC	"A"	14	12	10	8	6								
	"B"	1044	972	901	829	757								
	"C"	356	305	254	203	152								
	"D"	802	766	730	694	658								
12PIC	"A"	12	10	8	6									
	"B"	972	901	829	757									
	"C"	305	254	203	152									
	"D"	740	704	668	632									
10PIC	"A"	10	8	6										
	"B"	901	829	757										
	"C"	254	203	152										
	"D"	679	643	607										
8PIC	"A"	8	6											
	"B"	829	757											
	"C"	203	152											
	"D"	617	582											
6PIC	"A"	6												
	"B"	757												
	"C"	152												
	"D"	556												



4G 45MT & DL TABLE IN METRIC

DESIGN CHECKLIST

In order to quickly and accurately design a Grease Duct system, Metal-Fab's Application Engineering Department needs basic information about the system.

1. Determine if it is a Type I (Grease) or Type II (Heat and non-flammable vapors).
2. Provide CFM flow rate for each hood connection.
3. Advise available height above hood for ductwork.
4. What are hood outlet dimensions?
5. Supply a line drawing, or plans that are to scale, that reflect desired system layout.
6. Provide termination information. (Vertical/Horizontal, Roof Curb dimensions, etc.)
7. Will the ductwork penetrate combustibile materials and/or fire-rated partitions?
8. Identify any obstructions and/or restrictions that will affect system design and supports.
9. Provide basic fan information (Upblast/Inline/Utility set).

Receipt of this information will expedite the design process.
Thank you.

WARRANTY

LIMITED LIFETIME WARRANTY

Metal-Fab Inc. warrants to owners of its Models PSW, PIC, 1G, 2G, 3G, and 4G grease duct systems that they are free from defects in material and workmanship in normal use for as long as the original consumer owns the grease duct system, provided the system has been designed, installed, maintained and used in accordance with Metal-Fab, Inc. Installation Instructions. Metal-Fab, Inc. further warrants any portion of such system repaired or replaced under this limited warranty for the remainder of the original warranty.

Refer to Metal-Fab, Inc. Warranty form L2157 for complete information on claim procedures, exclusions and limitations. Available online at www.greaseduct.com and www.metal-fabcommercial.com.



— 800-835-2830 —