



FLAT OVAL HVAC DUCT and FITTINGS

**Standards and Dimensional Data
for Air Duct and Fittings
as Manufactured by Members of SPIDA**

Turn Key Duct Systems is a proud member of SPIDA

www.SPIDA.org



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Irmo, SC 29063

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FLAT OVAL DUCT AND FITTINGS

LEGEND

FOSP- FLAT OVAL SPIRAL

FOSET – OFFSET

FOS – COUPLING

FON – END CAP

FOTREC – OVAL TO RECTANGULAR

FOR – REDUCER

S – SLIP (2")

H – HEIGHT

Z – DIMENSION OF OFFSET

FOE – ELBOW

FOT – TEE

FOL – LATERAL

FOC - CROSS

FOST –SADDLE

FOY – WYE FITTING

V – BODY LENGTH

L – REDUCER LENGTH

R - RADIUS

MATERIAL

GALVANIZED STEEL (consult manufacturer for other materials)

DIMENSION

The "A" dimension is what you see in the plan view.

The "B" or second dimension is the hidden dimension.

Eg: a 24x12 FOE-90-5-H is a "Hard Bend" or "Long Way" flat oval 90 elbow.

a 12x24 FOE-90-5-E is an "Easy Bend" or "Short Way" flat oval 90 elbow.

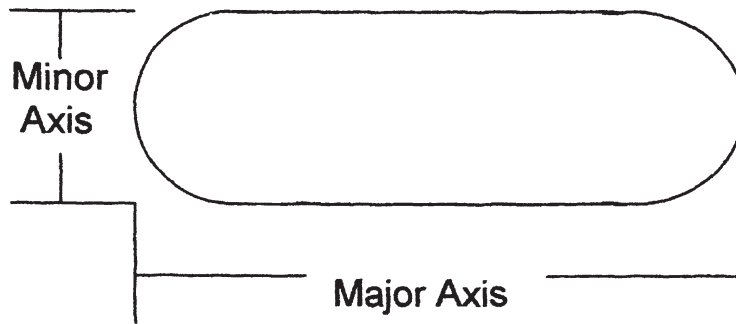
When dimensions C x D, and/or E x F, and/or G x H are shown, the first dimension is the plan dimension. If a fitting end is round, use only one dimension.

Conical fittings may taper only on plan side.

VANE CHART

For mitered elbows and tees use the following chart if vanes are required.

"A" Dimension	Number of Vanes
3 – 9"	2
10 – 14"	3
15 – 19"	4
20 – 60"	5
Over 60"	12" spacing



2005 SMACNA POSITIVE PRESSURE GAUGES		
MAJOR AXIS	SPIRAL SEAM	FITTINGS
10-24"	24	20
25-36"	22	20
37-48"	22	18
49-60"	20	18
61-70"	20	16
71"-UP	18	16

ORDERING

Specify type of fitting and list the following dimensions:

ELBOWS - A,B
 LATERALS - A,B,C
 REDUCERS - A,B,L, Z

TEES - A,B,C
 CROSSES - A,B,C,D
 OFFSETS - A,B,L,Z

The drawings shown are illustrative of the types of fittings manufactured.

All fittings, unless noted, are male sized on each end for slip-joint assembly with Flat Oval Duct.

Sizes shown are nominal.

Flat Oval Duct is to be used in positive pressured applications only.

Vanstone or other proprietary connections are available by special order.

FLAT OVAL DUCT & FITTINGS SIZES

STANDARD SIZING CHART

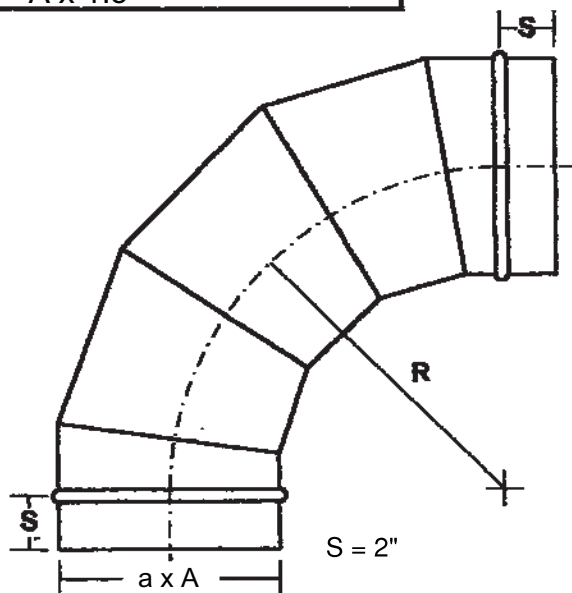
For 6" through 20" minor axis

MINOR AXIS

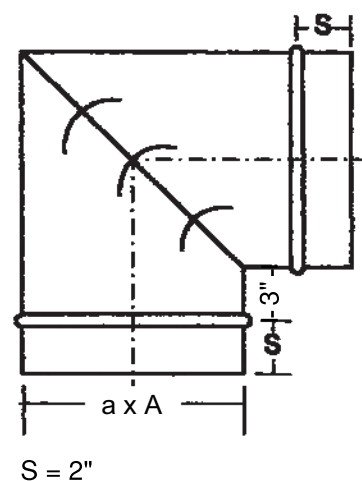
[illegible]

FITTINGS

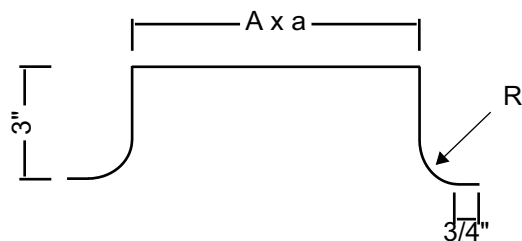
FOE-90-5-E FOE-60-4-E
FOE-45-3-E
FOE-(Angle)-(No. of
Gores)-(Easy Bend)
 $R = A \times 1.5$



FOE-90-2-E
Mitered 90
Standard with vanes
FOE-(Angle)-(No. of
Pieces)-(Easy Bend)

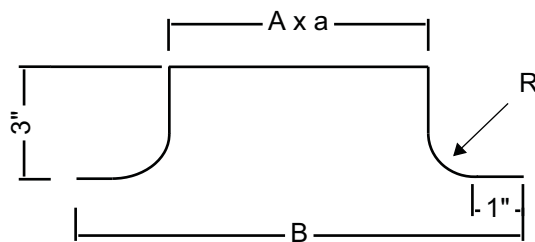


FOB1
Flat Oval Mini
Bellmouth



Available 4 to 24" Minor dimensions.
 $R = 3/4"$

FOB2
Flat Oval Short
Radius Bellmouth

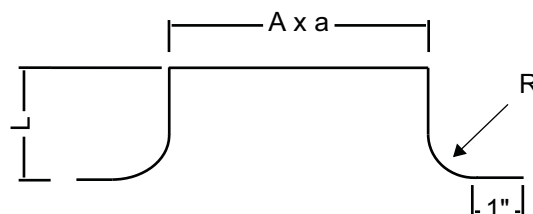


Available 6 to 120" Minor dimensions.
 $R = 1"$
 $B = A + 4"$

FOB3
Flat Oval Standard
Radius Bellmouth

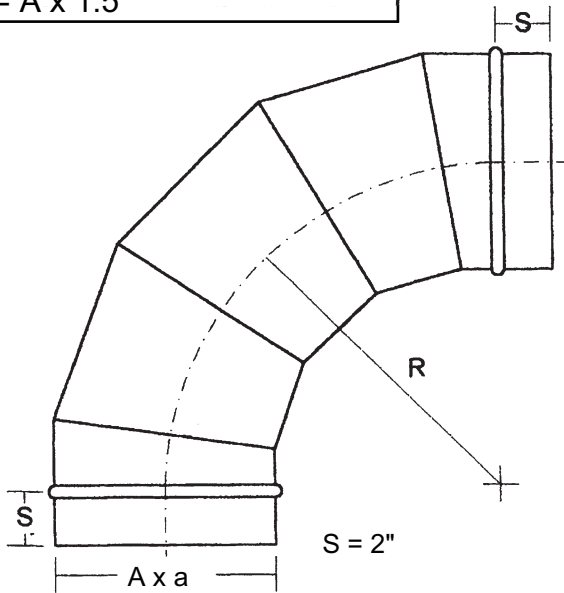
a*	L	R	a*	L	R
4"	2 1/2"	1 1/2"	26-30"	7"	6"
6-10"	3"	2"	32-36"	8"	7"
11-15"	4"	3"			
16-21"	5"	4"			
22-24"	6"	5"			

sizes are for the minor dimension*

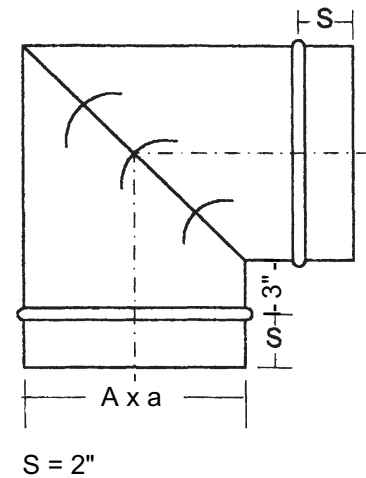


FITTINGS

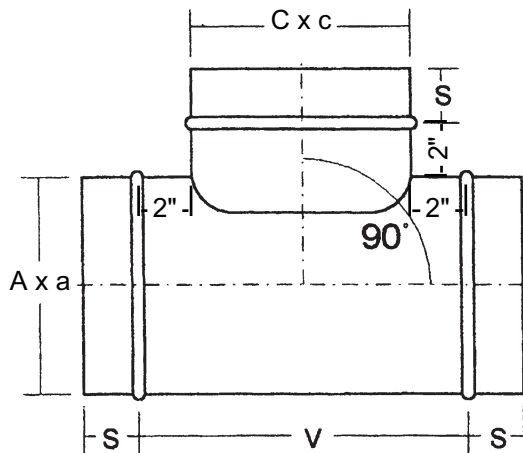
FOE-90-5-H FOE-60-4-H
FOE-45-3-H
FOE-(Angle)-(No. of
Gores)-(Hard Bend)
 $R = A \times 1.5$



FOE-90-2-H
Mitered 90
Standard with vanes
FOE-(Angle)-(No. of
Pieces)-(Hard Bend)

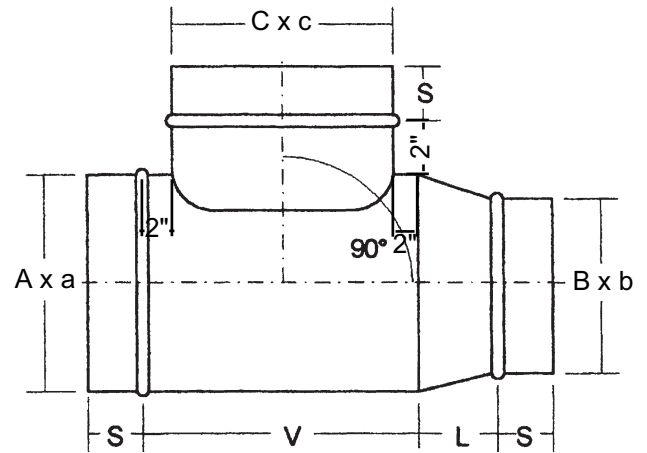


**FOT-1
STRAIGHT TEE**



$S = 2"$
 $V = C + 4"$

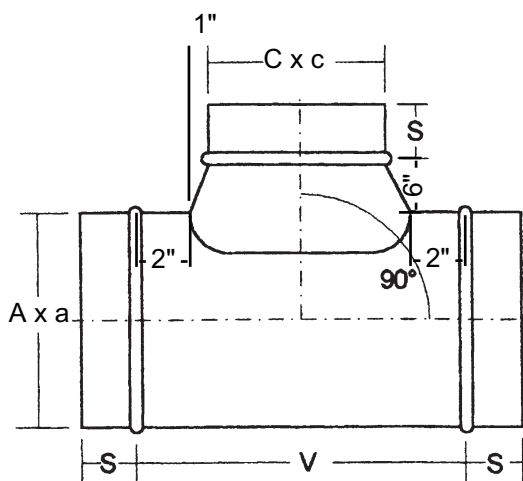
**FOT-1R
REDUCING TEE**



$S = 2"$
 $V = C + 4$
 $L = 12"$ IF $(A-B) < 16$
 $24"$ IF $(A-B) > 16$

FITTINGS

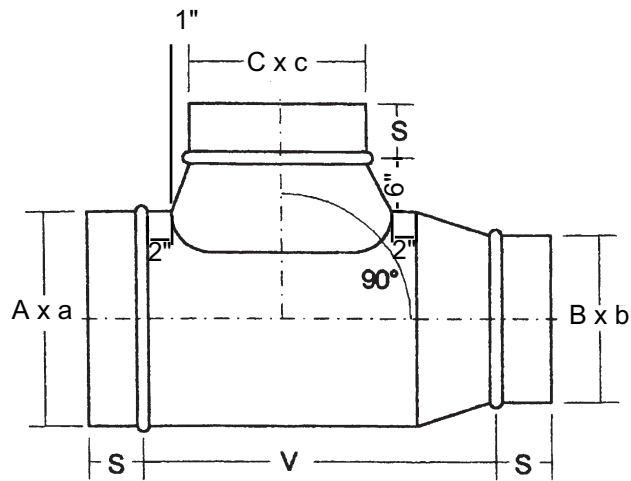
FOCON-T-1
CONICAL TEE



$$S = 2"$$

$$V = (C + 2") + 4$$

FOCON-T-1R
REDUCING CONICAL TEE



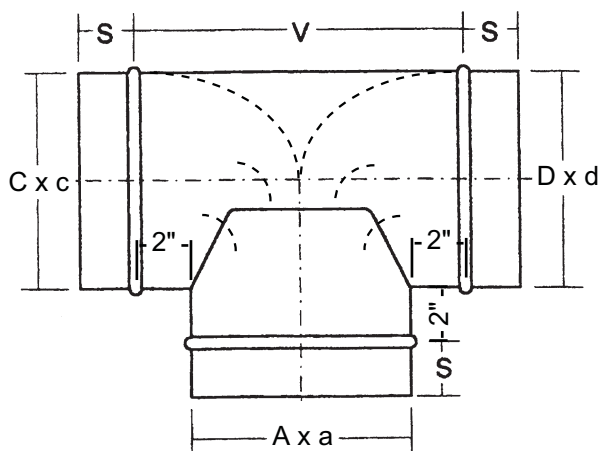
$$S = 2"$$

$$V = (C + 2) + 4$$

$$L = 12" \text{ IF } (A-B) < 16$$

$$24" \text{ IF } (A-B) > 16$$

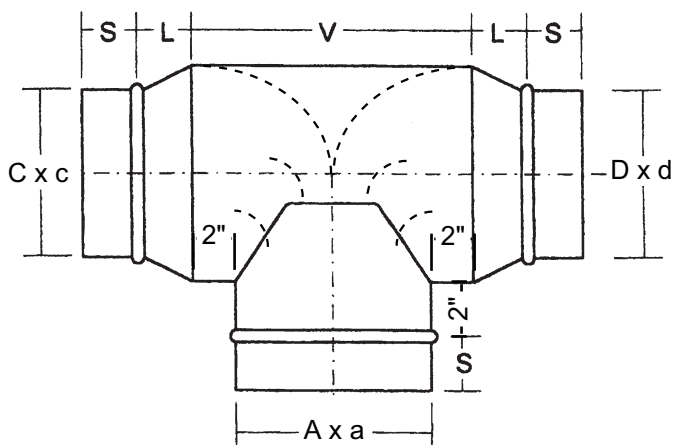
FOBT
BULL HEAD TEE
Splitter Vane std.
Opt. Turning vanes



$$S = 2"$$

$$V = A + 4"$$

FOBTR
REDUCING BULLHEAD TEE
Splitter Vane std.
Opt. Turning vanes



$$S = 2"$$

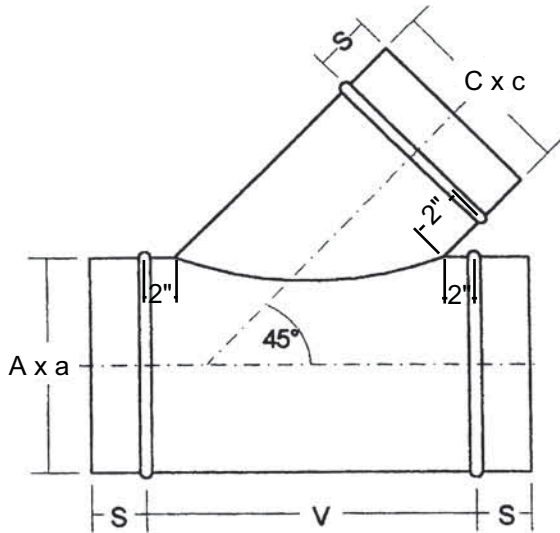
$$V = A + 4$$

$$L = 12" \text{ IF } (A-C) < 16$$

$$24" \text{ IF } (A-C) > 16$$

FITTINGS

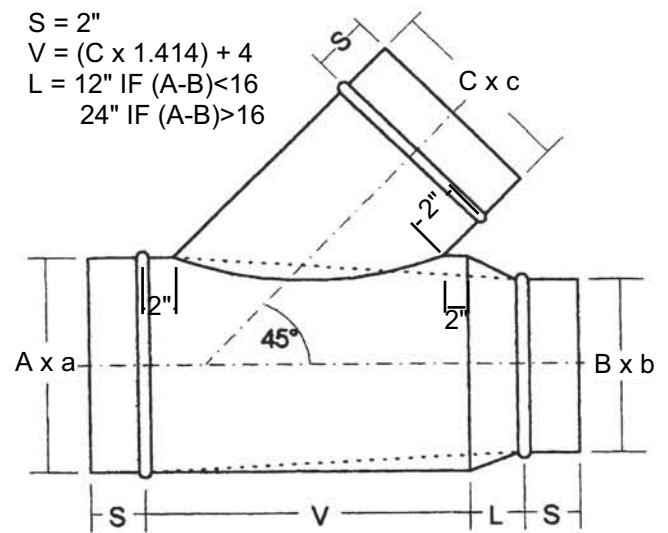
**FOL-1
LATERAL**



$$S = 2"$$

$$V = (C \times 1.414) + 4$$

**FOL-1R
REDUCING LATERAL**



$$S = 2"$$

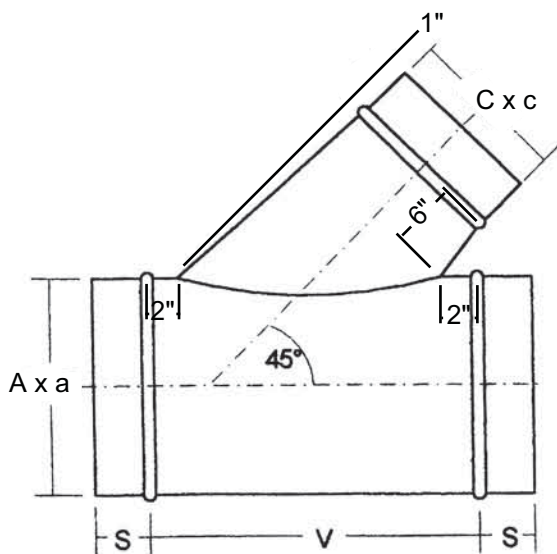
$$V = (C \times 1.414) + 4$$

$$L = 12" \text{ IF } (A-B) < 16$$

$$24" \text{ IF } (A-B) > 16$$

..... Indicates alternative method

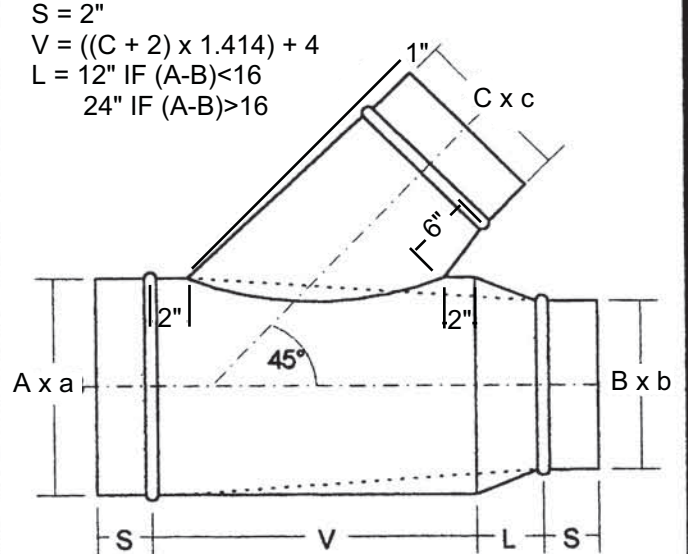
**FOCON-L-1
CONICAL LATERAL**



$$S = 2"$$

$$V = ((C + 2) \times 1.414) + 4$$

**FOCON-L-1R
REDUCING CONICAL LATERAL**



$$S = 2"$$

$$V = ((C + 2) \times 1.414) + 4$$

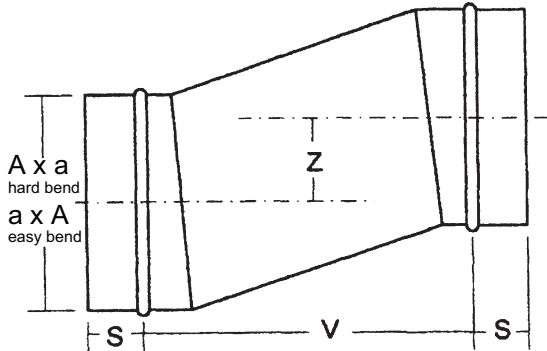
$$L = 12" \text{ IF } (A-B) < 16$$

$$24" \text{ IF } (A-B) > 16$$

..... Indicates alternative method

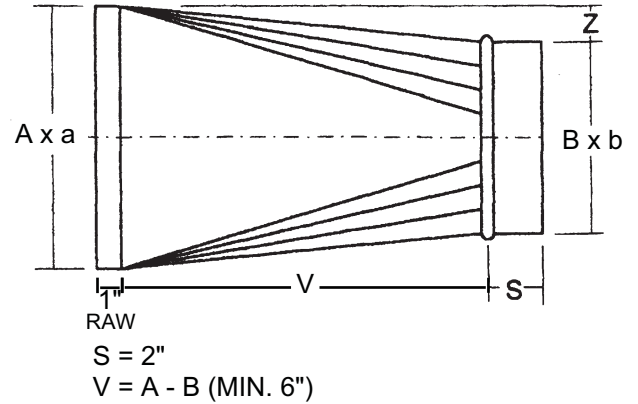
FITTINGS

FOSET-H (Hard Bend)
FOSET-E (Easy Bend)
OFFSET HARD BEND OR
EASY BEND



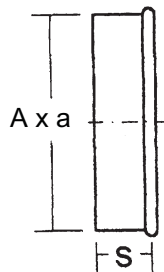
$S = 2"$
 $V = 2 \frac{1}{2} \times Z$
 $Z = \text{AMOUNT OF SET}$

FOTREC or FOTRND
OVAL to RECTANGULAR
OVAL to ROUND



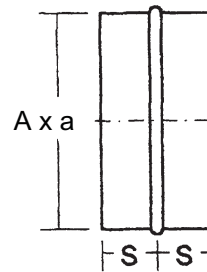
Concentric construction is standard. If eccentric is required, provide "Z" dimension. Specify connection type on rectangular end. Specify length.

FON-1 for Pipe
FON-2 for Fitting
END CAP

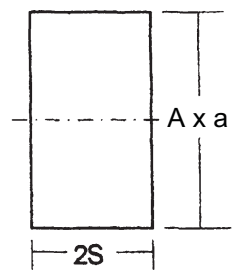


$S = 2"$

FOS-1 for Pipe
FOS-2 for Fitting
COUPLING

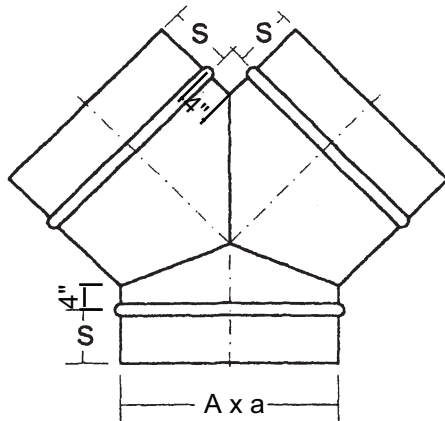


$S = 2"$



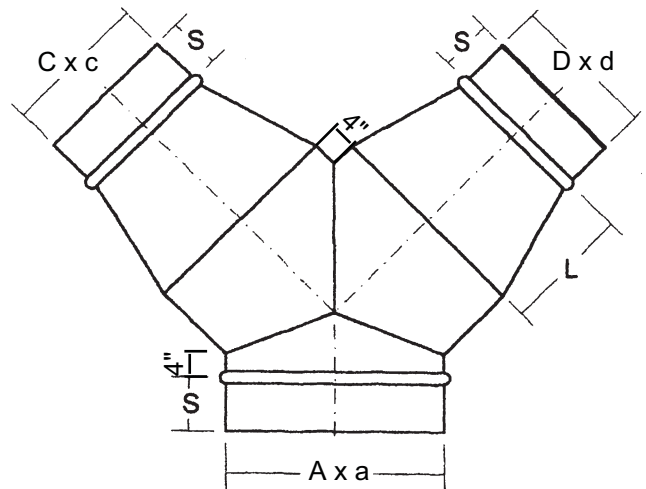
FITTINGS

FOY EQUAL Y BRANCH



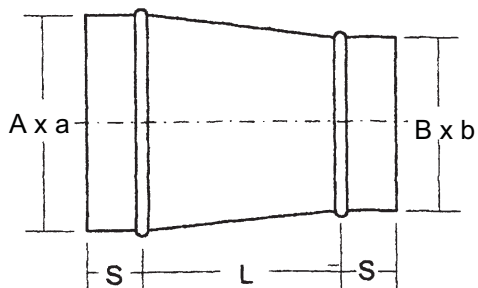
$S = 2"$

FOREDY REDUCING Y BRANCH



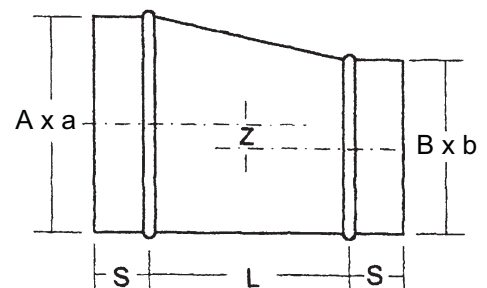
$S = 2"$
 $L = 12"$ IF $(A-B) < 16$
 $24"$ IF $(A-B) > 16$

FOR CONCENTRIC REDUCER



$S = 2"$
 $L = 12"$ IF $(A-B) < 16$
 $24"$ IF $(A-B) > 16$

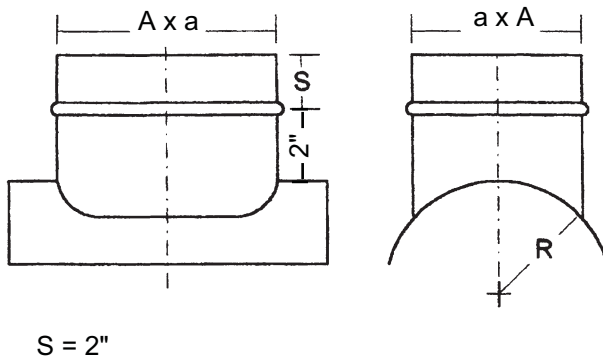
FOER ECCENTRIC REDUCER Specify "Z" dimension Specify top up, down or flat



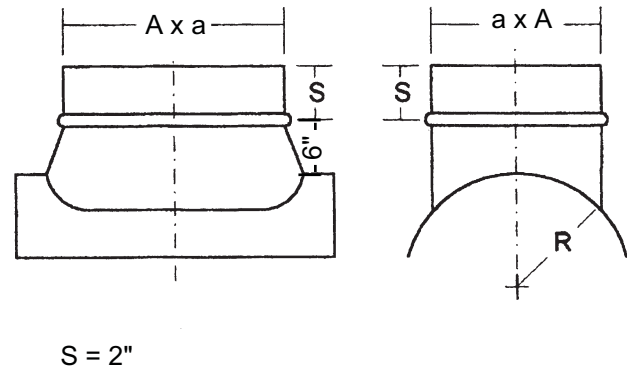
$S = 2"$
 $L = 12"$ IF $(A-B) < 16$
 $24"$ IF $(A-B) > 16$

FITTINGS

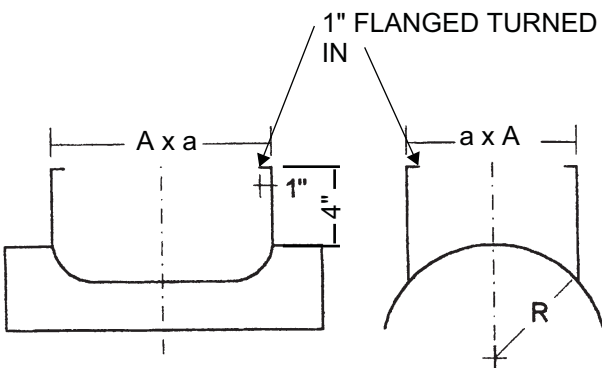
FOST
SADDLE TAP
 Specify Minor Axis (2xR)



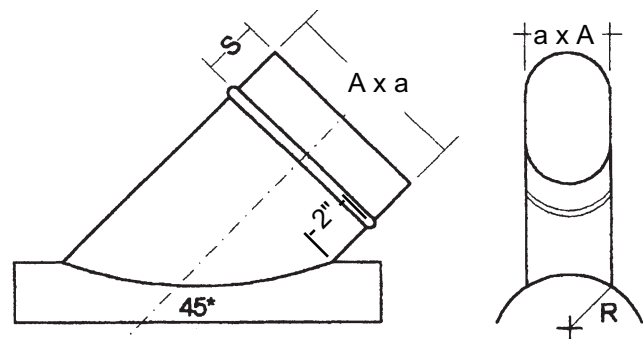
FOCST
CONICAL SADDLE TAP
 Specify Minor Axis (2xR)

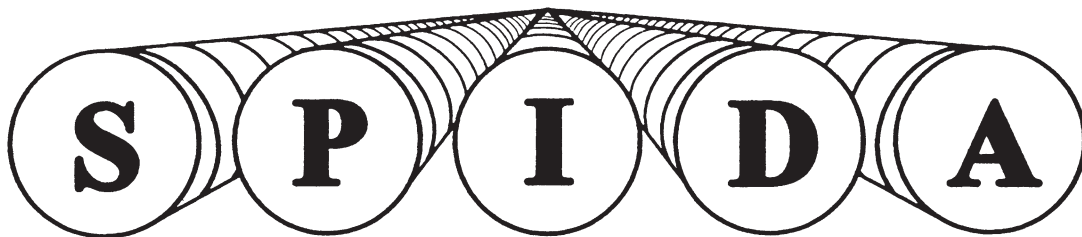


FOGBT
GRILLE BOX TAP
 Specify Minor Axis (2xR)



FOLST
LATERAL SADDLE TAP
 Specify Minor Axis (2xR)





FOR A COMPARISON OF ROUND SPIRAL, FLAT OVAL AND
RECTANGULAR DUCTWORK, REQUEST SPIDA'S FREE
"DESIGNERS GUIDE".

FOR A LIST OF MEMBER COMPANIES OR FOR MORE
INFORMATION, VISIT OUR WEBSITE
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