



2126 W. 21st. St. • P.O. Box 12273 • Jacksonville, FL 32209
904-475-1822 • FAX 904-355-2104

HIGH PRESSURE ROUND DUCTWORK

Where high pressure ductwork is required by specification (2 - 10 in. wg), all round ductwork will be spiral lockseam construction with matching fittings in accordance with the following tables:

SMACNA 1985 GAUGES			
ROUND DUCT		ROUND FITTINGS	
DIAMETER	GAUGE	DIAMETER	GAUGE
3" - 14"	26	3" - 14"	24
15" - 26"	24	15" - 26"	22
27" - 36"	22	27" - 36"	20
37" - 50"	20	37" - 50"	18
52" +	18	52" +	16

Duct and fittings shall be made from galvanized steel per ASTM A-527. The zinc coating will be G-60 or higher.

Fitting seams will be tack welded and sealed with a high pressure duct sealant unless required to be full welded by specification.

Elbows will have a center-line radius of 1.5 times the diameter. Construction will be either one piece (under 8 inched) or gored (over 8 inches). Gore construction will be according to the following table:

DEGREES	GOES
0 -30	2
31 - 75	3
76 - 90	5



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LOW PRESSURE ROUND DUCTWORK

Where low pressure ductwork is required by specification (0 -2 in, wg), all round ductwork will be spiral lockseam construction with matching fittings in accordance with the following tables:

SMACNA 1985 GAUGES			
ROUND DUCT		ROUND FITTINGS	
DIAMETER	GAUGE	DIAMETER	GAUGE
3" - 14"	28	3" - 14"	26
15" - 26"	26	15" - 26"	24
27" - 36"	24	27" - 36"	22
37" - 50"	22	37" - 50"	20
51" - 60"	20	51" - 60"	18
61" +	18	61" +	16

Duct and fittings shall be made from galvanized steel per ASTM A-527. The zinc coating will be G-60 or higher.

Fitting seams will be of tack welded or punch lock construction and sealed with a high pressure duct sealant as required by SMACNA.

Elbows will have a center-line radius of 1.5 times the diameter. Construction will be gored according to the following table:

DEGREES	GORES
0 -30	2
31 - 75	3
76 - 90	5



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ALUMINUM ROUND DUCTWORK

Construction will be spiral lockseam or longitudinal seam with matching fittings. Fittings will be tack welded and sealed with high pressure sealant unless solid welding is required by specification.

ALUMINUM GAUGE SCHEDULE

DIAMETER	SPIRAL GA.	LONGSEAM GA.
3" - 8"	.025	.040
9" - 14"	.032	.040
15" - 26"	.040	.050
27" - 36"	.050	.063
37" - 50"	.063	.071
51" +	NA	.090

Standard alloy will be type 3003 H14. Other alloys available if required.

Above gauges are applicable to operating pressure of -2" water gauge to +10" water gauge.

Fitting gauges are the same as longitudinal seam duct gauges.

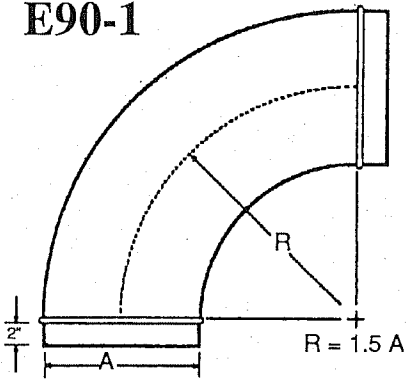
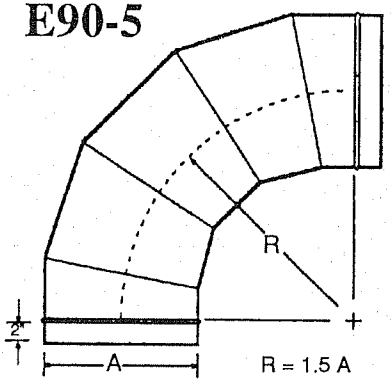
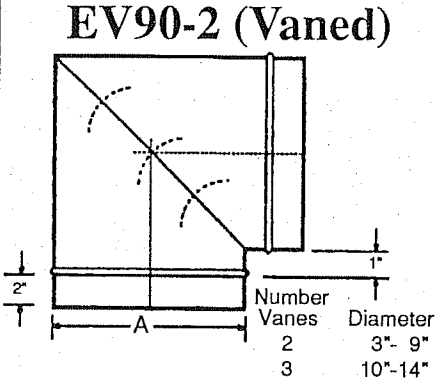
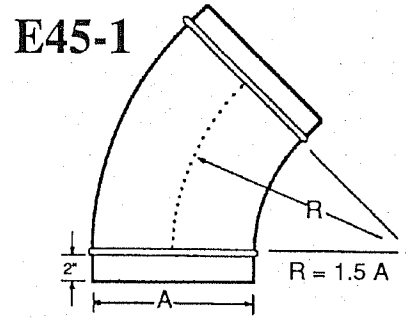
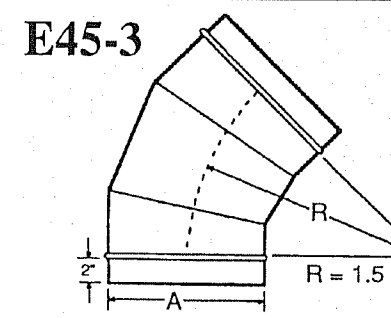
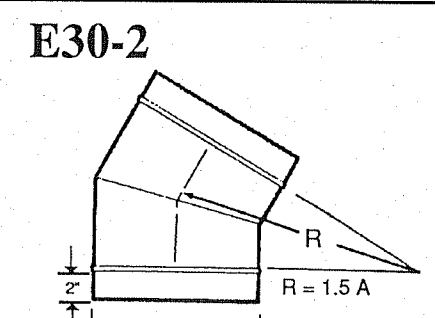
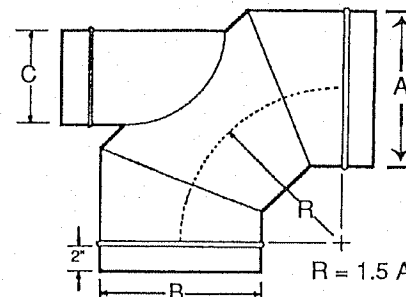
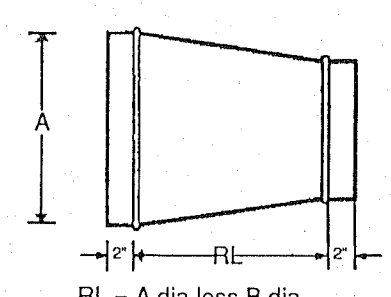
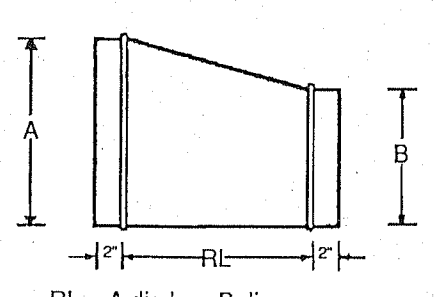
Elbows will have a center line radius of 1.5 times the diameter. Construction will be gored according to the following table.

DEGREES	GORES
0 - 30	2
31 - 75	3
76 - 90	5

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Job _____
Contractor _____
Location _____
Engineer _____
Representative _____
Date _____

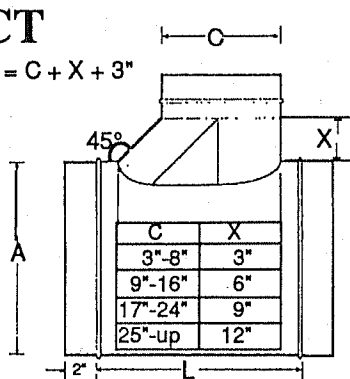
SINGLE WALL ROUND DUCT AND FITTINGS

E90-1  Sizes 3" thru 8" Die Stamped 90° Elbow	E90-5  Fabricated 5 Gore 90° Elbow	EV90-2 (Vaned)  <table><thead><tr><th>Number Vanes</th><th>Diameter</th></tr></thead><tbody><tr><td>2</td><td>3"- 9"</td></tr><tr><td>3</td><td>10"-14"</td></tr><tr><td>4</td><td>15"-19"</td></tr><tr><td>5</td><td>20" & up</td></tr></tbody></table> Mitered 2 Piece Elbow	Number Vanes	Diameter	2	3"- 9"	3	10"-14"	4	15"-19"	5	20" & up
Number Vanes	Diameter											
2	3"- 9"											
3	10"-14"											
4	15"-19"											
5	20" & up											
E45-1  Sizes 3" thru 8" Die Stamped 45° Elbow	E45-3  Fabricated 3 Gore 45° Elbow	E30-2  2 Gore 30° Elbow										
EH90-3  Tap is centered on center gore Heel Tap 90° Elbow	R  $RL = A \text{ dia less } B \text{ dia}$ (minimum 2" maximum 12") Concentric Reducer	RE  $RL = A \text{ dia less } B \text{ dia}$ (minimum 2" maximum 12") Eccentric Reducer										

T Straight Tee $L = C + 3"$	TR Reducing Tee $L = [C + 3"] + [(A - B) \text{ Min. } 2"]$	TC-180° Straight Tee Cross $C \geq D$ $L = C + 3"$
TCR-180° Reducing Tee Cross $C \geq D$ $L = [C + 3"] + [(A - B) \text{ Min. } 2"]$	CON-T Conical Tee $L = C + 5"$	CON-TR Reducing Conical Tee $L = [C + 5"] + [(A - B) \text{ Min. } 2"]$
CON-TC-180° Straight Conical Cross $C \geq D$ $L = C + 5"$	CON-TCR-180° Reducing Conical Cross $C \geq D$ $L = [C + 5"] + [(A - B) \text{ Min. } 2"]$	L Straight Lateral 45° $L = 1.414C + 3"$
LR Reducing Straight Lateral $L = [1.414C + 3"] + [(A - B) \text{ Min. } 2"]$	LC-180° Lateral Cross $C \geq D$ $L = 1.414C + 3"$	LCR-180° Reducing Lateral Cross $L = [1.414C + 3"] + [(A - B) \text{ min. } 2"]$

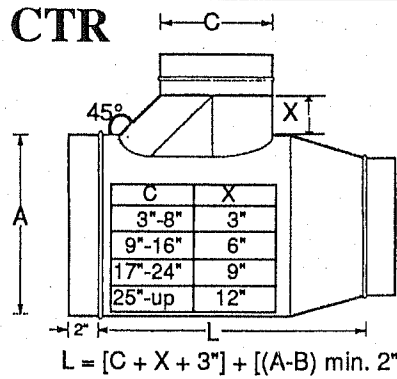
CT

$$L = C + X + 3"$$



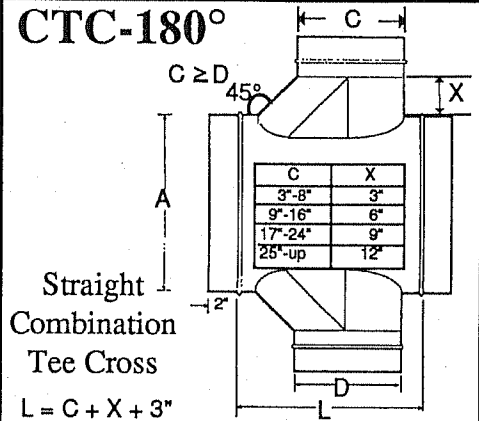
Straight Combination Tee

CTR



Reducing Combination Tee

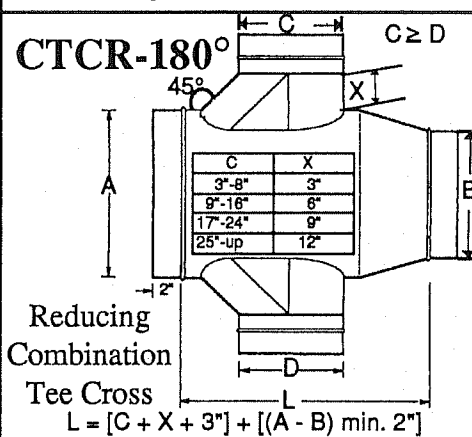
CTC-180°



Straight Combination Tee Cross

$$L = C + X + 3"$$

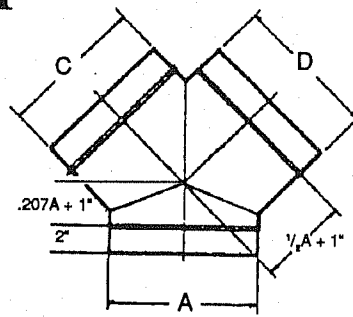
CTCR-180°



Reducing Combination Tee Cross

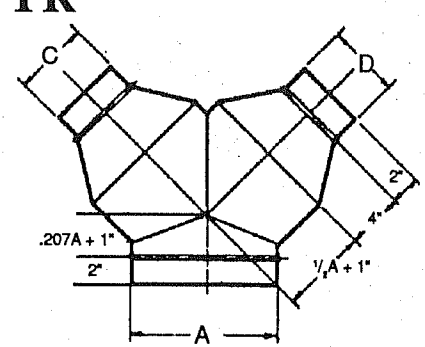
$$L = [C + X + 3"] + [(A - B) \text{ min. } 2"]$$

Y



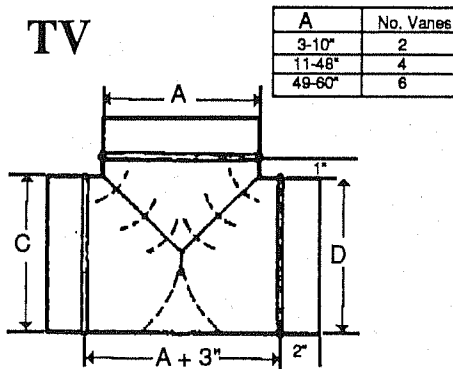
WYE Branch 90°

YR



Reducing WYE Branch 90°

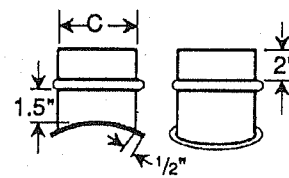
TV



Bullhead Tee

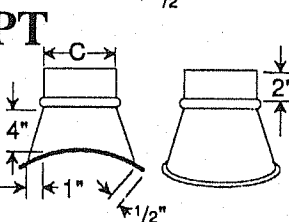
PT

Contoured Straight Tee Tap



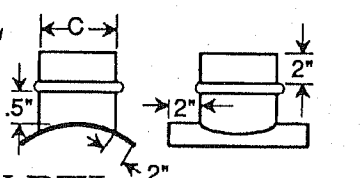
CON PT

Contoured Conical Tee Tap



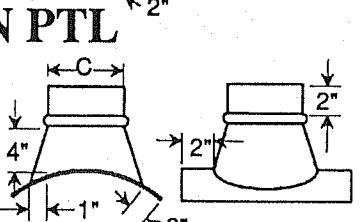
PTL

Saddle Tee Tap



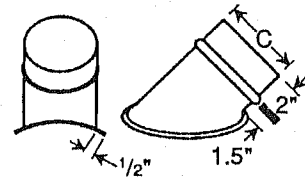
CON PTL

Saddle Conical Tee Tap



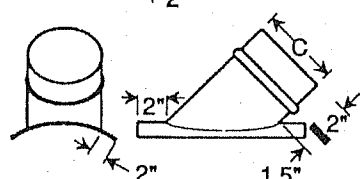
PL

Contoured Lateral Tap

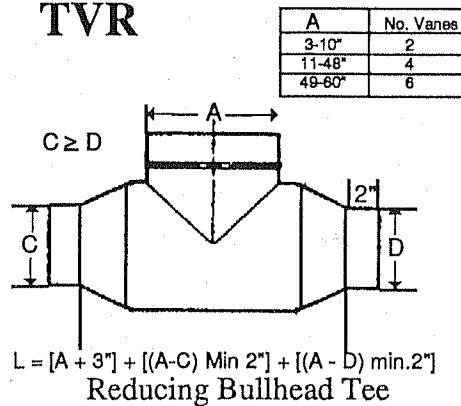


PLL

Saddle Lateral Tap

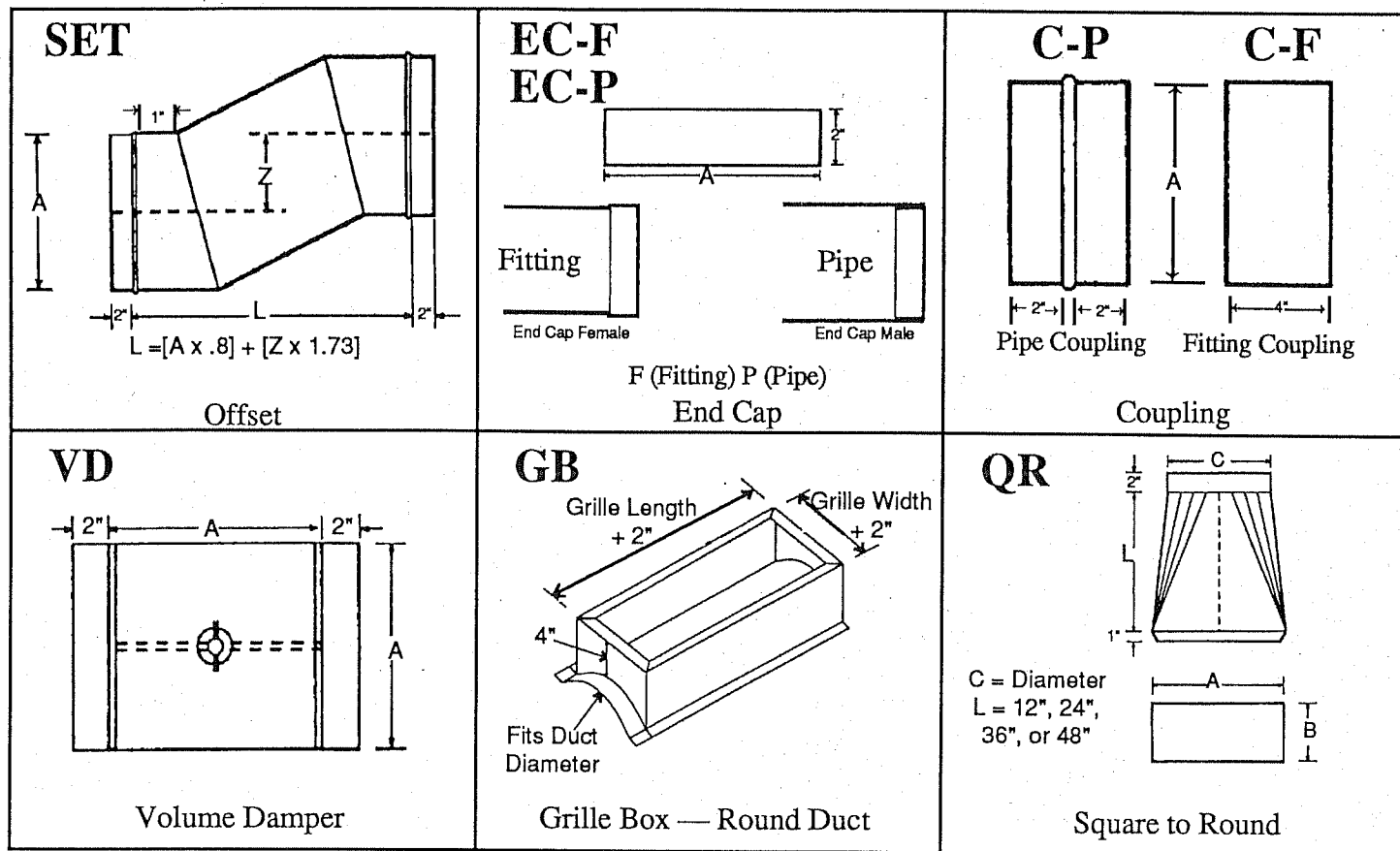


TVR



Reducing Bullhead Tee

Typical Taps on Spiral Duct



Specifications

Single wall round duct and fittings are fabricated of galvanized steel meeting ASTM A-527 standards. Spiral lock seam duct is provided in any length or standard lengths of 10, 12 or maximum 20 feet. Longitudinal seam duct can be supplied in lengths up to 5 feet. Duct has a construction tolerance of plus or minus 1/2 inch in length. Fitting seams are either standing seam, welded seam, spot welded and bonded seam, or punch lock and bonded seam construction, depending on SMACNA's standards. Welded joints are coated with a corrosion resistant paint. Spot welded fitting joints are sealed with a bonding cement. Tee and lateral tap entrances are fabricated with radiused entrances, free of weld build-up, burns or irregularities.

Standard centerline radius for elbows is 1 1/2 times the diameter unless otherwise noted. Radius on an elbow is bead to bead unless noted. Elbows are die stamped, mitered, gored or pleated construction.

Fittings normally have 2" slip fit ends which slip inside the duct. Fittings have a construction tolerance of plus or minus 1/4 inch. Duct to duct as well as fitting to fitting slip couplings are available. Angle ring connections are available either welded to the spiral duct or Van Stoned to the fitting. Longitudinal seam duct 20 gauge and heavier is continuously welded. 22 gauge and lighter is spot welded and bonded.

Minimum Gauges for Single Wall Round Duct and Fittings and Ribbed Round Spiral Duct

Diameter Inches	0-2 inch WG Standard			2-10 inch WG Standard			0-10 inch WG Standard	
	Spiral Duct	Round Fittings	Longitudinal Seam	Spiral Duct	Round Fittings	Longitudinal Seam	Diameter Inches	Ribbed Spiral Duct
3-14	28	26	26	26	24	24	15-26	28
15-26	26	24	24	24	22	22	27-36	28
27-36	24	22	22	22	20	20	37-42	28
37-50	22	20	20	20	20	20	44-60	26
52-60	20	18	18	18	18	18		
62-84		16	16		16	16		

Dimensioning (based on air supply systems):

A = dia. of inlet; B = dia. of outlet; C & D & E, F = dia. of all taps (branches)
R = centerline radius; Z, X, L = misc. dimensions; RL = reducer length max. 12"
All tees are 90° and laterals are 45° unless noted.

Impulse Air is continuously improving its product design and construction techniques. We reserve the right to alter and change specifications and dimensions at any time without prior notice.