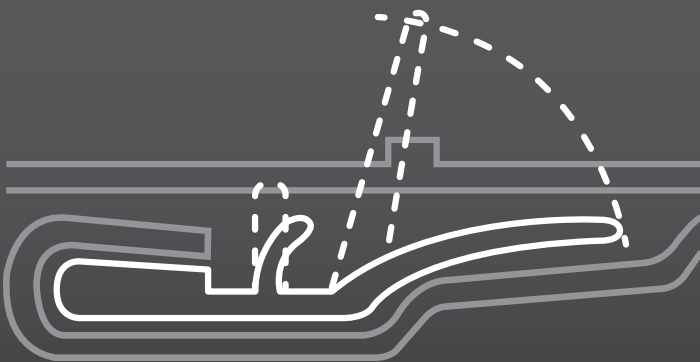


SPIRAL FITTINGS, INC

SPIRAL SEAL SELF-SEALING ROUND DUCT SYSTEM



349 GAPWAY ROAD
GEORGETOWN, SC 29440
OFFICE: 843-527-6563
FAX: 843-527-6504

SALES@SPIRALFITTING.COM
WWW.SPIRALFITTINGS.COM
INFO@SPIRALFITINGS.COM

Spiral Seal will eliminate the sealing of all connections in your spiral pipe system. This system will not only provide a labor savings for the the installer, it is a highly efficient duct sytem and also great for exposed systems.

FEATURES

- All fittings will have factory installed rubber gasket, which has an operating temperature rating of -20°F to 212°F.
- The smoke and flame spread rating is 0/0.
- The gasket is attached to the fitting with a 180° hemmed end that will hold the gasket in place.
- The connections are secured with self-tapping sheet metal screws per SMACNA standards.
- Spiral Seal allows for substantial space for insertion of the screw, because the gasket is located on the ends of the fitting.
- Spiral Seal has been tested in accordance to SMACNA's Air Duct Leakage Test Manual and meets SMACNA Class 3 leakage standards

BENEFITS

- Strong fitting
- Elimantes sharp edges
- Consistent diameter
- Factory installed resulting in a cost savings
- Spiral Seal gasket is treated with anti-friction coating for easy installation

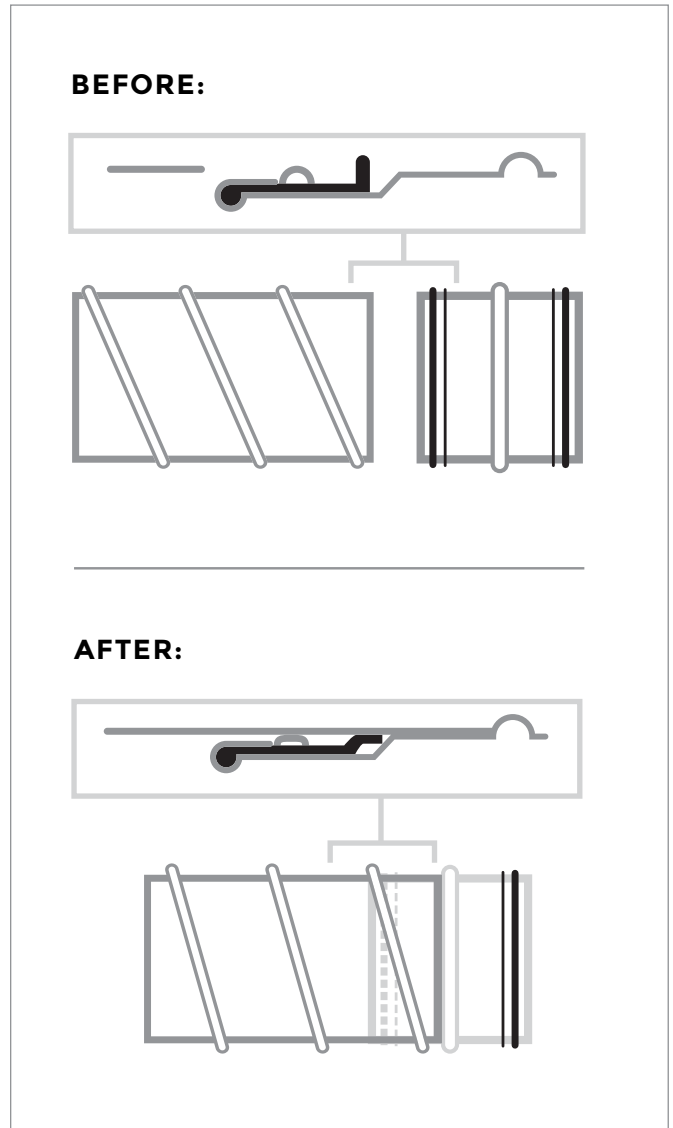
FITTINGS AND MATERIALS

Fittings: 4"-10" (all sizes), 12-48" (even sizes only)

Materials: Galvanized (in stock), Galvanized (Paintgrip) and Aluminum, Stainless Steel (304 & 316)

All fittings will be fabricated, expect for Galvanized Stamped Fitting listed below:

Elbows	4"-12" = Stamped/Stitch Welded
Reducers	4"-12" = Spun, 14"-48" Gore-Lock Construction
Bellmouths	4"-8" = Stamped 10"-36" = Spun
90° Tee	4"-48" = Fabraicated
90° Tap	4"-12" = Stamped. 14"-48" = Fabricated
All Other Fittings	Any fitting can be fabricated with gasket attached. All produced will be fabricated per SMACNA standards and gauges. All Fabricated fittings conform to SPIDA dimnsional data.



CONSTRUCTION (GAUGE):

- All duct and fittings are made per SMACNA's duct Construction Standards (+10" W.G.).
- Spiral Seal Fittings are all 22 or 24 gauge. Spun Fittings are 20 gauge.

Diameter	Fabricated Fittings
4"–16"	24 ga
18"–36"	22 ga.
38"–48"	20 ga.

CONSTRUCTION (FITTINGS):

Spiral Seal Fittings, 4"–48" will have a factory installed gasket that is attached to the fitting with a 180° hemmed end for strength, rigidity and maintaining proper tolerances.

PRESSURE CLASS

- The Spiral Seal System has been tested and meets the requirements of SMACNA's Leakage Class 3.

CONSTRUCTION (GASKET):

- Spiral Seal gasket consists of a EPDM rubber sealing material.
- The base gasket (black material) is classified according to ASTM D2000-86 M3BA 810 B13 C12 F17.
- The sealing gasket is a classified according to ASTM D2000-86 M8BA 507 B13 C12.
- The operating temperature is -20°F to 212°F.
- The smoke and flame spread is accordance to ASTM E-84-91A.

JOINT CONNECTIONS

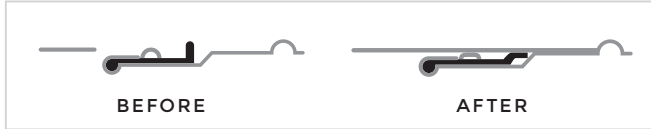
- All fittings are manufactured to slip fit into a spiral duct. Any fitting to fitting connection can use a fitting coupling

349 GAPWAY ROAD GEORGETOWN, SC 29440

OFFICE: 843-527-6563 FAX: 843-527-6504

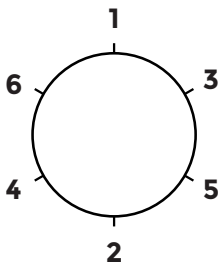
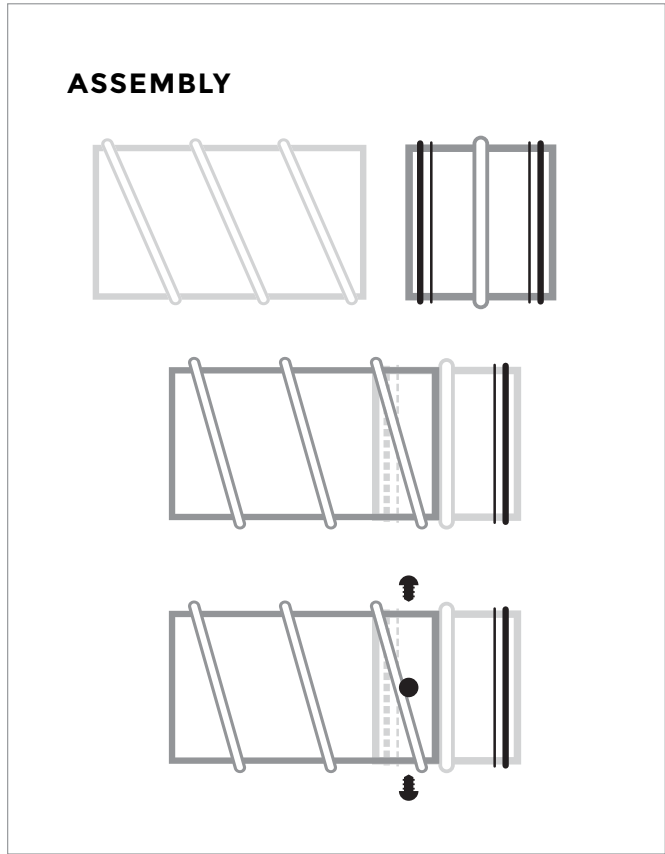
WWW.SPIRALFITTINGS.COM

Spiral Seal fittings are made to fit tight, assuring a proper seal. Care should be taken when handling these fittings as damage could result in an improper fit and a difficult installation process.



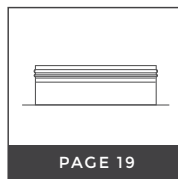
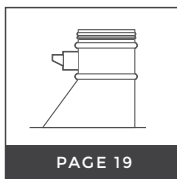
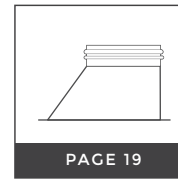
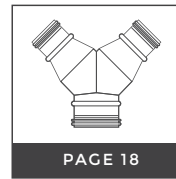
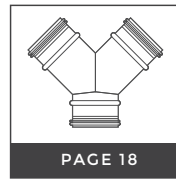
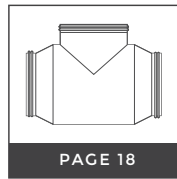
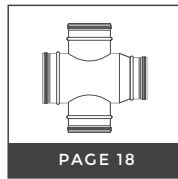
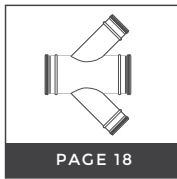
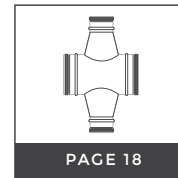
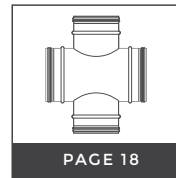
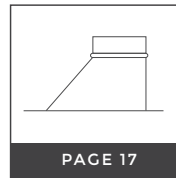
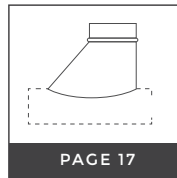
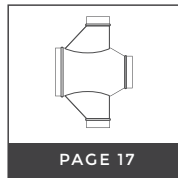
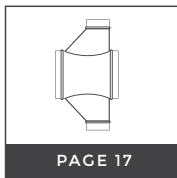
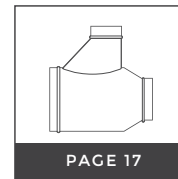
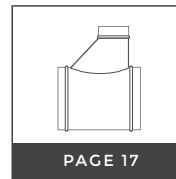
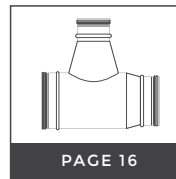
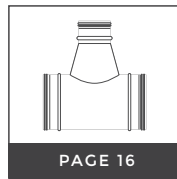
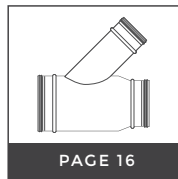
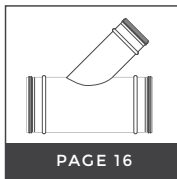
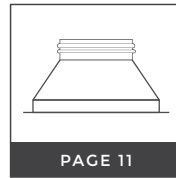
WHEN INSTALLING:

1. Place the hemmed end of the fittings in the spiral pipe then apply pressure and the fitting will slip into place, stopping at the bead/pipe stop.
2. Placement of the fastening screws should be opposite from one another, evenly spaced around the circumference (see diagram). Screws should be placed approximately 1/2" from the bead in order to avoid damaging the spiral seal gasket. **In the event of incorrect installation, holes caused by the screw must be sealed before reassembly.**
3. Quantities and sizes to be used are listed below.



Spiral Duct Diameter	Screw Diameter	Quantity
3"–5"	1/8"	2
6"–10"	1/8"	3
12"–24"	1/8"	4
26"–36"	1/8"	6

4. Always start the first fastener at the largest radial gap between fitting and duct. Be sure to achieve even distribution around the circumference.



90° Die Stamped 1.5 CLR Flangeless Elbow



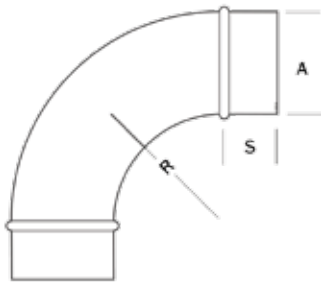
MATERIALS AVAILABLE:

Galvanized (4"–6"), 24 ga.
Galvanized (7"–12"), 22 ga.

Paintgrip (4"–6"), 24 ga.
Paintgrip (7"–12"), 22 ga.

WELDING PROCESS:

Flangeless elbows are continuously stitch welded on the throat and heel from end to end (past the bead).



DIMENSIONS		
(A)	90 (R)	Wt. Per Elbow
4"	6.0"	1.4 lbs
5"	7.5"	1.8 lbs
6"	9.0"	3.4 lbs
7"	10.5"	4.4 lbs
8"	12.0"	5.2 lbs
9"	13.5"	6.0 lbs
10"	15.0"	7.6 lbs
12"	18.0"	10.2 lbs

OPTIONS AVAILABLE
• Specify CLR (1.5, 1.0, etc.)
• Specify Degree (15°, 22.5°, 30°, 45°, 60°, 90°ect)
• Up to 30° = 2 Piece • 30° + up to 45° = 3 Piece
• 60° + up to but not including 90° = 4 Piece • 90° = 5 Piece

KEY

A = 4"–10" (all sizes), 12"–48" (even sizes only)
R = 1.5 (centerline radius)
S = 2"

90° Die Stamped 1.0 CLR Flangeless Elbow



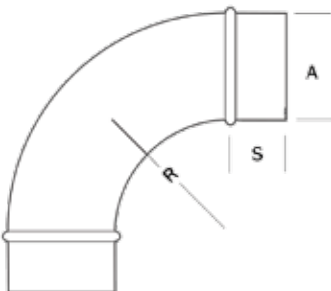
MATERIALS AVAILABLE:

Galvanized (4"–6"), 24 ga.
Galvanized (7"–12"), 22 ga.

Paintgrip (4"–6"), 24 ga.
Paintgrip (7"–12"), 22 ga.

WELDING PROCESS:

Flangeless elbows are continuously stitch welded on the throat and heel from end to end (past the bead).



DIMENSIONS		
(A)	90 (R)	Wt. Per Elbow
4"	4.0"	0.8 lbs
5"	5.0"	1.0 lbs
6"	6.0"	1.4 lbs
7"	7.0"	2.0 lbs
8"	8.0"	2.4 lbs
9"	9.0"	3.0 lbs
10"	10.0"	3.8 lbs
12"	12.0"	7.0 lbs

KEY:

A = Diameter, nominal size
S = 2"

R = 1.0A (centerline radius)

45° Die Stamped 1.5 CLR Flangeless Elbow

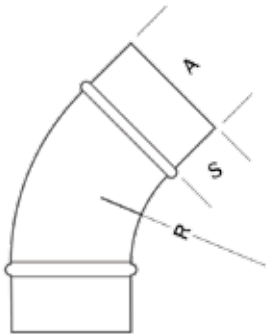


MATERIALS AVAILABLE:

Galvanized (Paintgrip) (4"–6"), 24 ga.
Galvanized (Paintgrip) (7"–12"), 22 ga.

WELDING PROCESS:

Flangeless elbows are continuously stitch welded on the throat and heel from end to end (past the bead).



DIMENSIONS		
(A)	45 (R)	Wt. Per Elbow
4"	6.0"	0.8 lbs
5"	7.5"	1.0 lbs
6"	9.0"	1.5 lbs
7"	10.5"	1.8 lbs
8"	12.0"	3.0 lbs
9"	13.5"	3.5 lbs
10"	15.0"	4.8 lbs
12"	18.0"	6.5 lbs

KEY:

A = Diameter, nominal size
S = 2"

R = 1.0A (centerline radius)

45° Die Stamped 1.0 CLR Flangeless Elbow

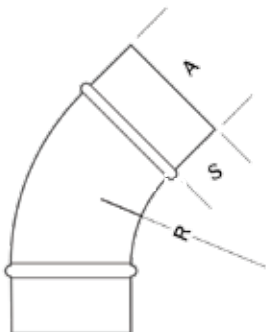


MATERIALS AVAILABLE:

Paintgrip (4"–6"), 24 ga.
Paintgrip (7"–12"), 22 ga.

WELDING PROCESS:

Flangeless elbows are continuously stitch welded on the throat and heel from end to end (past the bead).



DIMENSIONS		
(A)	45 (R)	Wt. Per Elbow
4"	4.0"	0.5 lbs
5"	5.0"	0.6 lbs
6"	6.0"	1.0 lbs
7"	7.0"	1.2 lbs
8"	8.0"	1.6 lbs
9"	9.0"	2.0 lbs
10"	10.0"	2.6 lbs
12"	12.0"	4.0 lbs

KEY:

A = Diameter, nominal size
S = 2"

R = 1.0A (centerline radius)

90° 5-Piece 1.5 CLR Elbow



MATERIALS AVAILABLE:

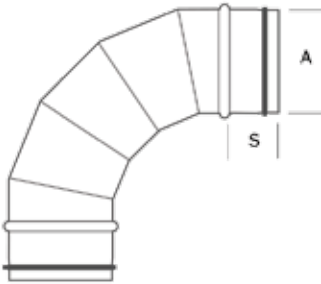
Galvanized Aluminum (Type 040 3003)
Stainless (Type 304 or 316)

(14–16") 24 ga.
(18–36") 22 ga.
(38–48") 20 ga.

DIMENSIONS	
(A)	Weight
14"	15 lbs
16"	23.6 lbs
18"	29.5 lbs
20"	36 lbs
22"	43 lbs
24"	50.6 lbs

KEY:
A = Diameter
S = 3"

Sizes Available 26" to 48"



90° 4-Piece 1.0 CLR Elbow



MATERIALS AVAILABLE:

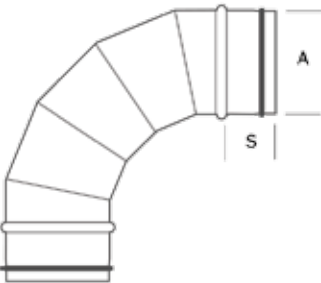
Galvanized Aluminum (Type 040 3003)
Stainless (Type 304 or 316)

(14–16") 24 ga.
(18–36") 22 ga.
(38–48") 20 ga.

DIMENSIONS	
(A)	Weight
14"	15 lbs
16"	23.6 lbs
18"	29.5 lbs
20"	36 lbs
22"	43 lbs
24"	50.6 lbs

KEY:
A = Diameter
S = 3"

Sizes Available 26" to 48"



45° 3-Piece 1.5 CLR Elbow



MATERIALS AVAILABLE:

Galvanized Aluminum (Type 040 3003)
Stainless (Type 304 or 316)

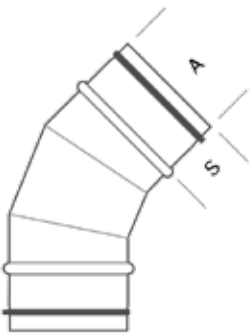
(14"–16") 24 ga.
(18"–30") 22 ga.
(38"–48") 20 ga.

DIMENSIONS	
(A)	Weight
14"	15 lbs
16"	23.6 lbs
18"	29.5 lbs
20"	36 lbs
22"	43 lbs
24"	50.6 lbs

KEY:

A = Diameter
S = 3"

Sizes Available 14" to 48"



45° 3-Piece 1.0 CLR Elbow



MATERIALS AVAILABLE:

Galvanized Aluminum (Type 040 3003)
Stainless (Type 304 or 316)

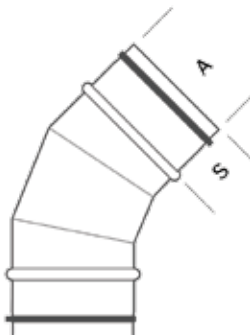
(14–16") 24 ga.
(18" & up to 30") 22 ga.
(38"–48") 20 ga.

DIMENSIONS	
(A)	Weight
14"	15 lbs
16"	23.6 lbs
18"	29.5 lbs
20"	36 lbs
22"	43 lbs
24"	50.6 lbs

KEY:

A = Diameter
S = 3"

Sizes Available 14" to 48"



30° 2-Piece CLR Elbow



MATERIALS AVAILABLE:

22 Gauge or 20 Gauge Galvanized

OPTIONS:

Specify CLR:
(1.5 or 1.0)
Specify Degree:
(15, 22.5, 30, 45, 60, 90, etc.)

Up to 30° = 2 Piece
30° - 45° = 3 Piece

COUPLINGS

Collar with Gasket



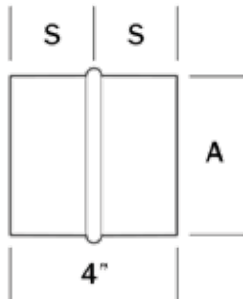
MATERIALS AVAILABLE:

Galvanized
Paintgrip

Stainless Steel
Aluminum

OPTIONS:

Male Collar, the ends are 1/8" undersize to fit inside spiral pipe. Bead is located at 2".
Used as option to attach to full bodied fittings. Available (in stock) up to 36". Larger sizes up to 48" are special order only.



DIMENSIONS					
(A)	(S)	Weight	(A)	(S)	Weight
3"	2"	0.8 lbs	12"	2"	3.0 lbs
4"	2"	1.0 lbs	14"	2"	3.5 lbs
5"	2"	1.3 lbs	16"	2"	3.9 lbs
6"	2"	1.5 lbs	18"	2"	4.5 lbs
7"	2"	1.7 lbs	20"	2"	4.9 lbs
8"	2"	2.0 lbs	22"	2"	5.7 lbs
9"	2"	2.2 lbs	24"	2"	6.7 lbs
10"	2"	2.5 lbs	-	-	-

KEY:

A = 4" - 10" (all sizes,) 12" - 48" (even sizes only)

L = 4"

S = 2"

Concentric Spun Reducer



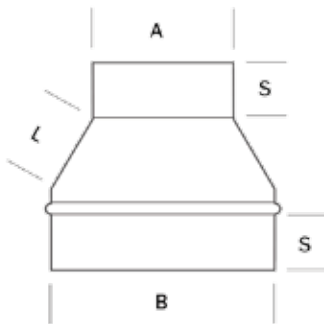
MATERIALS AVAILABLE:

Galvanized, 20 gauge or 22 gauge
Paintgrip

Aluminum

OPTIONS:

Sizes 6" to 36"
Male (small ends) fit into spiral pipe



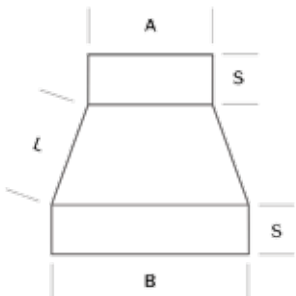
DIMENSIONS		
(B)	(A)	Weight
12"	4"-11"	2.56 lbs
14"	6",8"13"	2.99 lbs
16"	8",10",12",14"15"	3.42 lbs
18"	10",12",14",16"	3.84 lbs
20"	12",14",16",18"	4.27 lbs
22"	14",16",18"20"	4.70 lbs
24"	16",18",20",22"	5.12 lbs
26"	18",20",22",24"	6.50 lbs
28"	22",24",26"	7.0 lbs
30"	24",26",28"	8.32 lbs
32"	24",26",30"	10.55 lbs
34"	28",30",32"	11.60 lbs
36"	30",32",34"	12.80 lbs

KEY:

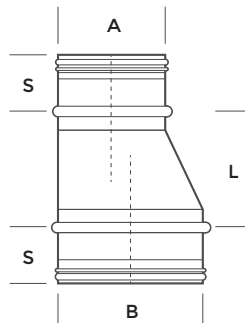
A = Small end diameter, nominal size
B = Large end diameter, nominal size

L = 4"
S = 3"

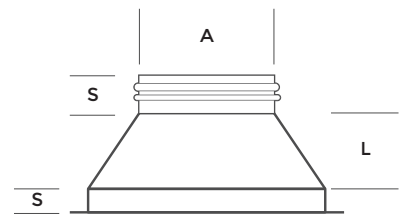
Fabricated reducer



Eccentric reducer



Conical Take-Off

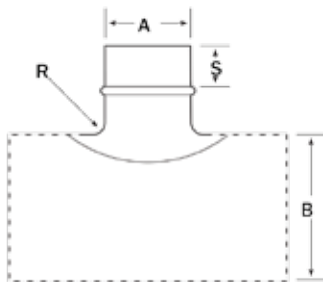


90° Saddle Tap with Gasket

MATERIALS AVAILABLE:

Material: Galvanized

14"-36" are Fabricated with 3/8" Flang



DIMENSIONS		
(A)	(B)	Weight
4"	4", 5", 6"-7", 8", 9"-10", 12"-14", 16"-24"	1.2 lbs
5"	5", 6/7", 8/9", 10", 12/14", 16/24"	1.5 lbs
6"	5", 6/7", 8/9", 10", 12/14", 16/24"	1.7 lbs
8"	8", 10", 12"-10", 16"-18", 20"-24"	2.5 lbs
10"	10", 12", 14"-16", 18"-20", 22"-24"	3.4 lbs
12"	12", 14"-16", 18"-20", 22"-24"	4.4 lbs

KEY:

A = Branch (nominal) size

B = Pipe (nominal) size

H = Height

R = Radius

R = 0.787" (4 on 4 6 on 20/22/24)

R = 1.0" (8 on 8 12 on 22/24)

S = 1-1/4" (4 on 4 5 on 16/24)

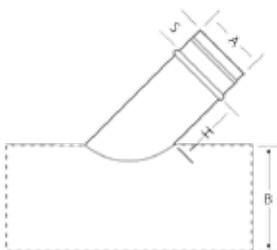
S = 1-1/2" (6 on 6 12 on 22/24)

45 degree Fabricated Saddle Tap with Gasket

MATERIALS AVAILABLE:

Material: Galvanized

14"-36" are Fabricated with 3/8" Flang



DIMENSIONS		
(A)	(B)	Weight
4"	4", 5", 6"-7", 8", 9"-10", 12"-14", 16"-24"	1.2 lbs
5"	5", 6/7", 8/9", 10", 12/14", 16/24"	1.5 lbs
6"	5", 6/7", 8/9", 10", 12/14", 16/24"	1.7 lbs
8"	8", 10", 12"-10", 16"-18", 20"-24"	2.5 lbs
10"	10", 12", 14"-16", 18"-20", 22"-24"	3.4 lbs
12"	12", 14"-16", 18"-20", 22"-24"	4.4 lbs

KEY:

A = Branch (nominal) size

B = Pipe (nominal) size

H = Height

R = Radius

R = 0.787" (4 on 4 6 on 20/22/24)

R = 1.0" (8 on 8 12 on 22/24)

S = 1-1/4" (4 on 4 5 on 16/24)

S = 1-1/2" (6 on 6 12 on 22/24)

90 degree tee with Gasket



MATERIALS & OPTIONS AVAILABLE:

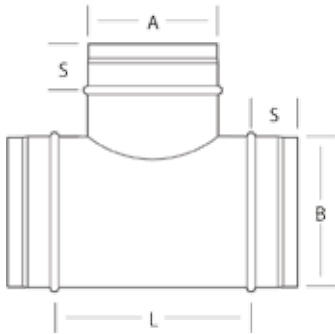
Galvanized, Paintgrip,
Aluminum, Stainless Steel

DIMENSIONS	
(A)	(B)
4"–10"	All Sizes
12"–48"	Even Sizes Only

KEY:

A = Branch (nominal) size
B = Is Great than or Equal to A

S = 2
L = A + 4"



45 degree lateral tee with gasket



MATERIALS & OPTIONS AVAILABLE:

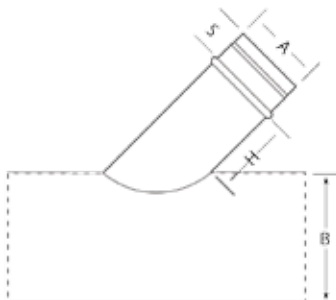
Galvanized, Paintgrip, Aluminum,
Stainless Steel

DIMENSIONS	
(A)	(B)
4"–10"	All Sizes
12"–48"	Even Sizes Only

KEY:

A = Branch (nominal) size
B = Is Great than or Equal to A

S = 2
L = A + 4"



90° Die Stamped Saddle Tap 2" Stand-Off

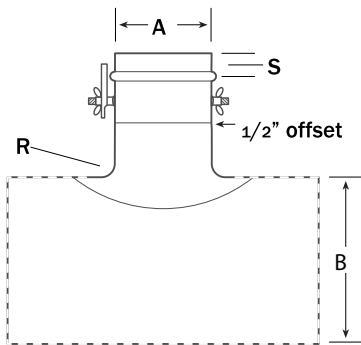


MATERIALS AVAILABLE:

Galvanized, Paintgrip, Aluminum, Stainless Steel (4"-12" Stamped, 14"-36" Fabricated) Jiffy Damper 2" Stand-Off
 Damper collars in 6" lengths

ADDITIONAL INFO:

• 2" Stand-off (20 ga.) • Nylon bushings with O-ring for sealing of holes • Locking handle for adjustment of damper - ease of balancing • 3/8" Continuous square rod through damper • 4" - 22" Standard dampers (22 ga.) • 24"-36" Standard dampers (20 ga.)



DIMENSIONS		
(A)	(B)	Weight
4"	4", 5", 6"-7", 8", 9"-10", 12"-14", 16"-24"	1.2 lbs
5"	5", 6/7", 8/9", 10", 12/14", 16/24"	1.5 lbs
6"	5", 6/7", 8/9", 10", 12/14", 16/24"	1.7 lbs
8"	8", 10", 12"-10", 16"-18", 20"-24"	2.5 lbs
10"	10", 12", 14"-16", 18"-20", 22"-24"	3.4 lbs
12"	12", 14"-16", 18"-20", 22"-24"	4.4 lbs

KEY:

A = Branch (nominal) size
 B = Pipe (nominal) size
 H = Height
 R = Radius
 R = 0.787" (4 on 4 6 on 20/22/24)
 R = 1.0" (8 on 8 12 on 22/24)
 S = 1-1/4" (4 on 4 5 on 16/24)
 S = 1-1/2" (6 on 6 12 on 22/24)

Volume Damper 2" with stand off locking quadrant



MATERIALS AVAILABLE:

22 ga. Galvanized body, Paintgrip, Aluminum, Stainless Steel 4"-10" All Sizes
 12"-36" Even sizes only

ADDITIONAL INFO:

2" Stand-off (20 ga) - Locking handle for adjustment of damper ease of balancing - 3/8" - Continuous square rod through damper - 4"-20" Standard Dampers (22 ga) - 22"-36" Standard Dampers (20 ga) - Nylon bushings with O-ring for sealing of holes.



DIMENSIONS					
(A)	(S)	Weight	(A)	(S)	Weight
4"	4"	1.1 lbs	14	4"	5.1 lbs
5"	4"	1.1 lbs	16	4"	7.3 lbs
6"	4"	1.5 lbs	18	4"	8.1 lbs
7"	4"	2.0 lbs	20	4"	9.2 lbs
8"	4"	2.2 lbs	22	4"	10.1 lbs
9"	4"	2.8 lbs	24	4"	14.2 lbs
10"	4"	3.3 lbs	-	-	-
11"	4"	4.0 lbs	-	-	-
12"	4"	7.3 lbs	-	-	-

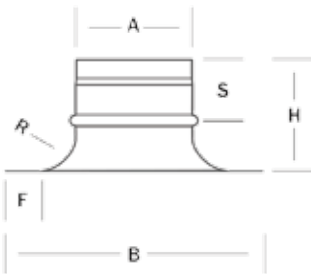
KEY:

A = 4" - 10" (all sizes), 12" - 36" (even sizes only) L = 4"
 S = 2"

Spun Bellmouth with Gasket

MATERIALS AVAILABLE:

Galvanized Paintgrip, Aluminum, Stainless Steel Available with factory installed volume damper
Available up to 48"



DIMENSIONS						
(A)	(B)	(R)	(F)	(H)	(S)	Weight
4"	8"	1.0"	1"	3"	2"	1.0 lbs
5"	9"	1.0"	1"	3"	2"	1.25 lbs
6"	10"	1.0"	1"	3"	2"	1.50 lbs
7"	10"	1.0"	1"	3"	2"	1.75 lbs
8"	11"	1.0"	1"	3"	2"	1.95 lbs
9"	12"	1.0"	1"	3"	2"	2.25 lbs
10"	13"	1.0"	1"	4"	2"	2.5 lbs
12"	15"	1.0"	1"	4"	2"	3.0 lbs
14"	17"	1.0"	1"	4"	2"	3.5 lbs
16"	19"	1.0"	1"	5"	2"	4.0 lbs
18"	21"	1.0"	1"	5"	2"	4.5 lbs
20"	24"	1.0"	1"	5"	2"	5.0 lbs
22"	25"	1.0"	1"	5"	2"	5.5 lbs
24"	28"	1.0"	1"	5"	2"	6.0 lbs

KEY:

A=Opening dimension 1/8" under nominal size
F = 1"
H = Height

R = Radius
B = Flange side
S=2"

END CAP

Endcap with gasket

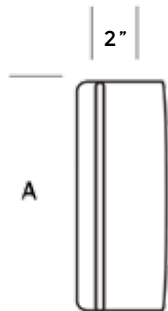
MATERIALS AVAILABLE:

Galvanized, 20 ga.
Paintgrip

Stainless Steel
Aluminum.

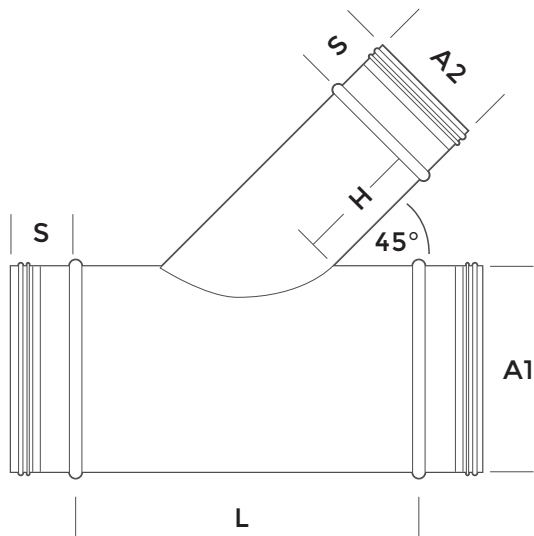


DIMENSIONS	
Size	(A)
4"–10"	All Sizes
12"–48"	Even Sizes



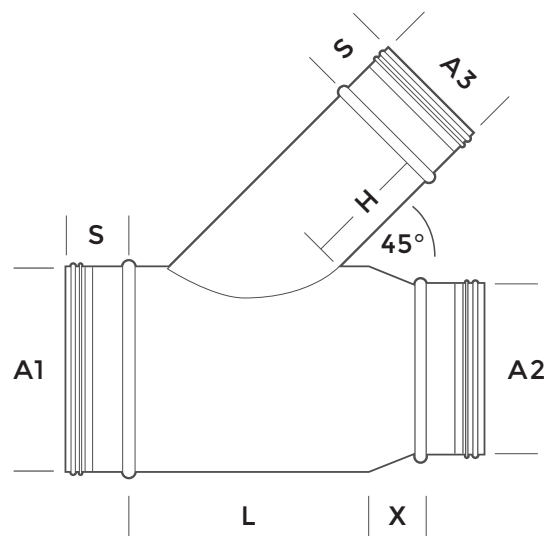
Available up to 48"

45° Lateral Tee



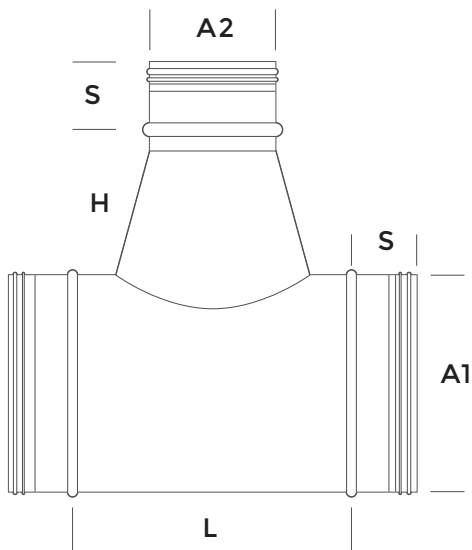
KEY:
 Sizes For A1 & A2: $S = 2"$
 4"–10" (all), 12"–60" (Even Only) $H = 4"$
 A1 is greater than or equal to A2 $L = (A2 \times 1.414) + 4"$

45° Lateral Reducing Tee



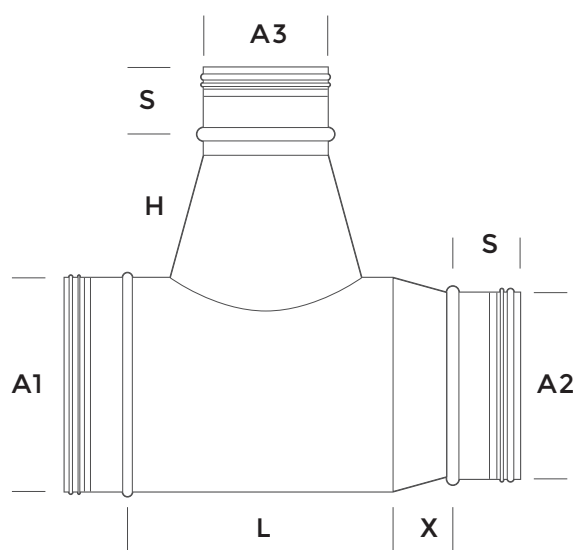
KEY:
 Sizes For A1, A2 & A3: $S = 2"$
 4"–10" (all), 12"–60" (Even Only) $H = 4"$
 A1 is greater than or equal to A3 $L = (A2 \times 1.414) + 4"$
 A2 is less than A1 $X = A1 - A2$ (4" minimum)

90° Conical Tee



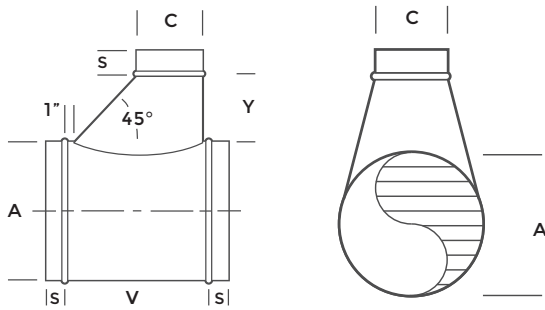
KEY:
 Sizes For A1 & A2: $S = 2"$
 4"–10" (all), 12"–60" (Even Only) $H = 5-1/4"$
 A1 is greater than A2 $L = A2 + 4"$

90° Conical Reducing Tee



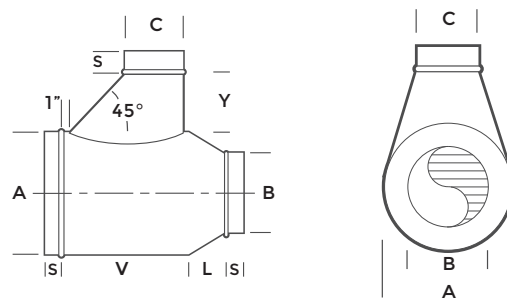
KEY:
 Sizes For A1, A2 & A3: $S = 2"$
 4"–10" (all), 12"–60" (Even Only) $H = 5-1/4"$
 A1 is greater than A3 $L = A1 - A2$ (4" minimum)
 A2 is less than A1

Combination Tee



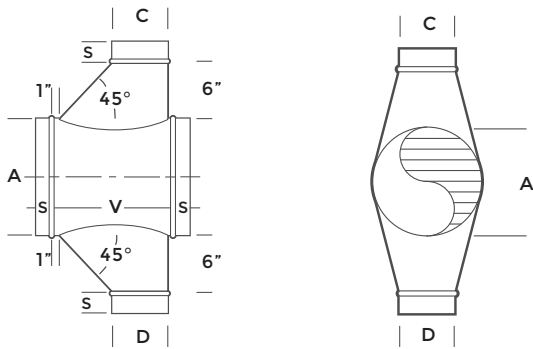
KEY:
 S = 2"
 V = (C+6) + 2
 C = 3 to 16 then Y=6"
 if C = 17 to 24 then Y=9"
 if C = 25 to UP then Y=9"

Reducing Combination Tee



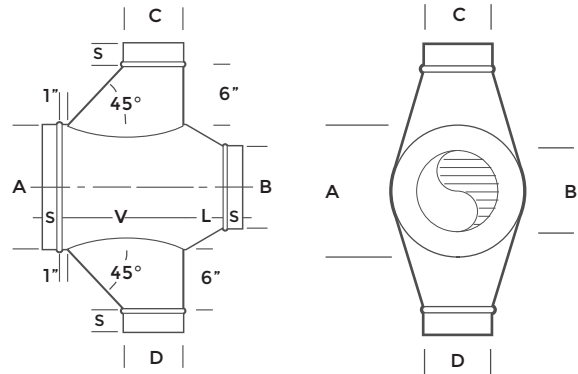
KEY:
 S = 2"
 V = (C+6) + 2
 L = A - B (4" MIN, 12" MAX)
 if C = 13 to 16 then Y = 6"
 if C = 17 to 24 then Y = 9"
 if C = 25 to UP then Y = 12"

Combination Cross



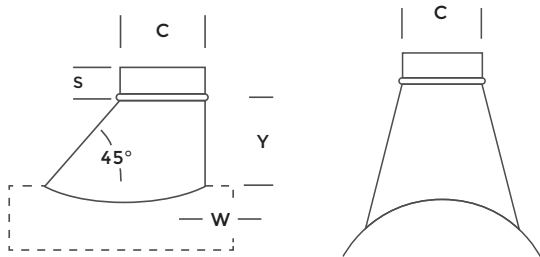
KEY:
 S = 2"
 V = (LARGEST TAP + 6) + 2
 If C = 3 to 16 then Y = 6"
 If C = 17 to 24 then Y = 9"
 If C = 25 to UP then Y = 12"

Reducing Combination Cross



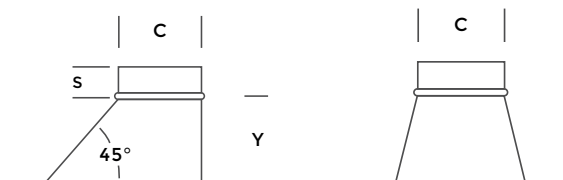
KEY:
 S = 2"
 V = (LARGEST TAP + 6) + 2
 L = A - B (4" MIN, 12" MAX)
 if C = 3 to 16 then Y = 6"
 if C = 17 to 24 then Y = 9"
 if C = 25 to UP then Y = 12"

Combination Saddle



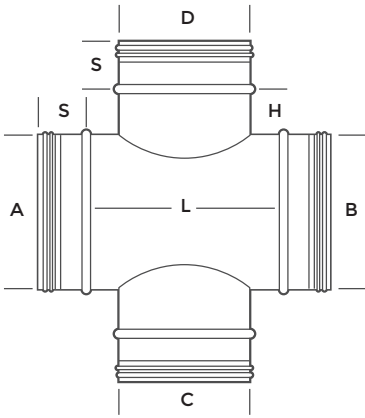
KEY:
 S = 2"
 V = (C+6) + 2
 if C = 3 to 16 then Y = 6"
 if C = 17 to 24 then Y = 9"
 if C = 25 to UP then Y = 12"

Combination Saddle on Flat

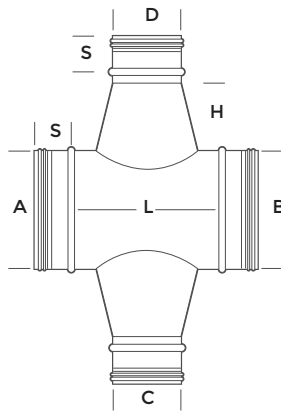


KEY:
 S = 2"
 V = (C+6) + 2
 if C = 3 to 16 then Y = 6"
 if C = 17 to 24 then Y = 9"
 if C = 25 to UP then Y = 12"

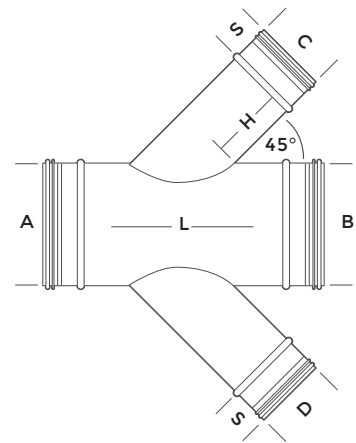
Straight Cross



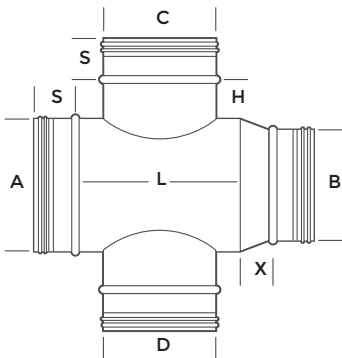
Conical Cross



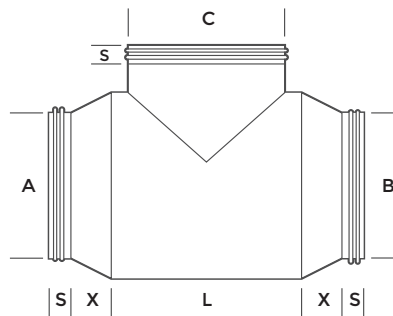
45° Lateral Cross



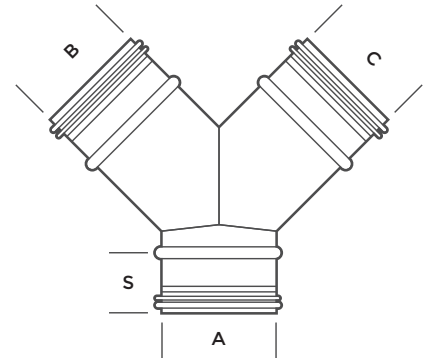
Reducing Straight Cross



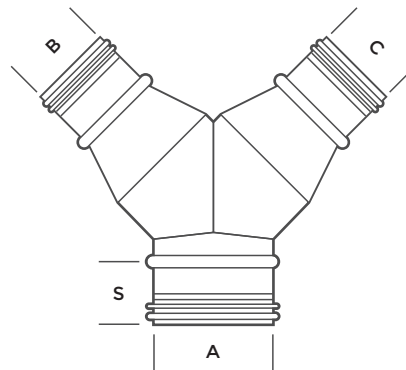
Reducing Bull Head Tee



Y Branch



Reducing Y Branch

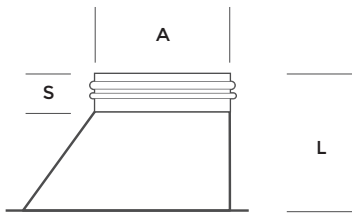


KEY (All):
 Sizes available for A,B,C,D
 4"–10" (All Sizes), 12"–60" (Even Sizes Only)
 A is greater than C&D
 B is less than A
 C is greater than or equal to D
 S = 2"
 H = 4"
 X = A-B (4" minimum)

KEY (Cross):
 L = C + D + 4"

KEY (Branch):
 Sizes available for A, B, C
 4"–10" (All Sizes), 12"–60" (Even Sizes Only)
 S = 2"

High Efficiency Take-Off (No Damper)

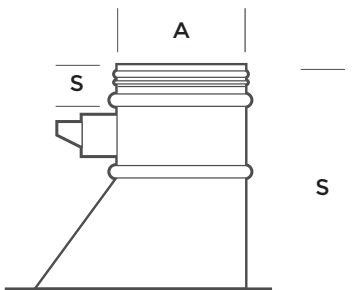


MATERIALS AVAILABLE:

Galvanized, 24 gauge Aluminum
Paintgrip

DIMENSIONS		
(A)	(L)	Opening
6"	6.5"	5" x 8"
7"	7"	6" x 9"
8"	7"	7" x 10"
9"	7"	8" x 11"
10"	7"	9" x 12"
12"	7"	11" x 14"
14"	7"	13" x 16"
16"	11"	14" x 22"

High Efficiency Take-Off with Locking Balancer Damper

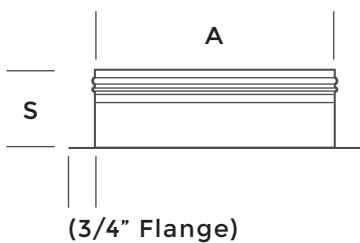


MATERIALS AVAILABLE:

Galvanized, 24 gauge Aluminum
Paintgrip

DIMENSIONS		
(A)	(L)	Opening
6"	6.5"	5" x 8"
7"	7"	6" x 9"
8"	7"	7" x 10"
9"	7"	8" x 11"
10"	7"	9" x 12"
12"	7"	11" x 14"
14"	7"	13" x 16"
16"	11"	14" x 22"

Straight Take-Off



MATERIALS AVAILABLE:

Galvanized, 24 gauge Aluminum
Paintgrip

DIMENSIONS	
(A)	(S)
4" - 10"	All sizes
12" - 60"	Even Sizes Only