McGill AirFlow Corporation

An enterprise of United McGill Corporation - Founded in 1951

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Single-Wall and Single-Wall Lined, Round Duct and Fittings Dimensions

McGill AirFlow Corporation has a complete line of single-wall and single-wall lined, round duct and fittings. The internally-lined product incorporates a rigid or semi-rigid fiberglass insulation with an EPA-registered antimicrobial, erosion-resistant coating on the air-side surface. The insulation is available in 1- and 1½-inch thicknesses and has thermal and acoustical properties comparable to the double-wall duct construction.

Table 1 - Single-wall, Round Duct- Available Sizes, Materials, and Thicknesses[1]

Construction	Diameters	Lengths[2]	Materials[3,4]	Thicknesses[8]
UNI-SEAL™ Duct (spiral lockseam)	3-84 inches	1-20 feet	Galvanized Steel	28-14 gauge
			Stainless Steel	26-20 gauge
	3-60 inches[5]		Aluminum	0.025-0.063 inch[5]
UNI-RIB® Duct (spiral lockseam with standing rib)	9-60 inches	1-20 feet	Galvanized Steel	28-22 gauge
			Aluminum	0.025-0.050 inch
Longitudinal Seam Duct[6] (solid welded)	8-90 inches	1-6 feet	Galvanized Steel	20-10 gauge
			Stainless Steel	22-10 gauge
	8-84 inches[5]		Aluminum	0.040-0.090 inch[5]

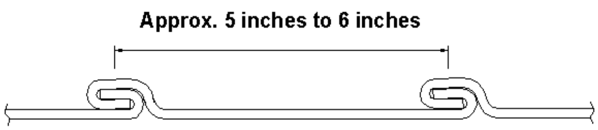
Table 2 - Single-wall, Round Fittings- Available Sizes, Materials, and Thicknesses[1]

Construction	Diameters	Materials[3,4]	Thicknesses
UNI-SEAL Fittings[7] (spot welded and bonded, or standing seam)	3-90 inches	Galvanized Steel	26-10 gauge
		Stainless Steel	26-10 gauge
	3-84 inches[5]	Aluminum	0.032-0.090 inch[5]

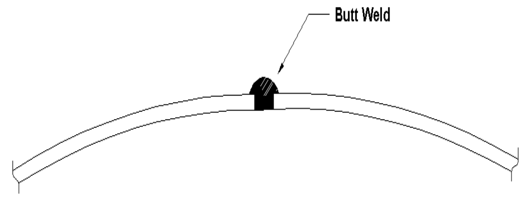
1. Except as noted, McGill AirFlow single-wall, round duct and fittings are available with the following diameters: 3- through 15-inch diameters in ½-inch-diameter increments, 16- through 38-inch diameters in 1-inch-diameter increments, and 40- through 90-inch diameters in 2-inch-diameter increments.
2. Standard lengths of round UNI-SEAL and UNI-RIB duct are 10, 12, and 20 feet; longer lengths are available on special order. Standard lengths of round longitudinal seam duct are 5 and 6 feet.
3. Single-wall, round duct and fittings are also available in carbon steel, paintable galvanized steel, and aluminized steel.
4. UNI-COAT® single-wall, round duct and fittings (polyvinyl-chloride-coated galvanized steel) are available on special order.
5. Aluminum single-wall, round duct and fittings are available in larger diameters and greater metal thicknesses on special order.
6. Round longitudinal seam duct is available in diameters smaller than 8 inches on special order.
7. Fittings 16-gauge (Aluminum - 0.090 inch) or heavier are fully welded.
8. See Table 3 for the full range of available spiral duct diameters by thickness.

Duct Construction

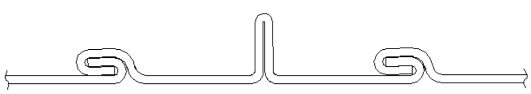
Spiral Lockseam



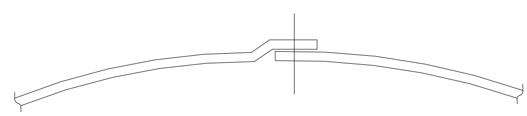
Longitudinal Seam



Spiral Lockseam with Standing Rib



RL-2 Seam Type



Up to ± 10 in wg	Spot weld 1 inch or lap, rivet, and tack weld 3 inches
Up to ± 4 in wg	Spot weld 2 inches or lap, rivet, and tack weld 6 inches

Table 3 - Available Range of Spiral Duct Diameters by Thickness[1]

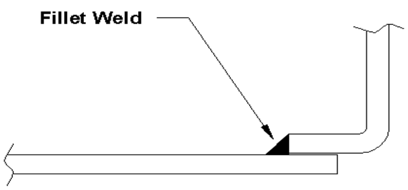
Gauge	Galvanized Steel, Aluminized Steel and Nongalvanized Carbon Steel		Stainless Steel (304, 304L, 316 and 316L)	Polyvinyl-chloride-coated galvanized steel	Aluminum[2]		
	Spiral Lockseam Diameter (inches)	Spiral Lockseam with Standing Rib Diameter (inches)	Spiral Lockseam Diameter (inches)	Spiral Lockseam Diameter (inches)	Thickness (inches)	Spiral Lockseam Diameter (inches)	Spiral Lockseam with Standing Rib Diameter (inches)
28	3 - 14 1/2	9 - 42	N/A	N/A	0.025	3 - 26	9 - 42
26	3 - 26	9 - 60	3 - 36	4 - 26	0.032	3 - 50	9 - 60
24	3 - 36	9 - 60	3 - 50	4 - 34	0.040	3 - 60	N/A
22	3 - 50	9 - 60	3 - 60	4 - 50	0.050	3 - 60	N/A
20	3 - 60	N/A	3 - 84	15 - 60	0.063	3 - 60	N/A
18	3 - 84	N/A	N/A	15 - 84			
16	6 - 84	N/A	N/A	N/A			
14	24 - 84	N/A	N/A	N/A			

[1] Thicker material may be available in some diameter ranges; check with your local sales office.

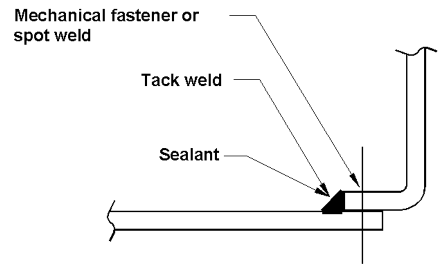
[2] Aluminum single-wall, round, spiral duct is available in larger diameters on special order.

Fitting Construction

Solid Welded

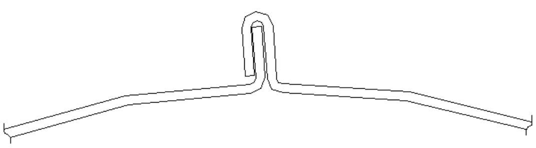


Spot Welded, Tack Welded or Mechanical Fastened



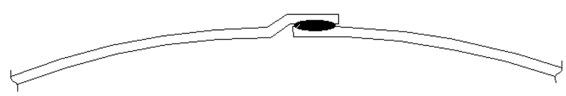
Sealed with United Duct Sealer™ (Water Based)

Standing Seam



Sealed with United Duct Sealer (Water Based)

Resistance Seam Welded



Sealed with United Duct Sealer (Water Based)

Dimensioning

(All alphanumeric dimensions are in inches, all angles are in degrees)

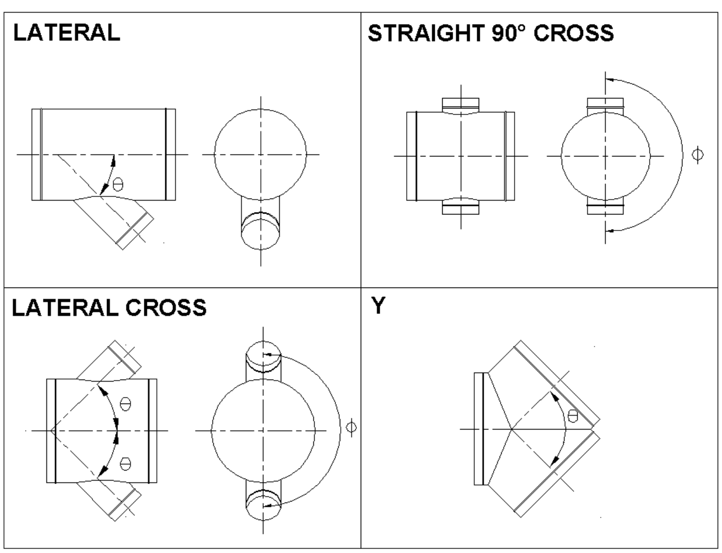
A	**-**	Main barrel inlet diameter
B	**-**	Main barrel outlet diameter
C or D	**-**	Branch tap diameter (Note: On tee and lateral fittings with two taps, C is the branch closest to the inlet of the fitting. On cross fittings, C is the larger of the two taps.)
t	**-**	Insulation/liner thickness
R	**-**	Centerline radius
S	**-**	Slip-fit dimension of a fitting
F, H, J, L, Q, V, Z, m, α	**-**	Miscellaneous dimensions (refer to specific drawings)
θ or φ	-	Angular measurements (refer to specific drawings)
#	-	Number of elbow gores

General Notes:

- Dimensions other than diameters are held within a 1/4-inch tolerance.
- Single-wall lined, round duct dimensions are for the metal shell.
- Unless ordered otherwise, a given diameter of single-wall, round fittings is sized to slip fit into the same diameter of single-wall, round duct.
- Single-wall lined and unlined, round fittings ordered for a 2-inch slip-fit assembly have a slip-fit section as shown in the following drawings:

Where: S = 2 inches

- Single-wall duct and fittings can be ordered with Van Stone or applied connectors. These change the makeup dimensions of standard slip-fit dimension ends. Refer to the details on page 35 for further information.
- Unless ordered otherwise, the branch taps of laterals, crosses, lateral crosses, and Y-fittings are installed at standard angles to the fittings' bodies and to each other, as shown in the following drawings:



For all:

Laterals, θ standard = 45°
Crosses, θ standard = 90°, φ standard = 180°
Lateral Crosses, θ standard = 45°, φ standard = 180°
Y-Fittings, θ standard = 90°

Note: φ is the included angle between taps as viewed in cross section (standard is 180°). When ordering fittings of nonstandard φ, please include an end view.

General Notes:

- For installation information, refer to McGill AirFlow's brochure *Installation of Single-wall Duct and Fittings.*
- Flat oval and rectangular taps are available in lieu of round. Specify dimensions.
- The Q dimension of laterals and lateral crosses may be less than, equal to, or greater than the V dimension of these fittings.

Designations:

McGill AirFlow uses a designation system that simplifies product nomenclature. Most of our products can be accurately identified using a concise alphanumeric designator. Each character in the designation defines a characteristic of the product.

Example: SR4T refers to a single-wall (S), round (R), 4 in wg pressure class (4), straight tee (T).

1st Character: **Wall Configuration - S**R4T

S = Single-wall
I = Single-wall, lined (1 and 1½ inches only)
K = k27 Double-wall

2nd Character: **Shape -** S**R**4T

R = Round
O = Oval

3rd Character: **Pressure Class -** SR**4**T

2 = 0 to +2 in wg
4 = +2 to +4 in wg
0 = +4 to +10 in wg
X = 0 to -2 in wg
Y = -2 to -4 in wg
Z = -4 to -10 in wg
N = nonstandard gauge (user specified)
S = standard gauge of product type

Notes:
1. When ordering duct or fittings, specify 2, 4, 0, X, Y, Z, S, or N in the * position of the designation.
2. Pressure ranges listed for 2, 4, 0, X, Y, and Z are based on 1995 SMACNA Duct Construction Standards (galvanized only).
3. SMACNA is the Sheet Metal and Air Conditioning Contractors National Association.

4th and Subsequent Characters: **Product Type -** SR4**T**

T = Straight Tee (90° branch fitting)

Table 4 - Thickness/Weight Relationships of Standard Materials

Gauge	Galvanized and Paintable Galvanized Steel			Nongalvanized Carbon Steel			Stainless Steel (304 or 316)		
	Minimum Thickness (inches)	Nominal Thickness (inches)	Nominal Weight (lb/sq ft)	Minimum Thickness (inches)	Nominal Thickness (inches)	Nominal Weight (lb/sq ft)	Minimum Thickness (inches)	Nominal Thickness (inches)	Nominal Weight (lb/sq ft)
28	0.0157	0.0187	0.781	0.0129	0.0149	0.625	0.0136	0.0156	0.656
26	0.0187	0.0217	0.906	0.0159	0.0179	0.750	0.0158	0.0188	0.788
24	0.0236	0.0276	1.156	0.0209	0.0239	1.000	0.0220	0.0250	1.050
22	0.0296	0.0336	1.406	0.0269	0.0299	1.250	0.0273	0.0313	1.313
20	0.0356	0.0396	1.656	0.0329	0.0359	1.500	0.0335	0.0375	1.575
18	0.0466	0.0516	2.156	0.0438	0.0478	2.000	0.0450	0.0500	2.100
16	0.0575	0.0635	2.656	0.0548	0.0598	2.500	0.0565	0.0625	2.625
14	0.0705	0.0785	3.281	0.0697	0.0747	3.125	0.0711	0.0781	3.281
12	0.0994	0.1084	4.531	0.0986	0.1046	4.375	0.1000	0.1094	4.594
10	0.1292	0.1382	5.781	0.1285	0.1345	5.625	0.1286	0.1406	5.906

Aluminum 3003-H14		
Minimum Thickness (inches)	Nominal Thickness (inches)	Nominal Weight (lb/sq ft)
0.0230	0.025	0.356
0.0295	0.032	0.456
0.0365	0.040	0.570
0.0465	0.050	0.713
0.0595	0.063	0.898
0.0755	0.080	1.140
0.0855	0.090	1.283
0.0945	0.100	1.426
0.1195	0.125	1.782

Table 5 - Material Specifications

Standard Material	Type	ASTM Number
Galvanized Steel	--	A653, A924
Stainless Steel	304, 304L, 316, 316L	A167, A480
Nongalvanized Carbon Steel	18 - 28 gauge	A366, A568, A569
Aluminum	3003-H14	B209
Aluminized	Type 1	A463

Other types of material are available on special order.

Table 6 - McGill AirFlow Standard Construction Methods

Product	Construction
UNI-SEAL Duct	Spiral lockseam
UNI-RIB Duct	Spiral lockseam with standing rib
Longitudinal Seam Duct	Rolled and butt welded
UNI-SEAL Fittings[1]	Standard: Spot/tack welded, or standing seam and sealed. Available fully welded.

[1]UNI-COAT (PVC coated) fittings are button punched, riveted, or screwed and sealed.

Table 7 - Unreinforced, Positive Pressure, Single-wall, Round Duct Gauges for Galvanized, Polyvinyl-Chloride (PVC)-Coated Steel, Nongalvanized Carbon Steel, or Stainless Steel

Maximum Diameter (inches)	+2 in wg		+4 in wg		+10 in wg		
	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings	Spiral Lockseam Duct	Longtiudinal Seam Duct or Fittings	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings	Spiral Lockseam with Standing Rib Duct
6	28	26	28	26	28	26	NA
8	28	26	28	26	28	26	NA
10	28	26	28	26	28	26	28
12	28	26	28	26	26	24	28
14	28	26	26	24	26	24	28
16	26	24	26	24	24	22	28
18	26	24	24	24	24	22	28
19 - 26	26	24	24	22	24	22	28
27 - 36	24	22	22	20	22	20	28
37 - 50	22	20	20	20	20	20	26
51 - 60	20	18	18	18	18	18	26
61 - 84	18	16	18	16	18	16	NA

Table 8 - Unreinforced, Positive Pressure, Single-wall, Round Duct Thicknesses (inches) for Aluminum

Maximum Diameter (inches)	Maximum +2 in wg		Maximum +4 in wg		Maximum +10 in wg	
	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings
6	0.025	0.032	0.025	0.032	0.025	0.032
8	0.025	0.032	0.025	0.032	0.025	0.032
10	0.025	0.032	0.025	0.032	0.025	0.032
12	0.025	0.032	0.025	0.032	0.032	0.040
14	0.025	0.032	0.032	0.040	0.032	0.040
16	0.032	0.040	0.032	0.040	0.040	0.050
18	0.032	0.040	0.040	0.040	0.040	0.050
19 - 26	0.032	0.040	0.040	0.050	0.040	0.050
27 - 36	0.040	0.050	0.050	0.063	0.050	0.063
37 - 50	0.050	0.063	0.063	0.063	0.063	0.063
51 - 60	0.063	0.080	NA	NA	NA	NA
61 - 84	NA	0.090	NA	NA	NA	NA

Notes for Tables 7 and 8:

1. Longitudinal seam duct is made up of the same gauge as fittings except as noted in Table 1.
2. Stainless steel has 26 gauge minimum for spiral lockseam duct and 22 gauge minimum for longitudinal seam duct and fittings.
3. Polyvinyl-chloride -coated galvanized steel has 26 gauge minimum and 18 gauge maximum for duct and fittings.
4. Construction of aluminum duct and fittings shall otherwise correspond in the same relationship as for steel duct (see Table 4) for thickness required for equal strength or stiffness. SMACNA does not have aluminum standards for pressures greater in magnitude than 2 in wg.
5. The rating of +10 in wg for ribbed duct is based on McGill AirFlow laboratory testing.

Table 9 - Negative Pressure, Single-wall, Round Duct Gauges for Galvanized, Polyvinyl-Chloride (PVC)-Coated Steel, Nongalvanized Carbon Steel, or Stainless Steel

Maximum Diameter (inches)	-2 in wg		-4 in wg		-10 in wg	
	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings	Spiral Lockseam Duct	Longitudial Seam Duct or Fittings	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings
6	28	26	28	26	26	26
7	28	26	28	26	26	26
8	28	26	28	26	26	26
9	28	26	28	26	26	24
10	28	26	26	26	26	22
11	28	26	26	24	26	22
12	28	26	26	24	24	22
13	28	26	26	24	24	20
14	28	24	24	22	24	20
15	28	24	24	22	22	20
16	26	24	24	22	22	18
17	26	24	24	20	22	18
18	24	22	24	20	22	18
19	24	22	24	20	22	18
20	24	22	22	20	22	18
21	24	20	22	18	22	18
22	24	20	22	18	22	16
23	24	20	22	18	20	16
24	22	20	22	18	20	16
25-26	22	20	20	18	20	18 A4
27-29	22	18	20	16	18	16 A4
30	22	18	20	16	18	16 B4
31-33	20	18	20	16	18	16 B4
34	20	18	20	20 A6	18	16 B4
35-36	20	16	20	20 A6	18	16 B4
37-42	20	16	18	18 B6	18 F12	
43-48	20	18 A6	18	18 B6	18 F6	
49-60	18	18 B4	18 F6	16 B4	18 F6	
61-72	16		18 F6		16 F4	

Notes for Table 9:

1. Longitudinal seam duct is made of the same gauge as fittings except as noted in Table 1.
2. Stainless steel has 26 gauge minimum for spiral lockseam duct and 22 gauge minimum for longitudinal seam duct and fittings.
3. Polyvinyl-chloride -coated galvanized steel has 26 gauge minimum and 18 gauge maximum for duct and fittings.
4. The letter in the table means that the reinforcement angles or their equivalent must be used at the foot interval following the letter. The angle sizes are:

   A = 1"x1"x1/8"; B = 1-1/4"x1-1/4"x3/16"; C = 1-1/2"x1-1/2"x3/16"; D = 1-1/2"x1-1/2"x1/4"; E = 2"x2"x3/16"; F = 2"x2"x1/4".
5. If companion flange joints are used as reinforcements, those for 25" to 36" diameters shall be 1-1/2"x1-1/2"x3/16"; for 37" to 48" diameters 2"x2"x3/16"; for 50" to 60" diameters 2-1/2"x2-1/2"x3/16"; for 61" to 72" diameters 3"x3"x1/4".

Table 10 - Reinforced and Unreinforced, Negative Pressure, Single-wall, Round Duct Thicknesses (inches) for Aluminum

Maximum Diameter (inches)	Maximum -2 in wg		Maximum -4 in wg		Maximum -10 in wg	
	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings	Spiral Lockseam Duct	Longitudinal Seam Duct or Fittings
3 - 8	0.025	0.040	0.025	0.040	0.032	0.040
9	0.032	0.040	0.025	0.040	0.032	0.040
10 - 11	0.032	0.040	0.032	0.040	0.032	0.050
12	0.032	0.040	0.032	0.040	0.040	0.050
13	0.032	0.040	0.032	0.040	0.040	0.063
14	0.032	0.040	0.040	0.050	0.040	0.063
15	0.040	0.050	0.040	0.050	0.050	0.063
16	0.040	0.050	0.040	0.050	0.050	0.080
17 - 18	0.040	0.050	0.040	0.063	0.050	0.080
19	0.040	0.050	0.040	0.063	0.050	0.080
20	0.040	0.050	0.050	0.063	0.050	0.080
21	0.040	0.050	0.050	0.080	0.050	0.080
22	0.040	0.050	0.050	0.080	0.050	0.090
23	0.040	0.050	0.050	0.080	0.063	0.090
24	0.040	0.050	0.050	0.080	NA	0.090
25-26	0.040	0.050	0.063	0.080	NA	0.080 A4
27-29	0.050	0.063	0.063	0.090	NA	0.090 A4
30 - 33	0.050	0.063	0.063	0.090	NA	0.090 B4
34 - 36	0.050	0.063	0.063	0.063 A6	NA	0.090 B4
37 - 48	0.063	0.080	0.080	0.080 B6	NA	NA
49-50	0.063	0.080	NA	0.090 B4	NA	NA
51-60	NA	0.090	NA	0.090 B4	NA	NA

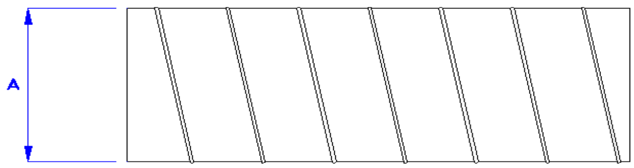
Notes for Table 10:

1. Longitudinal seam duct is made of the same gauge as fittings except as noted in Table 1.
2. Construction of aluminum duct and fittings shall otherwise correspond in the same relationship as for steel duct (see Table 4) for thickness required for equal strength or stiffness. SMACNA does not have aluminum standards for pressures greater in magnitude than 2 in wg.
3. The letter in the table means that the reinforcement iron angles or their equivalent must be used at the foot interval following the letter. The angle sizes are:
   A = 1"x1"x1/8"; B = 1-1/4"x1-1/4"x1/8"

Table 11 - Positive Pressure, Single-wall, Round Duct Gauges for Polyvinyl-Chloride (PVC)-Coated Steel for Underground Duct Systems

Diameter (inches)	Spiral Duct Gauge Maximum +10 in wg	Fitting Gauge Maximum +10 in wg
4 - 8	26	24
8 ½ - 16	24	22
18 - 24	22	22
26 - 32	20	20
34 - 60	18	18

UNI-SEAL DUCT
(Spiral lockseam)

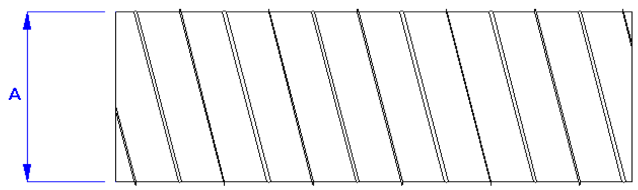


DESIGNATION:
SR(*)SD

DIMENSIONS:

3-inch minimum
84-inch maximum

UNI-RIB DUCT
(Spiral lockseam with rib)

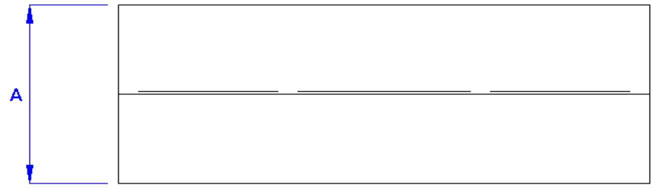


DESIGNATION:
SR(S or N)RD

DIMENSIONS:

9-inch minimum
60-inch maximum

LONGITUDINAL SEAM DUCT[1]
(Solid welded longitudinal seam)



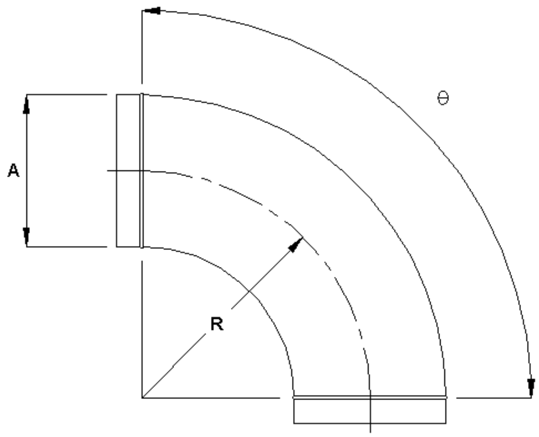
DESIGNATION:
SR(*)LD

DIMENSIONS:

8-inch minimum
90-inch maximum

[1] smaller or larger diameters available on special order.

DIE-STAMPED or PRESSED ELBOW



DESIGNATION:
SRSE-90 or
SRSE-45

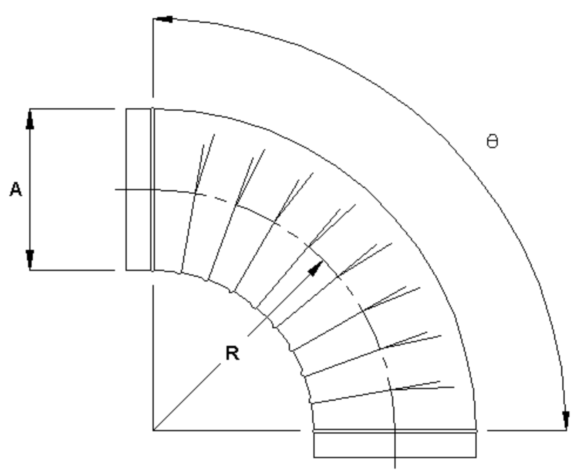
DIMENSIONS:
R = 1.5A

Note: Available in galvanized steel, paintable galvanized steel, type 304 and 316 stainless steel, and aluminum.

Available sizes

θ	**Diameters**
45°	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 14 inches
90°	3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 inches

PLEATED ELBOW



DESIGNATION:
SRSEP-90 or
SRSEP-45

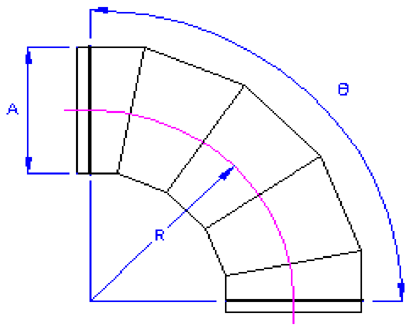
DIMENSIONS:
R = 1.5A

Note: Available only in galvanized or paintable galvanized steel.

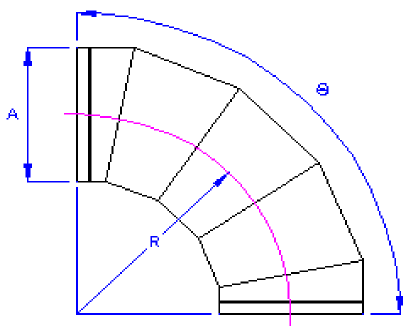
Available sizes

θ	**Diameters**
45°	3, 4, 5, 6, 7, 8, 10, 11, 12, 14, and 16 inches
90°	4, 5, 6, 7, 8, 10, 11, 12, and 14 inches

GORED ELBOW

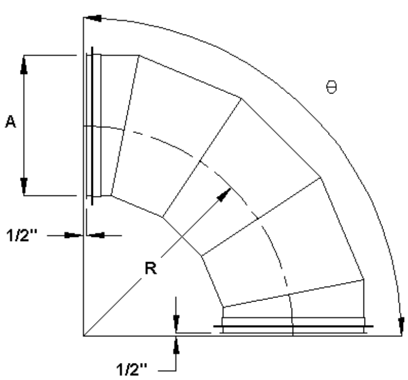


Diameter ≤ 22 inches



Diameter > 22 inches

GORED ELBOW
(With Van Stone connector ends)



Diameter > 22 inches

Designation:
SR(*)E#-θ

Where:

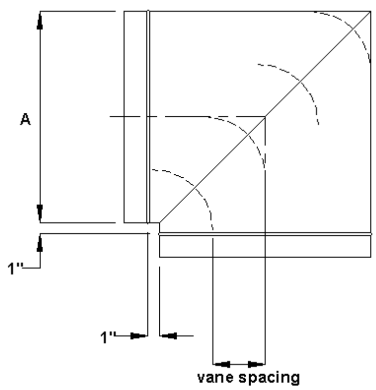
θ	Number of gores
0 - 35°	2
36 - 71°	3
72 - 90°	5

For elbows where θ exceeds 90°, add one gore for each additional 18° or fraction thereof.

DIMENSIONS:
R = 1.5A

Notes:
1. Nonstandard elbows with a different centerline radius and a different number of gores are available. Customer to specify face-to-face dimension when using applied connectors (see page 35).
2. Where possible, McGill AirFlow UNI-SEAM™ (standing seam) construction will be used on gored elbows (9-30 inches in diameter).
3. End gores are turned up ½ inch to create the flange on gored elbows with Van Stone connector ends when the diameter is greater than 22 inches. See the applied connector/Van Stone connector detail on page 35 for diameters less than or equal to 22 inches.

MITERED 90° ELBOW



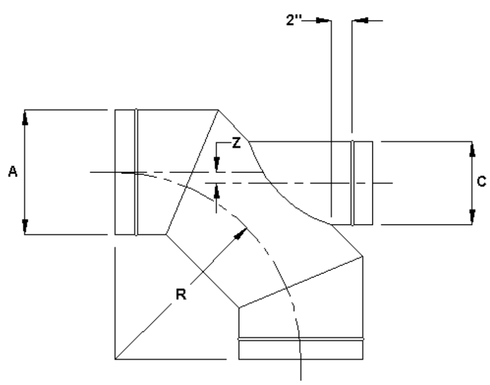
DESIGNATION:
SR(*)EMV-90
with turning vanes
(shown)
SR(*)EM-90
without turning vanes
(not shown)

DIMENSIONS:

A (inches)	Number of Vanes
3 - 9 ½	2
10 - 14 ½	3
15 - 19	4
20 - 60	5
over 60	12-inch maximum spacing

Note: Mitered 45° elbows (two gores) without vanes are also available. Designation is SR(*)EM-45.

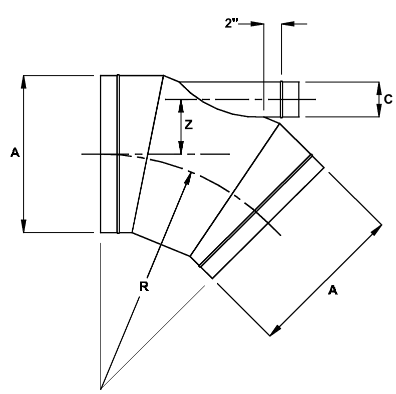
HEEL-TAPPED 90° ELBOW



DESIGNATION:
SR(*)ET3-90

DIMENSION
R = 1.5A
Z = 0.086A
Maximum C = A

HEEL-TAPPED 45° ELBOW

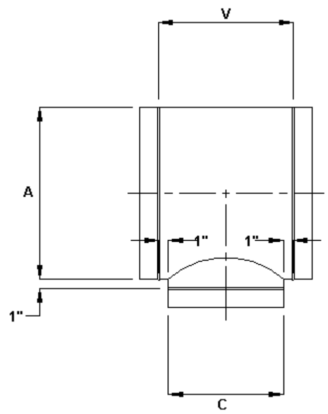


DESIGNATION:
SR(*)ET3-45

DIMENSION
R = 1.5A
Z = 0.348A
Maximum C = 0.3A

TEES

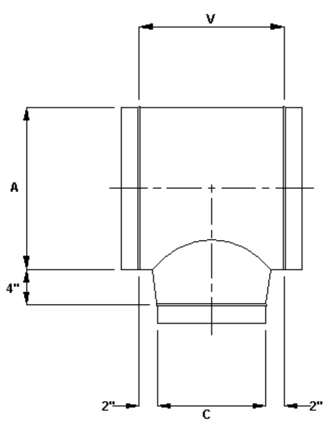
STRAIGHT TEE



DESIGNATION:
SR(*)T

DIMENSIONS:
V = C + 2
Maximum C = A

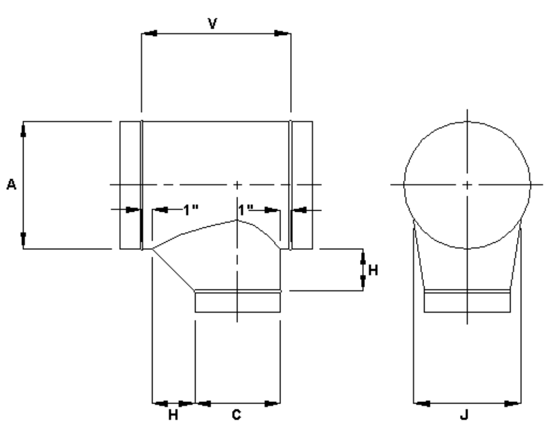
CONICAL TEE



DESIGNATION:
SR(*)TC

DIMENSIONS:
V = C + 4
Maximum C = A - 2

LO-LOSS™ TEE

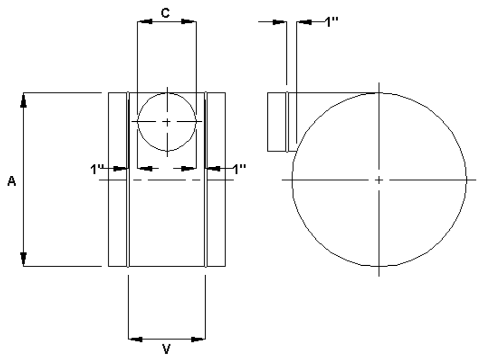


DESIGNATION:
SR(*)TL

DIMENSIONS:
V = C + H + 2
J = C + 2 (for C ≤ A - 2)
J = C (for C > A - 2)
Maximum C = A

C (inches)	H (inches)
3 - 8	4
8 ½ - 14	7
14 ½ - 26	10
27 or larger	13

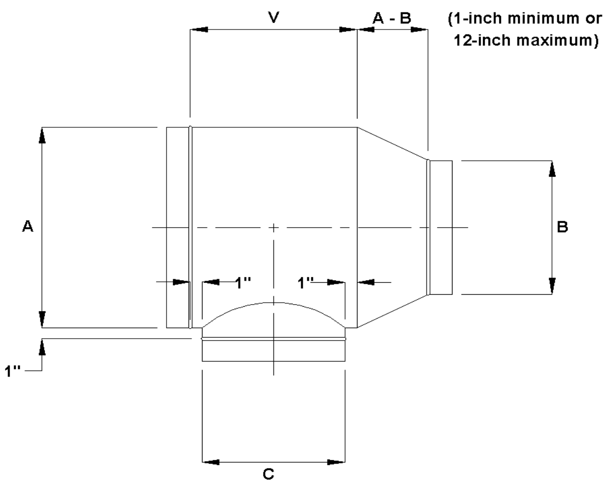
TANGENTIAL TEE



DESIGNATION:
SR(*)TT

DIMENSIONS:
V = C + 2

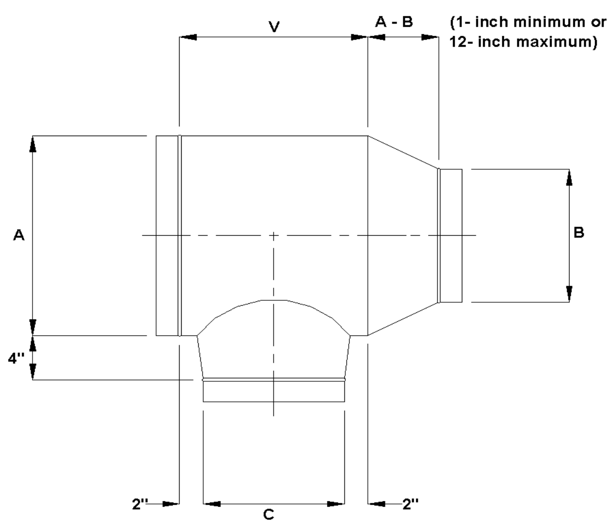
REDUCING STRAIGHT TEE



DESIGNATION:
SR(*)TR

DIMENSIONS:
V = C + 2
Maximum C = A

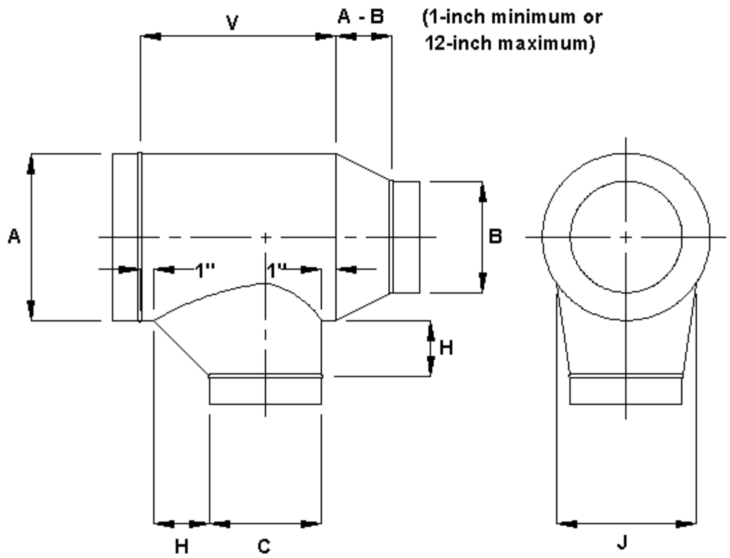
REDUCING CONICAL TEE



DESIGNATION:
SR(*)TCR

DIMENSIONS:
V = C + 4
Maximum C = A - 2

REDUCING LO-LOSS TEE

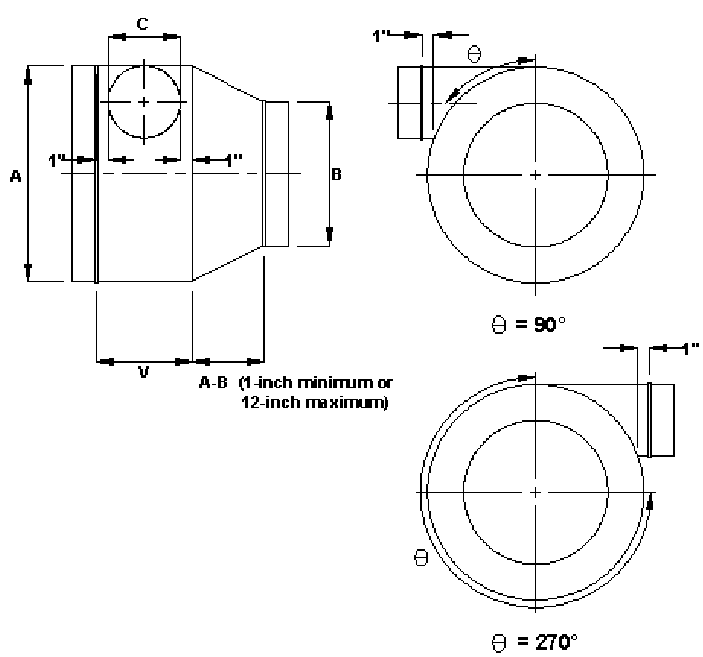


DESIGNATION:
SR(*)TLR

DIMENSIONS:
V = C + H + 2
J = C + 2 (for C ≤ A - 2)
J = C (for C > A - 2)
Maximum C = A

C (inches)	H (inches)
3 - 8	4
8 ½ - 14	7
14 ½ - 26	10
27 or larger	13

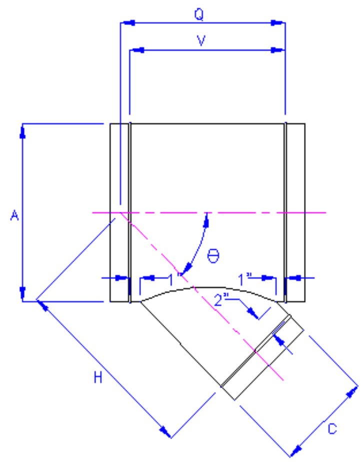
REDUCING TANGENTIAL TEE 90°



DESIGNATION:
SR0TTR
(-270 if θ ≠ 90°)

DIMENSIONS:
V = C + 2

STRAIGHT LATERAL



DESIGNATION:
SR(*)L
(-θ if θ ≠ 45°)

DIMENSIONS:

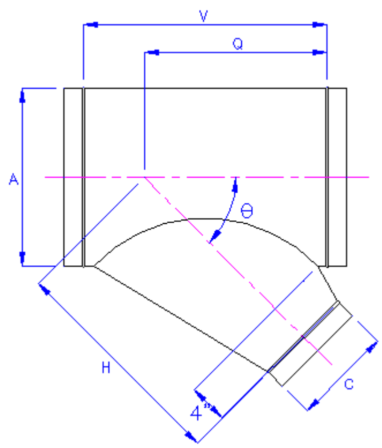
$$V = \frac{C}{\sin\theta} + 2$$

$$Q = \frac{A}{2\tan\theta} + \frac{C}{2\sin\theta} + 1$$

$$H = \frac{A}{2\sin\theta} + \frac{C}{2\tan\theta} + 2$$

Maximum C = A

CONICAL LATERAL



DESIGNATION:
SR(*)LC
(-θ if θ ≠ 45°)

DIMENSIONS:

$$V = \frac{(C+2)}{\sin\theta} + 2$$

$$Q = \frac{A}{2\tan\theta} + \frac{C + 2\alpha}{2\sin\theta} + 1$$

$$H = \frac{A}{2\sin\theta} + \frac{C + 2\alpha}{2\tan\theta} + 4$$

$$\alpha = \frac{2}{\frac{(C+2)}{4\tan\theta} + 2}$$

Maximum C = A-3 for A≤10
A-4 for 10<A≤42
A-5 for A>42

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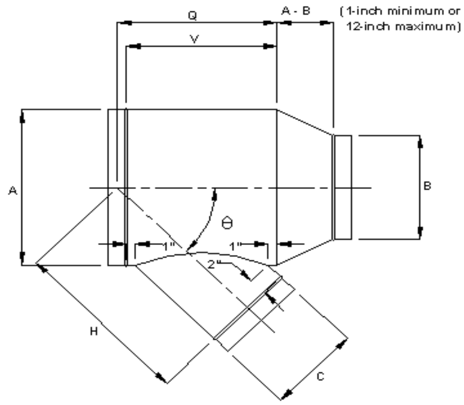
REDUCING STRAIGHT LATERAL



DESIGNATION:
SR(*)LR
(-θ if θ ≠ 45°)

DIMENSIONS:

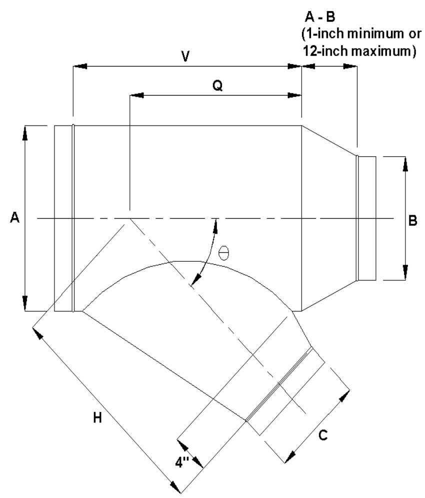
$$V = \frac{C}{\sin\theta} + 2$$

$$Q = \frac{A}{2\tan\theta} + \frac{C}{2\sin\theta} + 1$$

$$H = \frac{A}{2\sin\theta} + \frac{C}{2\tan\theta} + 2$$

Maximum C = A

REDUCING CONICAL LATERAL



DESIGNATION:
SR(*)LCR
(-θ if θ ≠ 45°)

DIMENSIONS:

$$V = \frac{(C+2)}{\sin\theta} + 2$$

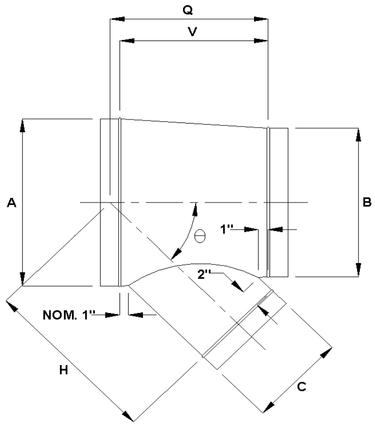
$$Q = \frac{A}{2\tan\theta} + \frac{C+2\alpha}{2\sin\theta} + 1$$

$$H = \frac{A}{2\sin\theta} + \frac{C+2\alpha}{2\tan\theta} + 4$$

$$\alpha = \frac{2}{\frac{(C+2)}{4\tan\theta} + 2}$$

Maximum C = A-3 for A≤10
A-4 for A≤42
A-5 for A>42

TAPERED BODY LATERAL



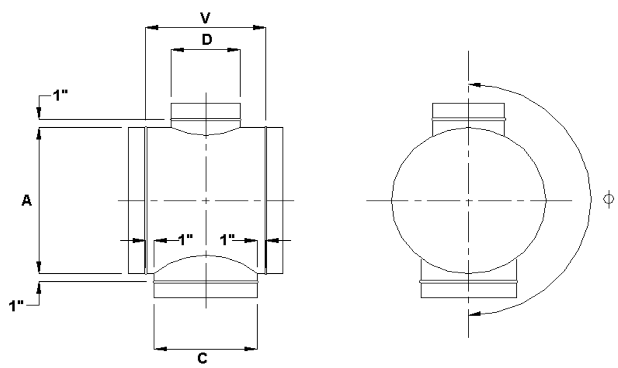
DESIGNATION:
SR(*)LP
(-θ if θ ≠ 45°)

$$V = \frac{C}{\sin\theta} - \frac{A - B}{2\tan\theta} + 2$$

$$Q = \frac{A - B}{2V\tan\theta} + \frac{B}{2\tan\theta} + \frac{C}{2\sin\theta} + 1$$

$$H = \frac{A - B}{2V\tan\theta} + \frac{B}{2\sin\theta} + \frac{C}{2\tan\theta} + 2$$

STRAIGHT 90° CROSS



DESIGNATION:
SR(*)TX
(-φ if φ ≠ 180°)

DIMENSIONS:

V = C + 2

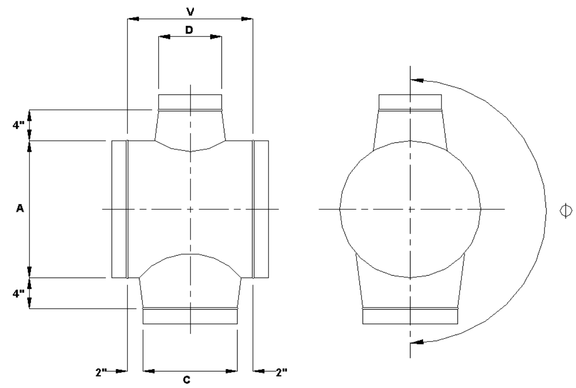
Maximum C or D = A

CONICAL 90° CROSS

DESIGNATION:
SR(*)TXC
(-φ if φ ≠ 180°)

DIMENSIONS:
V = C + 4

Maximum C or D = A - 2



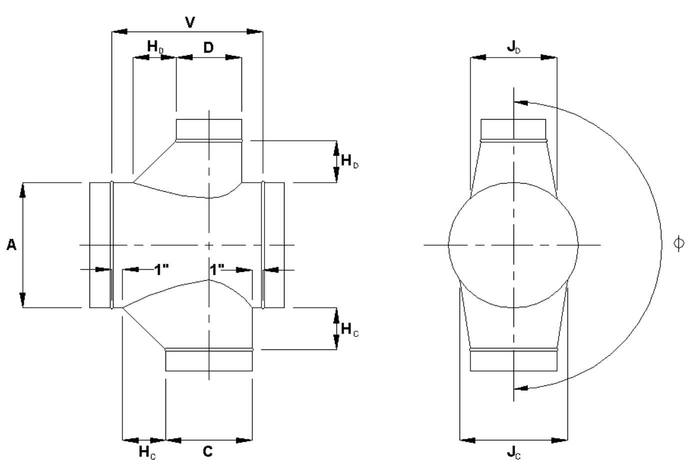
LO-LOSS 90° CROSS

DESIGNATION:
SR(*)TXL
(-φ if φ ≠ 180°)

DIMENSIONS:

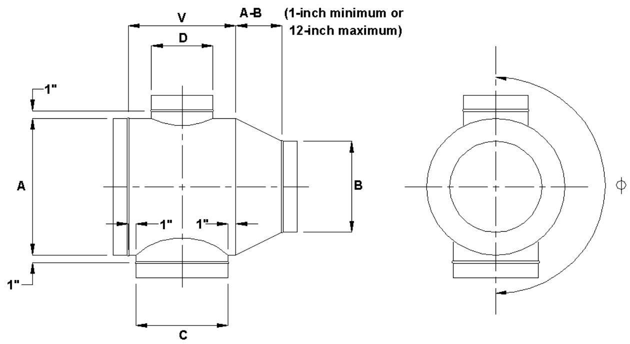
$V = C + H_C + 2$

Note: To determine J_C or J_D dimension and maximum C or D, refer to LO-LOSS tee drawing.



C or D (inches)	H_C or H_D (inches)
3 - 8	4
8 ½ - 14	7
14 ½ - 26	10
27 or larger	13

REDUCING STRAIGHT 90° CROSS

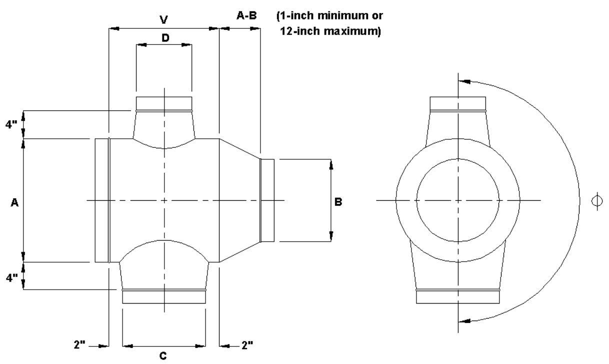


DESIGNATION:
SR(*)TXR
(φ if φ ≠ 180°)

DIMENSIONS:
V = C + 2

Maximum C or D = A

REDUCING CONICAL 90° CROSS

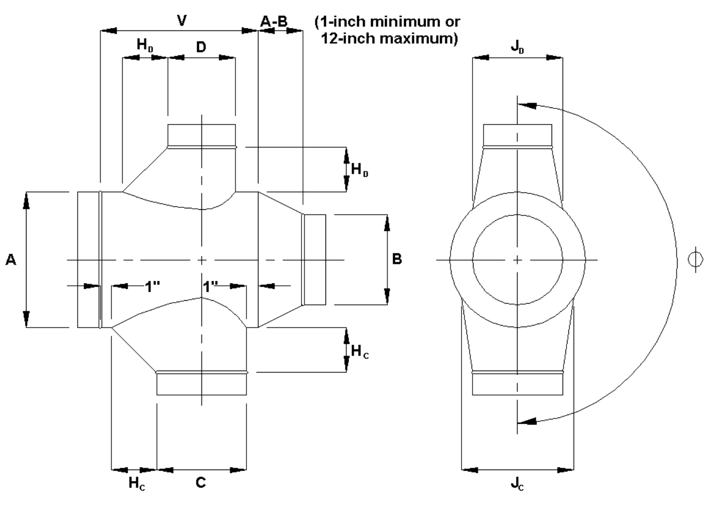


DESIGNATION:
SR(*)TXCR
(-φ if φ ≠ 180°)

DIMENSIONS:
V = C + 4

Maximum C or D = A - 2

REDUCING LO-LOSS 90° CROSS



DESIGNATION:

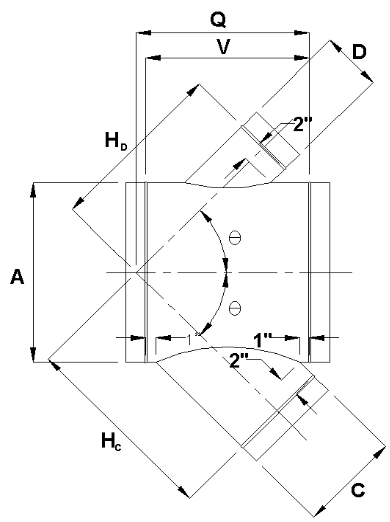
SR(*)TXLR
(-φ if φ ≠ 180°)

DIMENSIONS:
V = C + H_C + 2

Note: To determine J_C + J_D dimension and maximum C or D, refer to LO-LOSS tee drawing.

C or D (inches)	H_C and H_D (inches)
3 - 8	4
8 ½ - 14	7
14 ½ - 26	10
27 or larger	13

LATERAL CROSS



DESIGNATION:
SR0LX
(-φ if φ ≠ 180°,
-θ if θ ≠ 45°)

DIMENSIONS:

$$V = \frac{C}{\sin\theta} + 2$$

$$Q = \frac{A}{2\tan\theta} + \frac{C}{2\sin\theta} + 1$$

$$H_C = \frac{A}{2\sin\theta} + \frac{C}{2\tan\theta} + 2$$

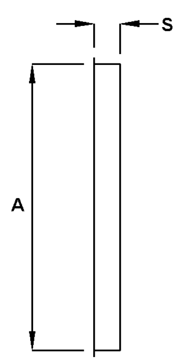
$$H_D = \frac{A}{2\sin\theta} + \frac{D}{2\tan\theta} + 2$$

Maximum C or D = A

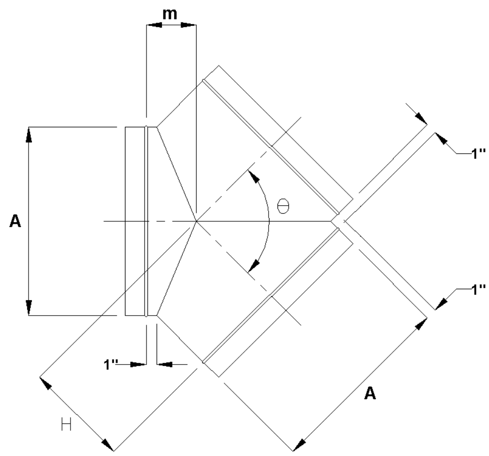
[draw with gasketed taps and no beads on body]

END CAP

DESIGNATION:
SR0EC



Y-BRANCH



DESIGNATION:
SR(*)Y
(-θ if θ ≠ 90°)

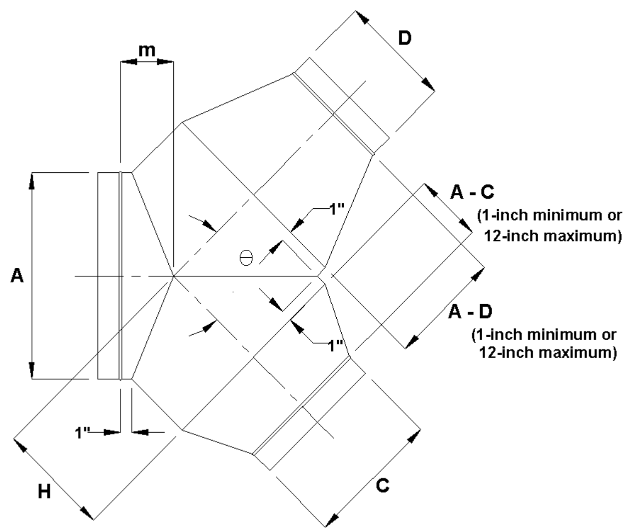
DIMENSIONS:

$$H = \frac{A}{2\tan(\theta/2)} + 1$$

$$m = \frac{A}{2}\tan(\theta/4)$$

Maximum C = A

REDUCING Y-BRANCH



DESIGNATION:
SR(*)YR
(-θ if θ ≠ 90°)

DIMENSIONS:

$$H = \frac{A}{2\tan(\theta/2)} + 1$$

$$m = \frac{A}{2}\tan(\theta/4)$$

Maximum C or D = A

TAPERED Y-BRANCH and VEE FITTING

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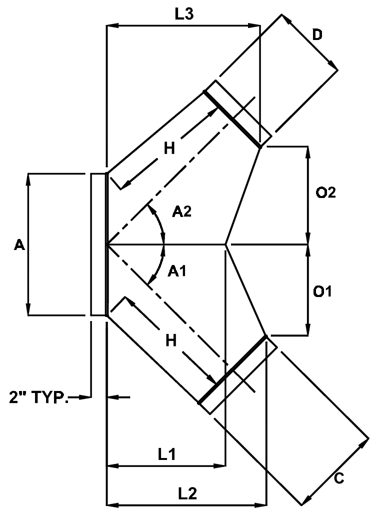
TAPERED Y-BRANCH



DESIGNATION:
SR(*)YP
(-θ if θ ≠ 90°)

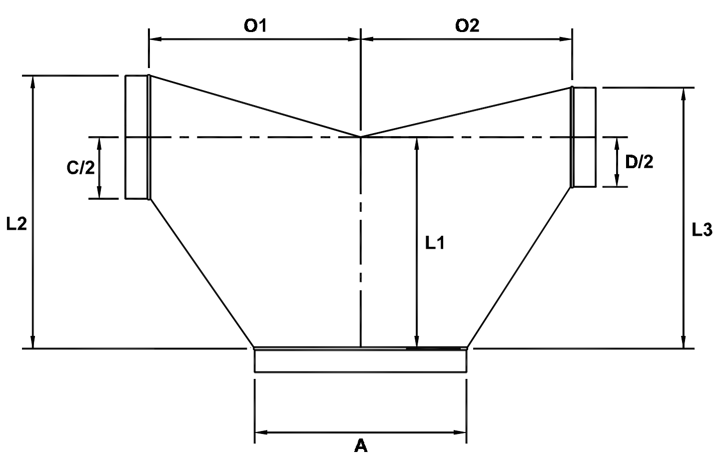
DIMENSIONS:

H = 1.25A

L1 = A
L2 = [1.25A x cos(A1)] + [C/2 x sin (A1)]
L3 = [1.25A x cos(A2)] + [D/2 x sin (A2)]
O1 = [1.25A x sin (A1)] - [C/2 x cos(A1)]
O2 = [1.25A x sin (A2)] - [D/2 x cos(A2)]

Maximum C or D = A

VEE FITTING



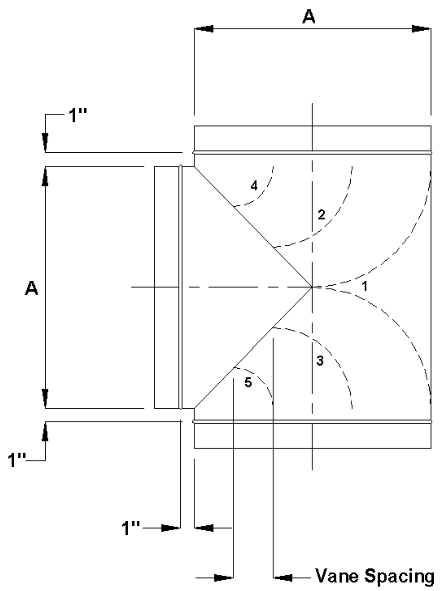
DESIGNATION:
SR(*)VE
SR(*)VER
reducing (shown)

DIMENSIONS:

L1 = A
O1 = O2 = A
L2 = A + (C/2)
L3 = A + (D/2)

Maximum C = A

BULLHEAD TEE



DESIGNATION:

SR(*)TBV
with turning vanes
(shown)

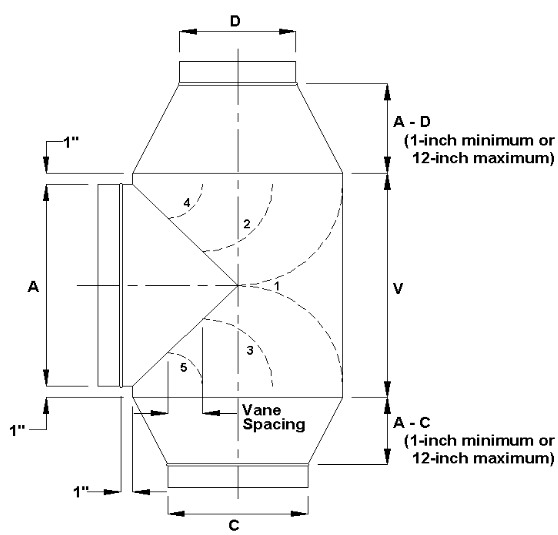
SR(*)TB
without turning vanes
(not shown)

DIMENSIONS:

V = A + 2

A (inches)	Number of Vanes
3 - 6 ½ 7 - 9 ½ 10 - 60 over 60	1 3 5 12-inch maximum spacing

REDUCING BULLHEAD TEE



DESIGNATION:

SR(*)TBVR
with turning vanes
(shown)

SR(*)TBR
without turning vanes
(not shown)

DIMENSIONS:

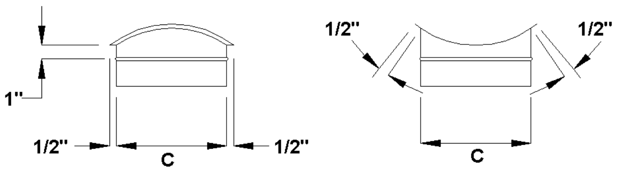
V = A + 2

A (inches)	Number of Vanes
3 - 6 ½ 7 - 9 ½ 10 - 60 over 60	1 3 5 12-inch maximum spacing

TAPS

McGill AirFlow Corporation

CONTOURED FLANGED STRAIGHT TEE TAP

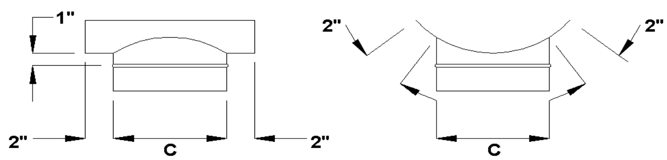


DESIGNATION:
SR(*)PT

DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A

SADDLE STRAIGHT TEE TAP

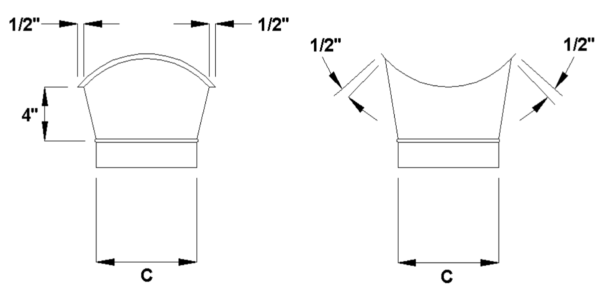


DESIGNATION:
SR(*)PTS

DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A

CONTOURED FLANGED CONICAL TAP

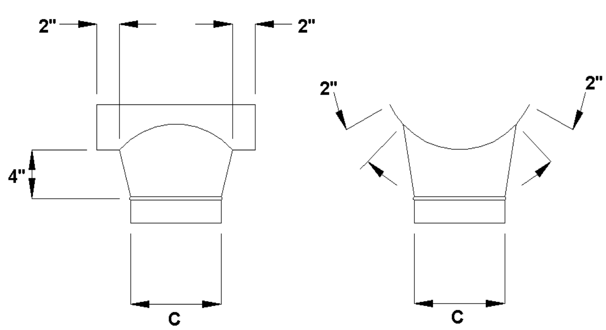


DESIGNATION:
SR(*)PTC

DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A - 2

SADDLE CONICAL TEE TAP

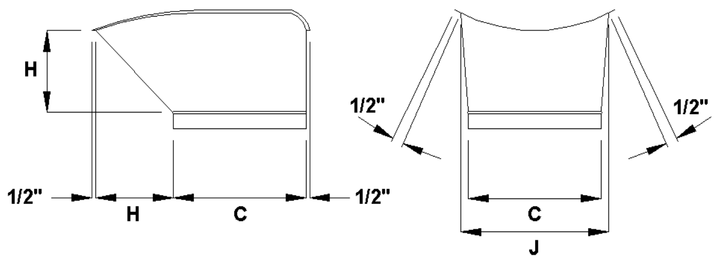


DESIGNATION:
SR(*)PTCS

DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A - 2

CONTOURED FLANGED LO-LOSS TEE TAP



DESIGNATION:
SR(*)PTL

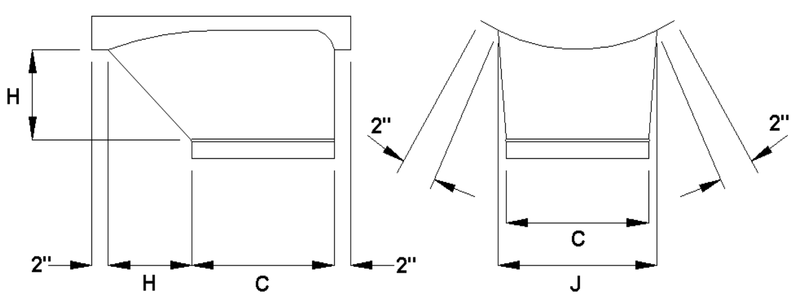
DIMENSIONS:
Specify duct size that tap will be attached to as A.

J = C + 2 (for C ≤ A - 2)
J = C (for C > A - 2)

Maximum C = A

C (inches)	H (inches)
3 - 8	4
9 - 14	7
15 - 26	10
27 or larger	13

SADDLE LO-LOSS TEE TAP



DESIGNATION:
SR(*)PTLS

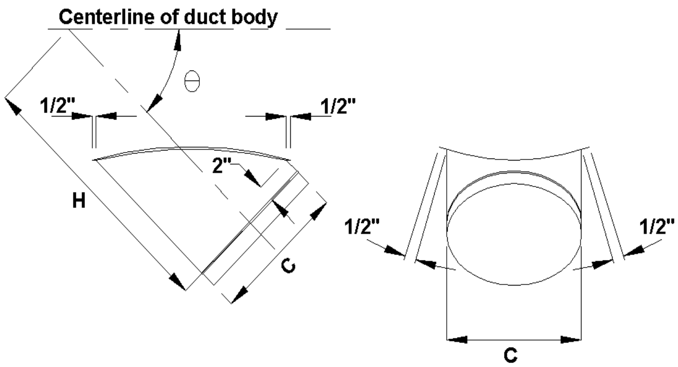
DIMENSIONS:
Specify duct size that tap will be attached to as A.

J = C + 2 (for C ≤ A - 2)
J = C (for C > A - 2)

Maximum C = A

C (inches)	H (inches)
3 - 8	4
9 - 14	7
15 - 26	10
27 or larger	13

CONTOURED FLANGED LATERAL TAP



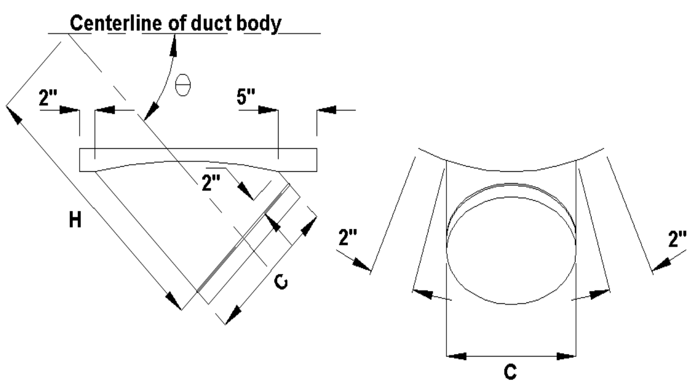
DESIGNATION:
SR(*)PL
(-θ if θ ≠ 45°)

DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A

$$H = \frac{A}{2\sin\theta} + \frac{C}{2\tan\theta} + 2$$

SADDLE LATERAL TAP



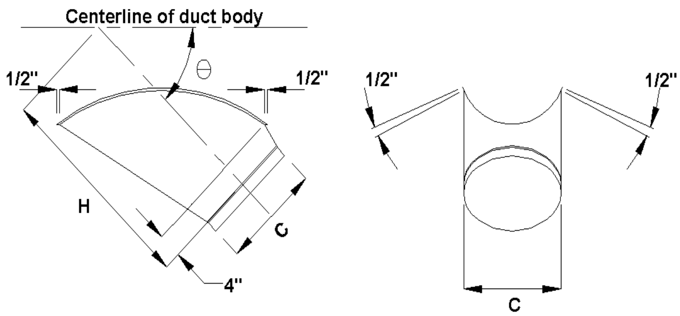
DESIGNATION:
SR(*)PLS
(-θ if θ ≠ 45°)

DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A

$$H = \frac{A}{2\sin\theta} + \frac{C}{2\tan\theta} + 2$$

CONTOURED FLANGED CONICAL LATERAL TAP



DESIGNATION:
SR(*)PLC
(-θ if θ ≠ 45°)
(for θ ≥ 30°)

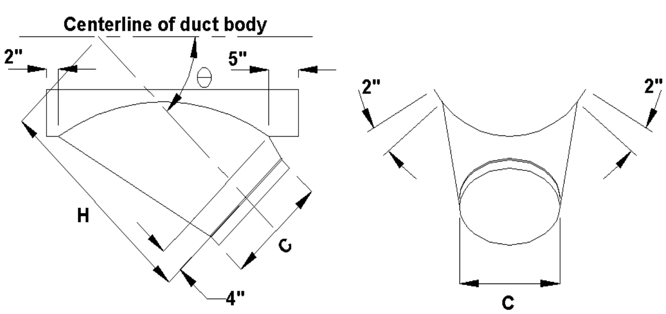
DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A - 3 for A ≤10
A - 4 for A ≤42
A - 5 for A > 42

$$H = \frac{A}{2\sin\theta} + \frac{C + 2\alpha}{2\tan\theta} + 4$$

$$\alpha = \frac{2}{\frac{(C+2)}{4\tan\theta} + 2}$$

SADDLE CONICAL LATERAL TAP



DESIGNATION:
SR(*)PLCS
(-θ if θ ≠ 45°)
(for θ ≥ 30°)

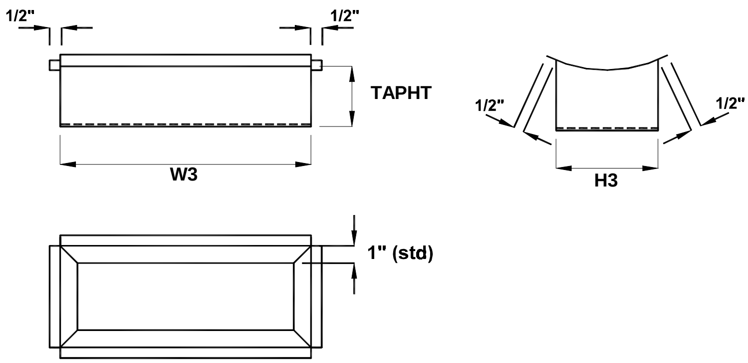
DIMENSIONS:
Specify duct size that tap will be attached to as A.

Maximum C = A - 3 for A ≤10
A - 4 for A ≤42
A - 5 for A > 42

$$H = \frac{A}{2\sin\theta} + \frac{C + 2\alpha}{2\tan\theta} + 4$$

$$\alpha = \frac{2}{\frac{(C+2)}{4\tan\theta} + 2}$$

RECTANGULAR TAP

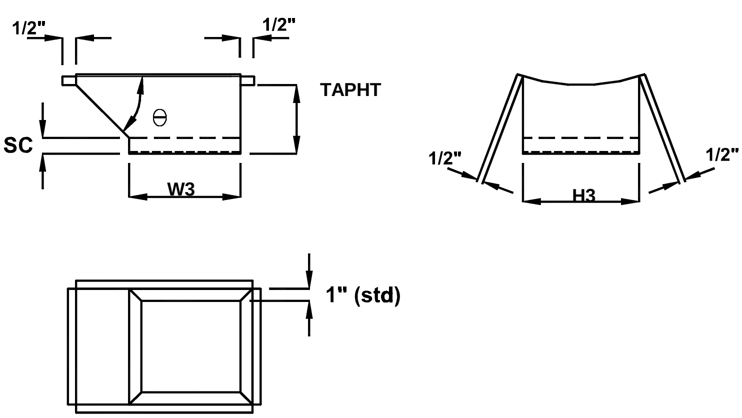


DESIGNATION:
SR(*)PTA
(Flange-in shown)

DIMENSIONS:
Specify tap size (W3 x H3) and duct size (A) that tap will be attached to and indicate end detail, i.e., flange-in, flange-out, or raw. Provide sketch of orientation if different than noted.

Default: TAPHT = 3 inches

RECTANGULAR LO-LOSS TAP



DESIGNATION:
SR(*)PTLA
(Flange-in shown)

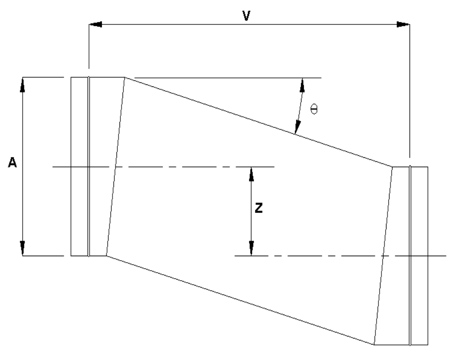
DIMENSIONS:
Specify tap size (W3 x H3) and duct size (A) that tap will be attached to and indicate end detail, i.e., flange-in, flange-out, or raw. Provide sketch of orientation if different than noted.

Default: TAPHT = 6 inches
SC = 2 inches
θ = 45°

Specify SC if TAPHT is other than 6 inches.

OFFSET and SQUARE-TO-ROUND

OFFSET



Note: Z should not exceed 0.75A or θ>60°. If larger, use fabricated elbows and a straight length of duct.

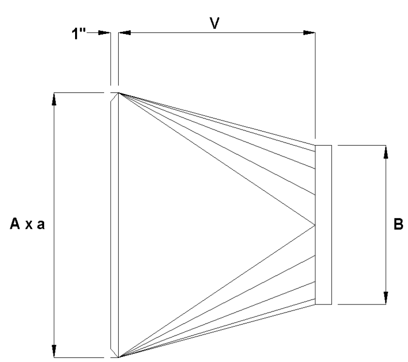
DESIGNATION:
SR(*)Z

DIMENSIONS:

V = 2A

Z = Must be specified

SQUARE-TO-ROUND

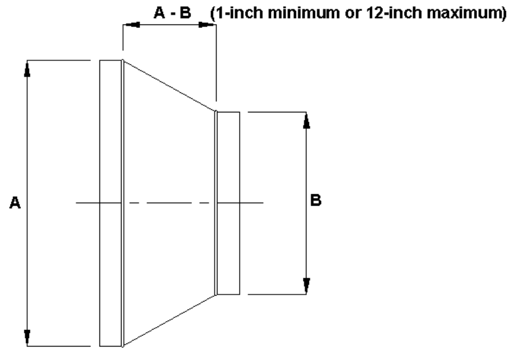


DESIGNATION:
SR(*)QR

DIMENSIONS:
V = 12, 24, 36, or 48

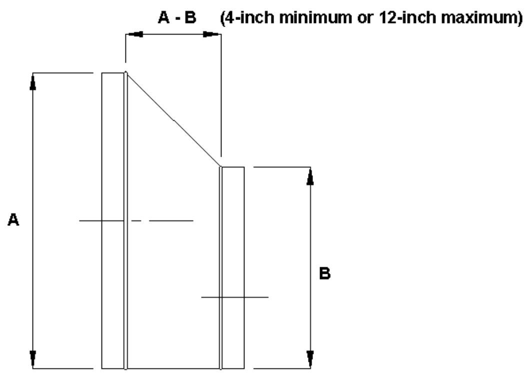
A = Major axis of rectangular side
a = Minor axis of rectangular side

CONCENTRIC REDUCER



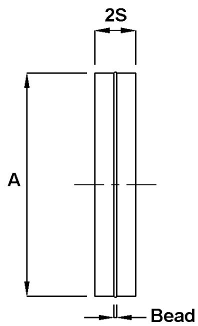
DESIGNATION:
SR(*)R

ECCENTRIC REDUCER



DESIGNATION:
SR(*)RE

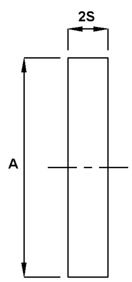
DUCT-TO-DUCT COUPLING



DESIGNATION:
SR(*)C

A (inches)	Bead (inches)
3-23	1/4
over 23	5/8

FITTING-TO-FITTING COUPLING



DESIGNATION:
SR(*)CF

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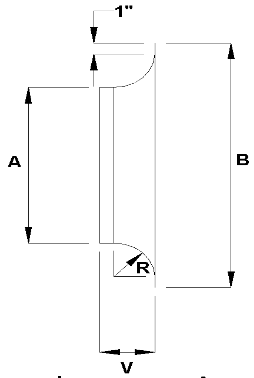
BELLMOUTH



DESIGNATION:
SFRBM**

** = diameter (eg 06, 14, etc)

Diameter (inches)	A (inches)	B (inches)	V (inches)	R (inches)
4	3 7/8	9	2 1/2	1 1/2
5	4 7/8	10	2 1/2	1 1/2
6	5 7/8	12	3	2
7	6 7/8	13	3	2
8	7 7/8	14	3	2
9	8 7/8	15	3	2
10	9 7/8	16	3	2
11	10 7/8	19	4	3
12	11 7/8	20	4	3
13	12 7/8	21	4	3
14	13 7/8	22	4	3
15	14 7/8	23	4	3
16	15 7/8	26	5	4
17	16 7/8	27	5	4
18	17 7/8	28	5	4
19	18 7/8	29	5	4
20	19 7/8	30	5	4
21	20 7/8	31	5	4
22	21 7/8	34	6	5
23	22 7/8	35	6	5
24	23 7/8	36	6	5
26	25 7/8	40	7	6
28	27 7/8	42	7	6
30	29 7/8	44	7	6
32	31 7/8	48	8	7
34	33 7/8	50	8	7
36	35 7/8	52	8	7
38	37 7/8	54	8	7
40	39 7/8	58	9	8
42	41 7/8	60	9	8
44	43 7/8	62	9	8
46	45 7/8	64	9	8
48	47 7/8	66	9	8
50	49 7/8	56	3	3
52	51 7/8	58	3	3
54	53 7/8	60	3	3
56	55 7/8	62	3	3
58	57 7/8	64	3	3
60	59 7/8	66	3	3

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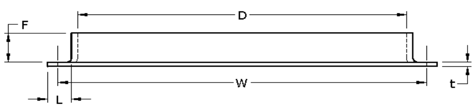
GALVANIZED UNI-RING™ ANGLE RING



DESIGNATION:
SFUR**

** = Diameter (eg 06, 14, etc.)

DIMENSIONS:

Nominal diameter = 6 through 60-inches

Bolt Hole Dimensions: 6"-15" duct diameter (Holes 5/16" round)
16"-60" duct diameter (Holes 5/8" x 7/16" oval)

D Nominal Diameter (inches)	W Bolt Diameter (inches)	Number of Bolts	L Nominal Leg Height (inches)	F Nominal Flat Length (inches)	t Nominal Thickness (inches)	Nominal Weight Ring Only (pounds)	D Nominal Diameter (inches)
6.0	7.375	6	1.0625	0.9375	0.078	1.00	6.0
7.0	8.375	6	1.0625	0.9375	0.078	1.20	7.0
8.0	9.375	6	1.0625	0.9375	0.078	1.30	8.0
8.5	9.875	6	1.0625	0.9375	0.078	1.40	8.5
9.0	10.375	6	1.0625	0.9375	0.078	1.50	9.0
9.5	10.875	6	1.0625	0.9375	0.078	1.60	9.5
10.0	11.375	6	1.2500	1.1875	0.078	1.70	10.0
10.5	11.875	6	1.2500	1.1875	0.078	1.70	10.5
11.0	12.375	6	1.2500	1.1875	0.078	1.80	11.0
11.5	12.875	6	1.2500	1.1875	0.078	1.90	11.5
12.0	13.375	8	1.2500	1.1875	0.078	2.00	12.0
12.5	13.875	8	1.2500	1.1875	0.078	2.10	12.5
13.0	14.375	8	1.2500	1.1875	0.078	2.10	13.0
13.5	14.875	8	1.2500	1.1875	0.078	2.20	13.5
14.0	15.375	8	1.2500	1.1875	0.078	2.30	14.0
14.5	15.875	8	1.2500	1.1875	0.078	2.40	14.5
15.0	16.375	8	1.2500	1.1875	0.078	2.50	15.0
16.0	17.375	8	1.2500	1.1875	0.078	2.60	16.0
17.0	18.375	8	1.2500	1.1875	0.078	2.80	17.0
18.0	19.375	8	1.2500	1.1875	0.078	3.00	18.0
19.0	20.375	12	1.2500	1.1875	0.078	3.10	19.0
20.0	21.375	12	1.2500	1.1875	0.078	3.30	20.0
21.0	22.375	12	1.2500	1.1875	0.078	3.40	21.0
22.0	23.375	12	1.2500	1.1875	0.078	3.60	22.0
23.0	24.375	12	1.2500	1.1875	0.078	3.80	23.0
24.0	25.375	12	1.2500	1.1875	0.078	3.90	24.0
25.0	26.375	16	1.2500	1.1875	0.108	5.70	25.0
26.0	27.375	16	1.2500	1.1875	0.108	5.90	26.0
27.0	28.375	16	1.2500	1.1875	0.108	6.10	27.0
28.0	29.375	16	1.2500	1.1875	0.108	6.30	28.0
29.0	30.375	16	1.2500	1.1875	0.108	6.60	29.0
30.0	31.375	16	1.2500	1.1875	0.108	6.80	30.0
31.0	32.375	16	1.2500	1.1875	0.108	7.00	31.0
32.0	33.375	16	1.2500	1.1875	0.108	7.30	32.0
33.0	34.375	16	1.2500	1.1875	0.108	7.50	33.0
34.0	35.375	16	1.2500	1.1875	0.108	7.70	34.0
35.0	36.375	16	1.2500	1.1875	0.108	7.90	35.0
36.0	37.375	16	1.2500	1.1875	0.108	8.10	36.0
37.0	38.375	24	1.2500	1.1875	0.108	8.40	37.0
38.0	39.375	24	1.2500	1.1875	0.108	8.60	38.0
39.0	40.375	24	1.2500	1.1875	0.108	8.80	39.0
40.0	41.375	24	1.2500	1.1875	0.108	9.00	40.0
41.0	42.375	24	1.2500	1.1875	0.108	9.30	41.0
42.0	43.375	24	1.2500	1.1875	0.108	9.50	42.0
43.0	44.375	24	1.2500	1.1875	0.138	12.40	43.0
44.0	45.375	24	1.2500	1.1875	0.138	12.70	44.0
45.0	46.375	24	1.2500	1.1875	0.138	13.00	45.0
46.0	47.375	24	1.2500	1.1875	0.138	13.30	46.0
47.0	48.375	24	1.2500	1.1875	0.138	13.60	47.0
48.0	49.375	24	1.2500	1.1875	0.138	13.90	48.0
49.0	50.375	24	1.2500	1.1875	0.138	14.10	49.0
50.0	51.375	24	1.2500	1.1875	0.138	14.40	50.0
51.0	52.375	24	1.2500	1.1875	0.138	14.80	51.0
52.0	53.375	24	1.2500	1.1875	0.138	15.00	52.0
53.0	54.375	24	1.2500	1.1875	0.138	15.30	53.0
54.0	55.375	24	1.2500	1.1875	0.138	15.60	54.0
55.0	56.375	24	1.2500	1.1875	0.138	15.90	55.0
56.0	57.375	24	1.2500	1.1875	0.138	16.20	56.0
57.0	58.375	24	1.2500	1.1875	0.138	16.50	57.0
58.0	59.375	24	1.2500	1.1875	0.138	16.80	58.0
59.0	60.375	24	1.2500	1.1875	0.138	17.00	59.0
60.0	61.375	24	1.2500	1.1875	0.138	17.30	60.0

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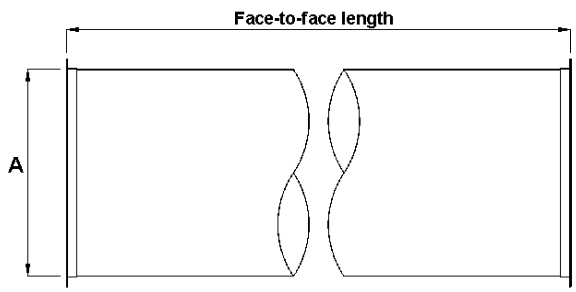
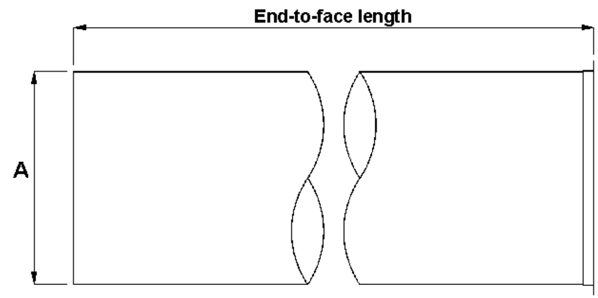
APPLIED DUCT CONNECTOR



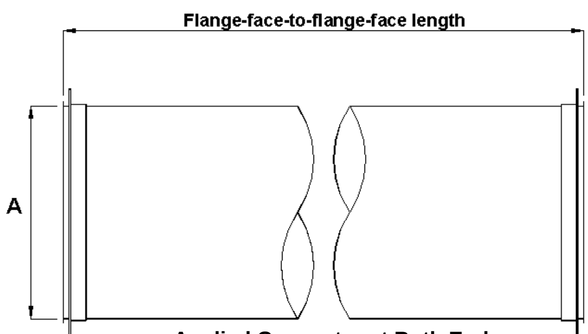
Applied Connector at Both Ends



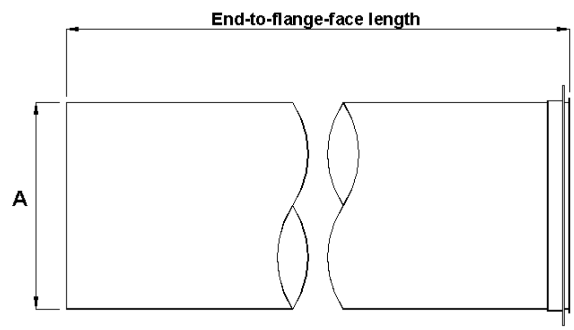
Applied Connector at One End

Note: Customer-specified duct length shall be the face-to-face or end-to-face dimension. Standard coil widths are 60 and 72-inch. When either of these lengths are requested on longitudinal seam duct with an angle ring, the ring is pulled ½ inch for welding, and the overall length will finish ½ inch longer. For example, a 60-inch length of longitudinal seam duct will finish 61-inches if iron angle rings are welded onto both ends. On all other applied connectors, the overall length does not change.

VAN STONE DUCT CONNECTOR



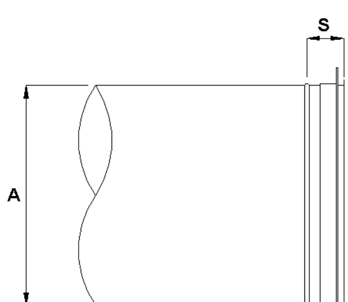
Applied Connector at Both Ends



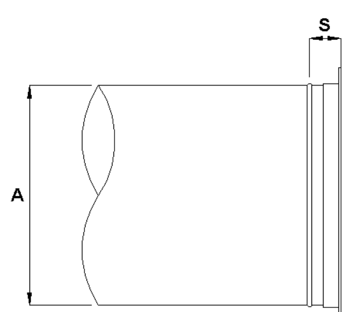
Applied Connector at One End

Notes:
1. Customer-specified duct length shall be the flange-face-to-flange-face or end-to-flange-face length.
2. Avoid Van Stone assemblies on spiral duct.
3. Use at least one end-to-face duct section for field adjustment.
4. Standard coils widths are 60 and 72-inch. When either of these lengths are requested with a Van Stone end, the length will be reduced ½-inch for each end which requires the Van Stone. For example, a 60-inch length of duct with Van Stone connectors on both ends will finish 59 inches.

APPLIED AND VAN STONE FITTINGS CONNECTORS



Van Stone Connector on Fitting End

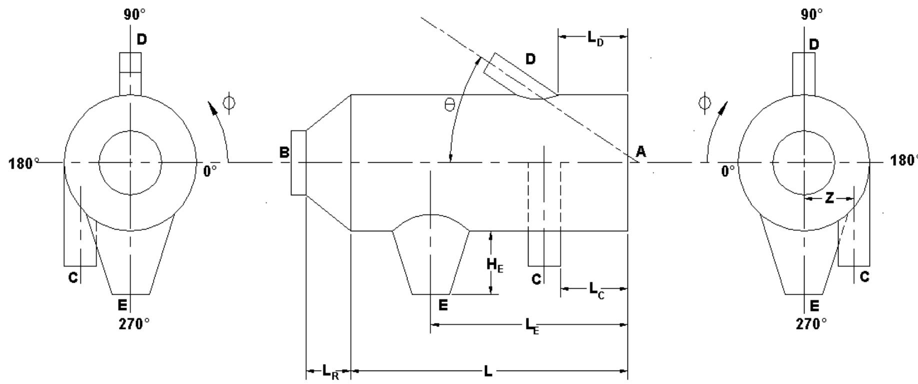


Applied Connector on Fitting End

Type of Connector	A (inches)	S (inches)
Van Stone	5 - 9	1 ½
Van Stone	9 ½ - 72	3 ½
Applied	3 - 90	Specify face to face distance

Notes:
1. Customer to specify face-to-face dimensions for nonstandard fittings construction (i.e., nonstandard centerline radius on elbow or tap and body extensions on divided-flow fittings).
2. The bead is shown for reference only. Fittings requiring connectors are pipe sized and do not require a bead.
3. For gored elbows > 22-inches, refer to page 12 showing gored elbows.

STANDARD ASSEMBLY DRAWING



Looking through B:

A	=	Diameter large end
B	=	Diameter small end (if reducing)
C	=	Diameter of first tap
D	=	Diameter of second tap
E	=	Diameter of third tap
H_E	=	Tap height of third tap (only when nonstandard height)
L	=	Length of duct
L_C	=	Dimension to first tap
L_D	=	Dimension to second tap
L_E	=	Dimension to third tap
L_R	=	Reducer length
Z_C	=	Offset position of first tap
Z_D	=	Offset position of second tap
Z_E	=	Offset position of third tap
θ	=	Location (in degrees) of lateral tap
φ_C	=	Location (in degrees) of first tap
φ_D	=	Location (in degrees) of second tap
φ_E	=	Location (in degrees) of third tap

Looking through A:

φ_C	=	270°	Z_C	=	X, -X
φ_D	=	90°	Z_D	=	0
φ_E	=	270°	Z_E	=	0

Notes:

1. X = specified distance
2. The end view is located to the right of the plan view if looking through the A end.
3. The end view is located to the left of the plan view if looking through the B end.
4. All taps, except for conical taps, are measured from the right hand side to the first end of the tap. Conical taps are measured from the right hand side (e.g. L_E) from the centerline of the tap.

McGill AirFlow LLC

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