



VORTEX

METAL MANUFACTURING

1855 Boulevard West Richmond, VA 23230 Ph: 804-355-7839

RECTANGULAR DUCT & FITTINGS SUBMITTAL

Rectangular Duct & Fittings

TDF, Slide/Drive and Raw

Vortex Metal Manufacturing rectangular duct and fittings are one part of our complete line of HVAC products. Vortex manufactures coil line ductwork in 5' lengths. All ductwork comes standard with stiffening beads. Ductwork is fabricated with Pittsburgh longitudinal seams. Sealant is applied in the seams of all duct. Rectangular ductwork is manufactured in three different styles. They are as follows:

- Wrap Around Duct
- L-Shape Duct
- 4 Piece Duct

Please refer to the following charts for specific materials, gauges, and end treatments.

TDF Ductwork and Fittings

SMACNA recommended TDF duct is a 4-bolt system. Instead of cutting, assembling and installing a separate flange onto the ductwork, the TDF flange is roll formed directly onto the duct. This provides a solid metal connection that reduces leakage which is why the TDF system is the best for minimum leakage application. A TDF assembly instruction manual is available upon request.

MATERIAL	THICKNESS	ASTM	TYPE	DUCT	END TREATMENT
Galvanized	26 - 16 gauge	A-653	G60-G90	56 1/2"	TDF
Paint Grip	24 - 18 gauge	A-653	A60	56 1/2"	
Aluminum	.032 - .063	B-316	3003 H-14	56 1/2"	
Stainless Steel	24 - 18 gauge	A-240	304 or 316	56 1/2"	

Slide and Drive Ductwork and Fittings

Slide and drive ductwork is the traditional system using s-slip and drive connectors.

MATERIAL	THICKNESS	ASTM	TYPE	DUCT	END TREATMENT
Galvanized	26 - 18 gauge	A-653	G60-G90	59"	Slide and Drive
Paint Grip	24 - 18 gauge	A-653	A60	59"	
Aluminum	.032 - .050	B-316	3003 H-14	59"	
Stainless Steel	24 - 20 gauge	A-240	304 or 316	59"	

Raw Ductwork and Fittings

Raw duct is fabricated for proprietary duct connection systems.

MATERIAL	THICKNESS	ASTM	TYPE	DUCT	END TREATMENT
Galvanized	26 - 16 gauge	A-653	G60-G90	60"	Raw Both Ends
Paint Grip	24 - 18 gauge	A-653	A60	60"	
Aluminum	.032 - .080	B-316	3003 H-14	60"	
Stainless Steel	24 - 18 gauge	A-240	304 or 316	60"	
Black Iron	18 - 16 gauge	A1008	Cold Rolled		

Also Available:

Rectangular Duct / Fittings Double Wall

- 1" Double Wall
- 1.5" Double Wall
- 2" Double Wall

Double Wall Inner Wall Material Options

- Solid Inner Wall
- Perforated Inner Wall

Fittings

Vortex Metal Manufacturing fabricates rectangular fittings in most sizes and configurations. Fittings are manufactured on our state of the art fabrication equipment. All fittings are fabricated with stiffening beads. Fittings shall be beaded unless customer requests otherwise. Most all fittings are fabricated with Pittsburgh seams. Fittings are available completely assembled with all accessories (reinforcement, vane & rail, etc...) installed. Fittings are also available knocked down to reduce shipping and handling costs.

Turning Vane and Rail

Turning vane and Econorail are recommended for square throat elbows and tees. When using turning vane and Econorail performance is greatly enhanced in the HVAC duct system.

Maximum Unsupported Vane Length

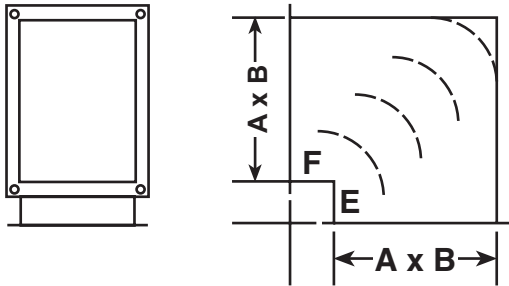
- 2" double turning vane48" maximum length

When exceeding maximum vane length, vanes can be installed in sections or a tie rod can be tack welded to the face of the turning vane.

Transverse Joint and Intermediate Reinforcement

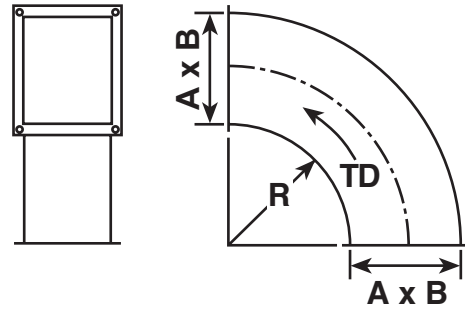
- Tie Rod Reinforcement: threaded inserts installed into each end of thin wall conduit. These are installed internally at both the joint and/or intermediate duct spacing. Per Smacna Standards
- Other Reinforcement is available upon request.

Square Throat Elbow



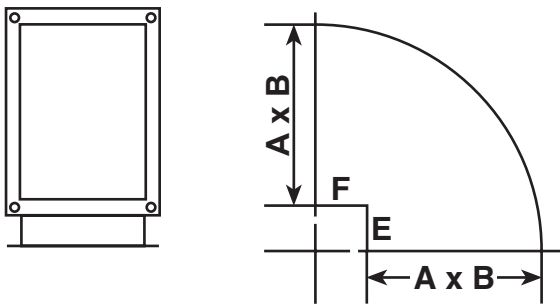
- TDF
- S&D
- Raw
- Dimensions are O.D.

Radius Elbow



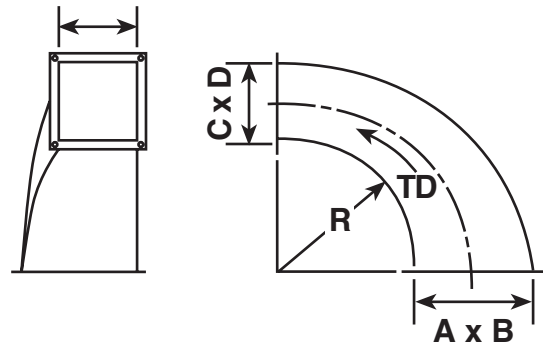
- TDF
- S&D
- Raw
- Dimensions are O.D.

Radius Elbow (With Square Throat)



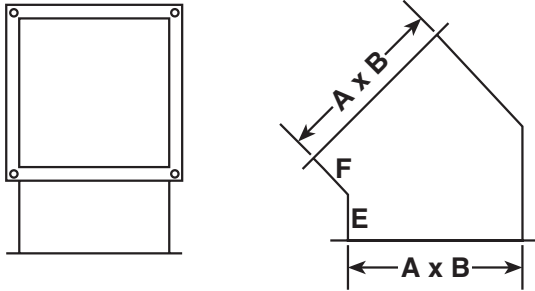
- TDF
- S&D
- Raw
- Dimensions are O.D.

Reducing Radius Elbow (Left or Right)



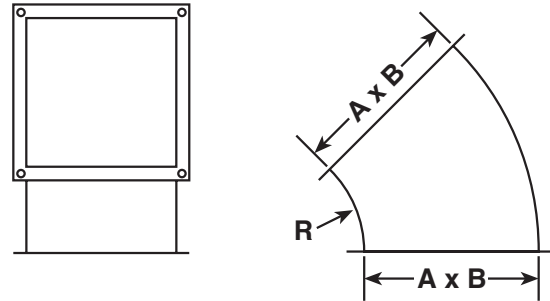
- TDF
- S&D
- Raw
- Dimensions are O.D.

Square Throat Angle



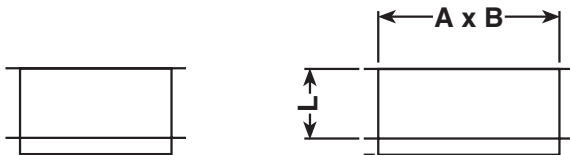
- TDF
- S&D
- Raw
- Dimensions are O.D.

Radius Angle



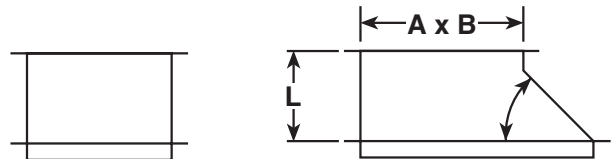
- TDF
- S&D
- Raw
- Dimensions are O.D.

Straight 90° Tap



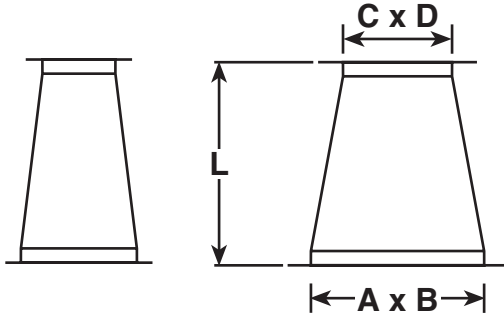
- TDF
- S&D
- Raw
- Dimensions are O.D.

90° Increased Tap



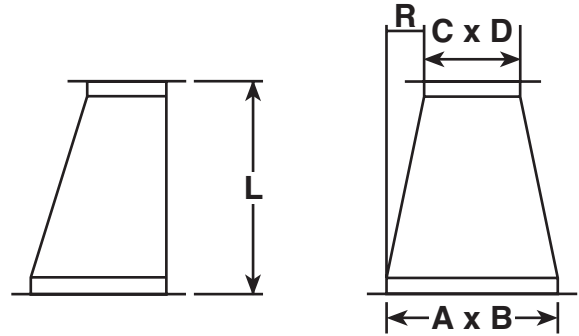
- TDF
- S&D
- Raw
- Dimensions are O.D.

Concentric Transition



- TDF
- S&D
- Raw
- Dimensions are O.D.

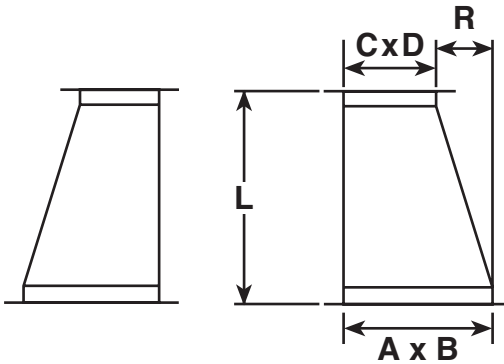
Top or Bottom Flat Transition



- TDF
- S&D
- Raw
- Dimensions are O.D.

Transition

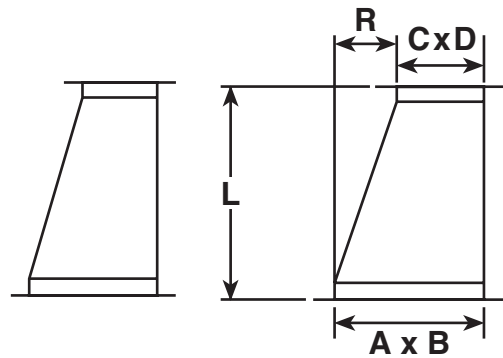
(Top and Left Sides Flat)



- TDF
- S&D
- Raw
- Dimensions are O.D.

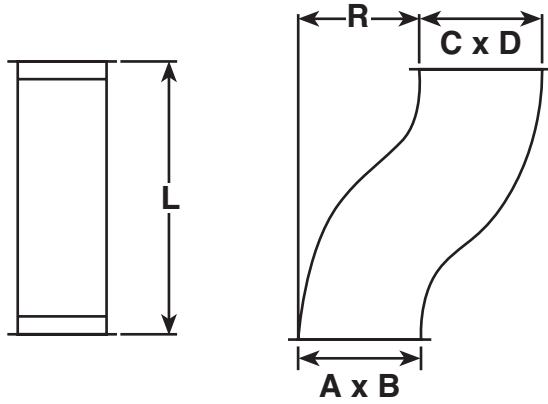
Transition

(Top and Right Sides Flat)



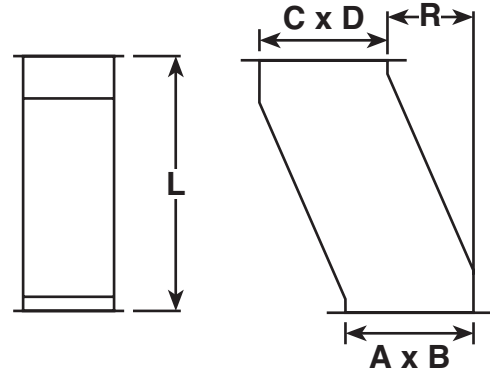
- TDF
- S&D
- Raw
- Dimensions are O.D.

Radius Offset



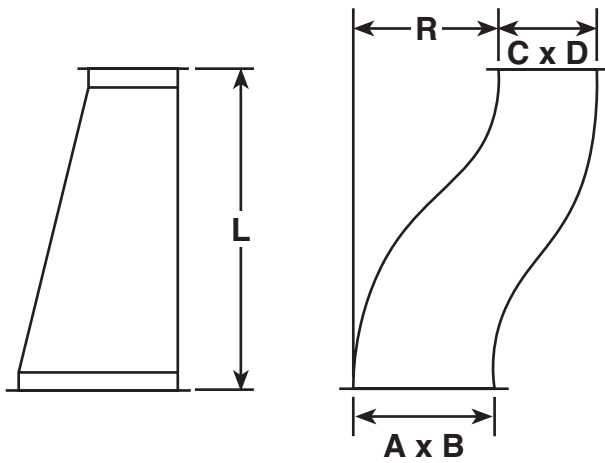
- TDF
- S&D
- Raw
- Dimensions are O.D.

Offset



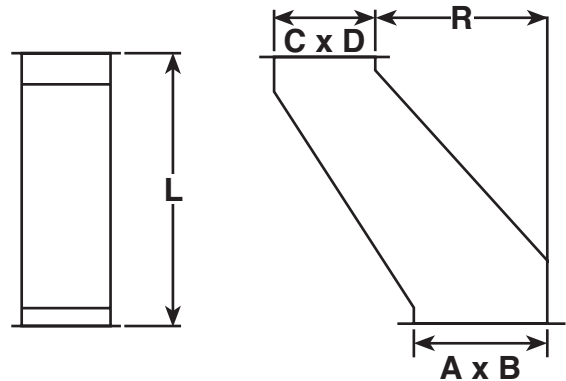
- TDF
- S&D
- Raw
- Dimensions are O.D.

Reducing Offset



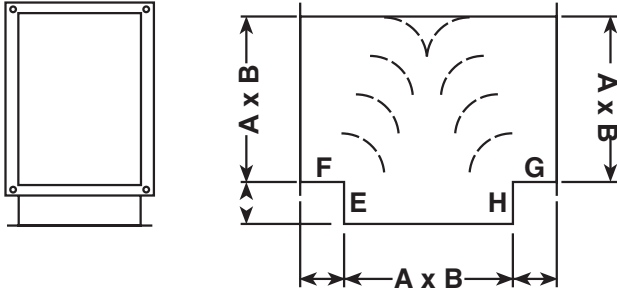
- TDF
- S&D
- Raw
- Dimensions are O.D.

Reducing Offset (Left or Right)



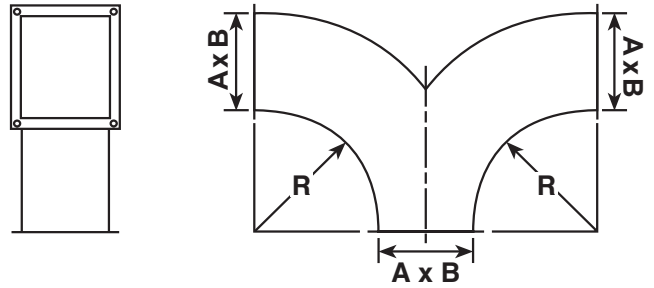
- TDF
- S&D
- Raw
- Dimensions are O.D.

Bullhead Tee



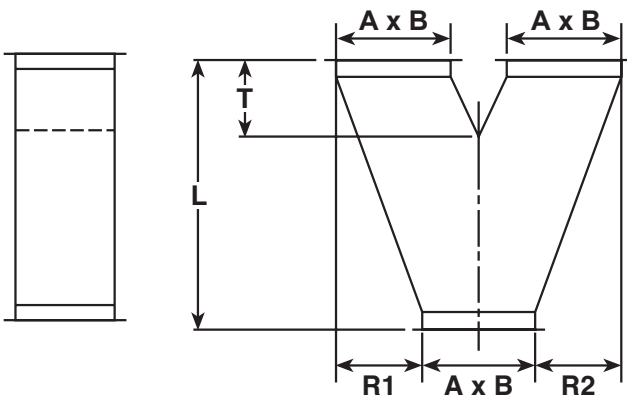
- TDF
- S&D
- Raw
- Dimensions are O.D.

Y-Branch



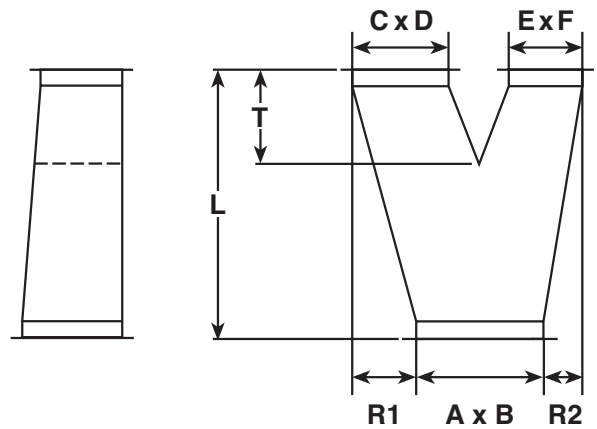
- TDF
- S&D
- Raw
- Dimensions are O.D.

Pants



- TDF
- S&D
- Raw
- Dimensions are O.D.

Pants



- TDF
- S&D
- Raw
- Dimensions are O.D.