Eastern Sheet Metal

Dual-Wall
FLAT OVAL

SPIRAL DUCT & FITTINGS

Eastern Sheet Metal

Dual-Wall FLAT OVAL

DUAL-WALL FLAT OVAL SPIRAL DUCT AND FITTINGS CONSTRUCTION STANDARDS

Standard Fitting Construction

Gauge selection for galvanized steel (ASTM A653), and paint grip steel. Other materials are available. All galvanized duct is corrugated.

	2005 SMACNA POSITIVE PRESSURE		STANDARD INNER SHELL		SPIRORIB INNER SHELL
MAJOR AXIS	SPIRAL DUCT	FITTINGS	SPIRAL DUCT	FITTINGS	SPIRAL DUCT
10"-24"	24	20	26	22	26
25"-36"	22	20	22	22	26
37"-48"	22	18	22	22	26
49"-60"	20	18	22	22	26
61"-70"	20	16	22	22	26
71"-UP	18	16	22	22	24

Other materials and gauges are available.

Standard insulation is 1" thick, with a thermal conductivity (ASTM C 518) @ 75° F mean temperature of 0.25 (BTU-in./hr.ft.2°F) R4 or better.

Surface burning characteristics (ASTM E 84, UL 723)
25 flame spread
50 smoke developed.

Sound absorption coefficients. (ASTM C 423, Type A)

Frequency, Hz						
125	250	500	1000	2000	4000	NRC
0.17	0.24	0.62	0.79	0.88	0.96	0.65

Standard material for the inner wall of spiral duct is Spirorib perforated steel (ASTM A653), with 3/32" holes on 3/16" staggered centers for a free area of 23%. Standard material for the inner wall of fittings is solid steel. Fittings are also available with a perforated liner and spiral duct with a solid inner shell.

NOMINAL SPIRAL FLAT OVAL DUCT SIZES (INSIDE DIMENSIONS)

INITIAL SPIRAL DIA.	MINOR AXIS																	MAJOR AXIS
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	
8	10																	
9	12	11																
10	13	12	11															
11	15	14	13															
12	17	15	14	13														
13	18	17	16	15	14													
14	20	19	17	16	15													
15	21	20	19	18	17	16												
16	23	22	21	19	18	17												
17	24	23	22	21	20	19	18											
18	26	25	24	23	21	20	19											
19	28	26	25	24	23	22	21											
20	29	28	27	26	25	23	22	21										
21	31	30	28	27	26	25	24	23										
22	32	31	30	29	28	27	25	24										
23		33	32	30	29	28	27	26	25									
24		34	33	32	31	30	29	27	26									
25		36	35	34	32	31	30	29	28									
26		37	36	35	34	33	32	31	29	28								
27		39	38	37	36	34	33	32	31	30								
28		41	39	38	37	36	35	34	33	31	30							
29		42	41	40	39	38	36	35	34	33	32							
30		44	42	41	40	39	38	37	36	35	33	32						
32		47	46	45	43	42	41	40	39	38	37	35	34					
34		50	49	48	47	45	44	43	42	41	40	39	37	36				
36		53	52	51	50	49	47	46	45	44	43	42	41	39	38			
38		56	55	54	53	52	51	49	48	47	46	45	44	43	41	40		
40		59	58	57	56	55	54	53	51	50	49	48	47	46	45	43	42	
42		63	61	60	59	58	57	56	55	53	52	51	50	49	48	47	45	
44		66	65	63	62	61	60	59	58	57	55	54	53	52	51	50	49	
46		69	68	67	65	64	63	62	61	60	59	57	56	55	54	53	52	
48		72	71	70	69	67	66	65	64	63	62	61	59	58	57	56	55	
50			74	73	72	71	69	68	67	66	65	64	63	61	60	59	58	
52						74	73	71	70	69	68	67	66	65	63	62	61	
54							76	75	73	72	71	70	69	68	67	65	64	
56							79	78	77	75	74	73	72	71	70	69	67	
58									80	79	77	76	75	74	73	72	71	
60										82	81	79	78	77	76	75	74	
62										85	84	83	81	80	79	78	77	
64												86	85	83	82	81	80	
66														87	85	84	83	
68																87	86	
70																91	89	
72																	93	

Eastern Sheet Metal

Dual-Wall FLAT OVAL

ACTUAL SPIRAL FLAT OVAL DUCT SIZES

INITIAL SPIRAL DIA.	MINOR AXIS																
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
8	10.28																
9	11.85	10.71															
10	13.42	12.28	11.14														
11	15.00	13.85	12.71														
12	16.57	15.42	14.28	13.14													
13	18.14	17.00	15.85	14.71	13.57												
14	19.71	18.57	17.42	16.28	15.14												
15	21.28	20.14	19.00	17.85	16.71	15.57											
16	22.85	21.71	20.57	19.42	18.28	17.14											
17	24.42	23.28	22.14	21.00	19.85	18.71	17.57										
18	25.99	24.85	23.71	22.57	21.42	20.28	19.14										
19	27.56	26.42	25.28	24.14	23.00	21.85	20.71										
20	29.13	27.99	26.85	25.71	24.57	23.42	22.28	21.14									
21	30.70	29.56	28.42	27.28	26.14	25.00	23.85	22.71									
22	32.27	31.13	29.99	28.85	27.71	26.57	25.42	24.28									
23		32.70	31.56	30.42	29.28	28.14	27.00	25.85	24.71								
24		34.27	33.13	31.99	30.85	29.71	28.57	27.42	26.28								
25		35.85	34.70	33.56	32.42	31.28	30.14	29.00	27.85								
26		37.42	36.27	35.13	33.99	32.85	31.71	30.57	29.42	28.28							
27		38.99	37.85	36.70	35.56	34.42	33.28	32.14	31.00	29.85							
28		40.56	39.42	38.27	37.13	35.99	34.85	33.71	32.57	31.42	30.28						
29		42.13	40.99	39.85	38.70	37.56	36.42	35.28	34.14	33.00	31.85						
30		43.70	42.56	41.42	40.27	39.13	37.99	36.85	35.71	34.57	33.42	32.28					
32		46.84	45.70	44.56	43.42	42.27	41.13	39.99	38.85	37.71	36.57	35.42	34.28				
34		49.98	48.84	47.70	46.56	45.42	44.27	43.13	41.99	40.85	39.71	38.57	37.42	36.28			
36		53.12	51.98	50.84	49.70	48.56	47.42	46.27	45.13	43.99	42.85	41.71	40.57	39.42	38.28		
38		56.27	55.12	53.98	52.84	51.70	50.56	49.42	48.27	47.13	45.99	44.85	43.71	42.57	41.42	40.28	
40		59.41	58.27	57.12	55.98	54.84	53.70	52.56	51.42	50.27	49.13	47.99	46.85	45.71	44.57	43.42	42.28
42		62.55	61.41	60.27	59.12	57.98	56.84	55.70	54.56	53.42	52.27	51.13	49.99	48.85	47.71	46.57	45.42
44		65.69	64.55	63.41	62.27	61.12	59.98	58.84	57.70	56.56	55.42	54.27	53.13	51.99	50.85	49.71	48.57
46		68.83	67.69	66.55	65.41	64.27	63.12	61.98	60.84	59.70	58.56	57.42	56.27	55.13	53.99	52.85	51.71
48		71.87	70.83	69.69	68.55	67.41	66.27	65.12	63.98	62.84	61.70	60.56	59.42	58.27	57.13	55.99	54.85
50			73.97	72.83	71.69	70.55	69.41	68.27	67.12	65.98	64.84	63.70	62.56	61.42	60.27	59.13	57.99
52						73.69	72.55	71.41	70.27	69.12	67.98	66.84	65.70	64.56	63.42	62.27	61.13
54							75.69	74.55	73.41	72.27	71.12	69.98	68.84	67.70	66.56	65.42	64.27
56							78.83	77.69	76.55	75.41	74.27	73.12	71.98	70.84	69.70	68.56	67.42
58									79.69	78.55	77.41	76.27	75.12	73.98	72.84	71.71	70.56
60										81.69	80.55	79.41	78.27	77.12	75.98	74.84	73.70
62										84.83	83.69	82.55	81.41	80.27	79.12	77.98	76.84
64												85.69	84.55	83.41	82.27	81.12	79.98
66														86.55	85.41	84.27	83.12
68																87.41	86.27
70																90.55	89.41
72																	92.55

MAJOR AXIS

Eastern Sheet Metal

Dual-Wall FLAT OVAL

Sometimes it is desirable to change the flat oval size, because of height restrictions or because a given size of flat oval is not available in spiral. The chart below lists nominal flat oval sizes with the equivalent round size for the same friction loss to the left.

Example: Change 18" x 34" flat oval to a smaller size. To change the size, first note the equivalent round size listed for 18" x 34", it is 25.7". This means 18" x 34" flat oval spiral will have the same friction loss as 25.7" round spiral duct. Next, find 25.7" for a flat oval with a smaller minor axis. Two choices are 16" x 38", with an equivalent round size of 25.8", or 14" x 45", with an equivalent round size of 26.1". Either choice would be acceptable but please note, the initial spiral diameter gets larger as the minor axis gets smaller, making the pipe more expensive. See our website for automated calculations, or download our APP "Equivalent Round".

NOMINAL SPIRAL FLAT OVAL DUCT SIZES AND ROUND EQUIVALENT (INSIDE DIMENSIONS)

INITIAL SPIRAL DIA.	MINOR AXIS																
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
8	6.7/10																
9	7.2/12	8.4/11															
10	7.6/13	9.0/12	9.8/11														
11	8.0/15	9.5/14	10.5/13														
12	8.3/17	10.0/15	11.2/14	11.8/13													
13	8.7/18	10.5/17	11.8/16	12.6/15	13.0/14												
14	9.0/20	10.9/19	12.3/17	13.6/16	13.8/15												
15	9.3/21	11.4/20	12.9/19	14.0/18	14.6/17	15.0/16											
16	9.6/23	11.8/22	13.4/21	14.6/19	15.4/18	15.9/17											
17	9.8/24	12.1/23	13.9/22	15.2/21	16.2/20	16.7/19	17.0/18										
18	10.1/26	12.5/25	14.3/24	15.7/23	16.7/21	17.5/20	17.9/19										
19	10.3/28	12.8/26	14.7/25	16.2/24	17.4/23	18.2/22	18.7/21										
20	10.6/29	13.1/28	15.1/27	16.7/26	18.0/25	18.9/23	19.5/22	19.9/21									
21	10.8/31	13.5/30	15.5/28	17.2/27	18.5/26	19.5/25	20.3/24	20.8/23									
22	11.0/32	13.8/31	15.9/30	17.7/29	19.1/28	20.2/27	21.0/25	21.6/24									
23		14.0/33	16.3/32	18.1/30	19.6/29	20.8/28	21.7/27	22.3/26	22.8/25								
24		14.3/34	16.6/33	18.5/32	20.1/31	21.3/30	22.3/29	23.1/27	23.6/26								
25		14.6/36	17.0/35	18.9/34	20.6/32	21.9/31	22.9/30	23.8/29	24.4/28								
26		14.9/37	17.3/36	19.3/35	21.0/34	22.4/33	23.6/32	24.5/31	25.2/29	25.6/28							
27		15.1/39	17.6/38	19.7/37	21.5/36	22.9/34	24.1/33	25.1/32	25.9/31	26.4/30							
28		15.2/41	17.9/39	20.1/38	21.9/37	23.4/36	24.7/35	25.7/34	26.6/33	27.2/31	27.7/30						
29		15.6/42	18.2/41	20.4/40	22.3/39	23.9/38	25.2/36	26.3/35	27.3/34	28.0/33	28.5/32						
30		15.9/44	18.5/42	20.8/41	22.7/40	24.4/39	25.8/38	26.9/37	27.9/36	28.7/35	29.3/33	29.7/32					
32		16.3/47	19.1/46	21.5/45	23.5/43	25.3/42	26.8/41	28.1/40	29.1/39	30.0/38	30.8/37	31.3/35	31.7/34				
34		16.8/50	19.7/49	22.1/48	24.2/47	26.1/45	27.7/44	29.1/43	30.3/42	31.3/41	32.2/40	32.8/39	33.4/37	33.7/36			
36		17.2/53	20.2/52	22.7/51	25.0/50	26.9/49	28.6/47	30.1/46	31.4/45	32.5/44	33.5/43	34.3/42	34.9/41	35.4/39	35.8/38		
38		17.6/56	20.7/55	23.3/54	25.6/53	27.7/52	29.5/51	31.1/49	32.5/48	33.7/47	34.7/46	35.6/45	36.4/44	37.0/43	37.4/41	37.8/40	
40		18.0/59	21.1/58	23.9/57	26.3/56	28.4/55	30.3/54	32.0/53	33.5/51	34.8/50	35.9/49	36.9/48	37.8/47	38.5/46	39.0/45	39.5/43	39.8/42
42		18.3/63	21.6/61	24.4/60	26.9/59	29.1/58	31.1/57	32.8/56	34.4/55	35.8/53	37.0/52	38.1/51	39.1/50	39.9/49	40.5/48	41.1/47	41.5/45
44		18.7/66	22.1/65	25.0/63	27.5/62	29.8/61	31.8/60	33.7/59	35.3/58	36.8/57	38.1/55	39.3/54	40.3/53	41.2/52	42.0/51	42.6/50	43.1/49
46		19.1/69	22.5/68	25.5/67	28.1/65	30.5/64	32.6/63	34.5/62	36.2/61	37.8/60	39.2/59	40.4/57	41.5/56	42.5/55	43.3/54	44.1/53	44.7/52
48		19.4/72	22.9/71	26.0/70	28.7/69	31.1/67	33.3/66	35.3/65	37.1/64	38.7/63	49.1/62	41.5/61	42.7/59	43.7/58	44.6/57	45.5/56	46.2/55
50			23.3/74	26.4/73	29.2/72	31.7/71	34.0/69	36.0/68	37.9/67	39.6/66	41.1/65	42.5/64	43.8/63	44.9/61	45.9/60	46.8/59	47.6/58
52						32.3/74	34.6/73	36.7/71	38.7/70	40.4/69	42.0/68	43.5/67	44.8/66	46.0/65	47.1/63	48.1/62	48.9/61
54							35.3/76	37.4/75	39.4/73	43.1/72	42.9/71	44.4/70	45.8/69	47.1/68	48.3/67	49.3/65	50.2/64
56							35.9/79	38.1/78	40.2/77	42.1/75	43.8/74	45.4/73	46.8/72	48.2/71	49.4/70	50.5/69	51.5/67
58									40.9/80	42.8/79	44.6/77	46.3/76	47.8/75	49.2/74	50.5/73	55.6/72	52.7/71
60										43.6/82	45.4/81	47.2/79	48.7/78	50.2/77	51.5/76	52.7/75	53.9/74
62										44.3/85	46.2/84	48.0/83	49.6/81	51.1/80	52.5/79	53.8/78	55.0/77
64												48.8/86	50.5/85	52.1/83	53.5/82	54.9/81	56.1/80
66														53.0/87	54.5/85	55.9/84	57.2/83
68																56.9/87	58.2/86
70																57.8/91	59.2/89
72																	60.2/93

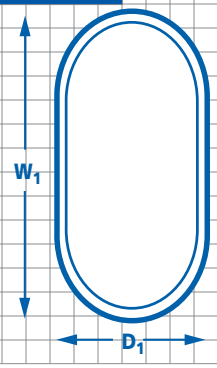
MAJOR AXIS

Eastern Sheet Metal

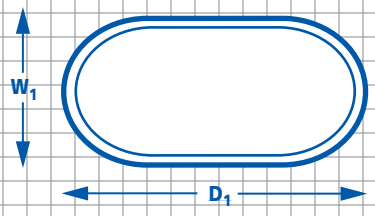
Dual-Wall Flat Oval **ELBOWS**

L = Liner Thickness

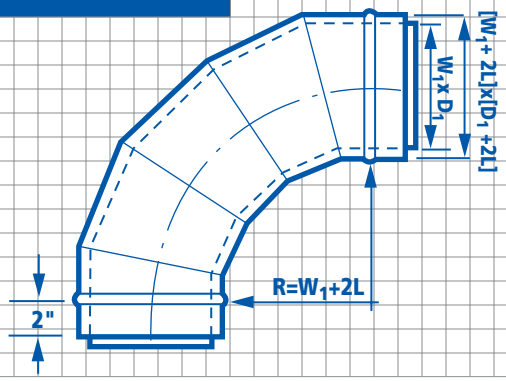
HARD BEND



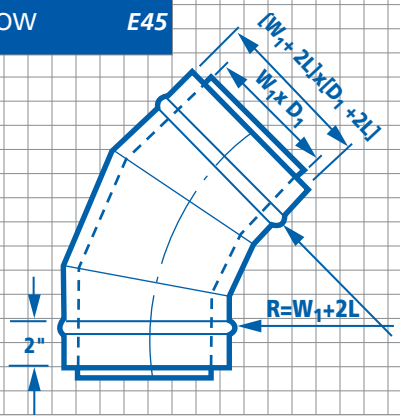
EASY BEND



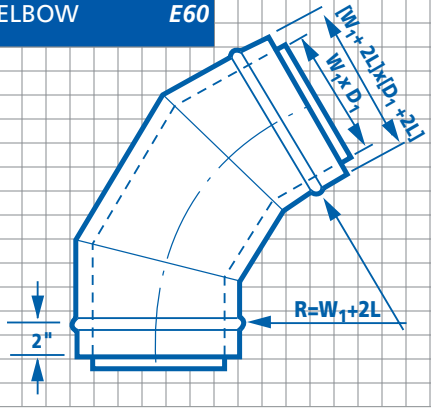
90° 5-PC. ELBOW *E90*



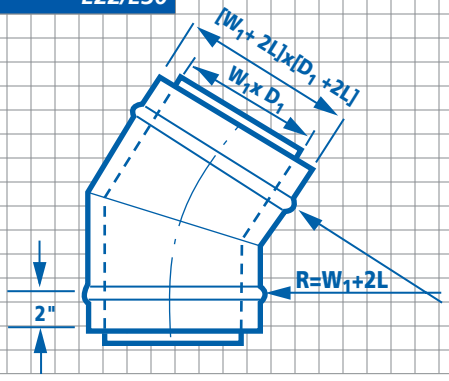
45° 3-PC. ELBOW *E45*



60° 3-PC. ELBOW *E60*



221/2° AND 30° 2-PC. ELBOW *E22/E30*

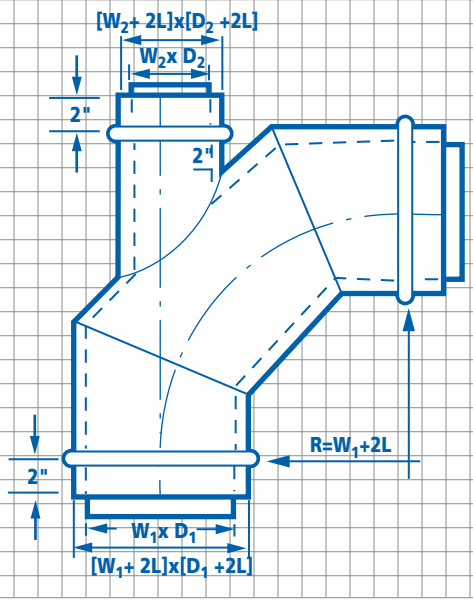


Eastern Sheet Metal

Dual-Wall Flat Oval
ELBOWS

L = Liner Thickness

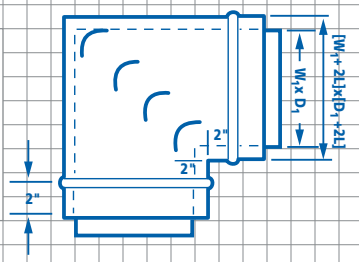
90° 3-PC. ELBOW WITH HEEL TAP *E90L*



90° 2-PC. ELBOW *E290/EV290*

With or without vanes.

D_1	No. of Vanes
3-7	1
8-10	3
10-60	5
≥ 60	max spacing =12"

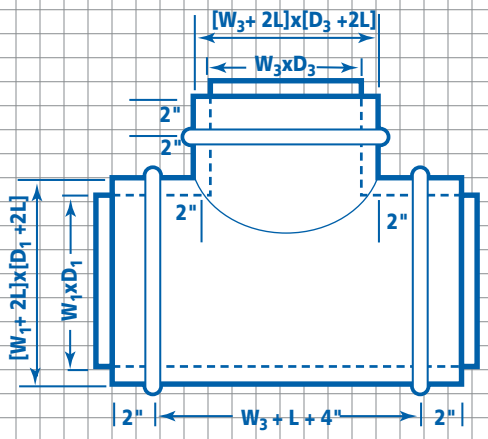


Eastern Sheet Metal

Dual-Wall Flat Oval
STRAIGHT TEES

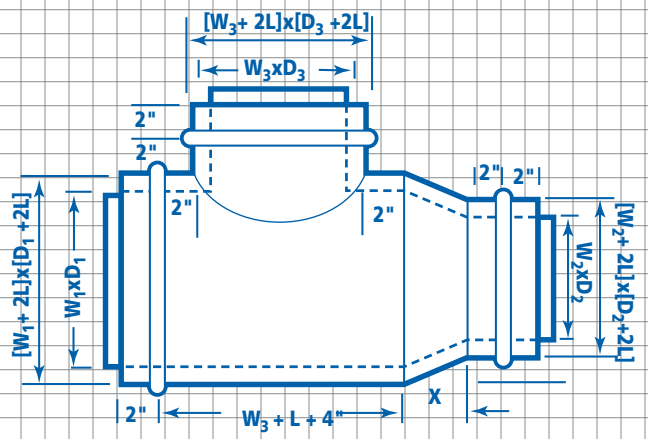
L = Liner Thickness

TEE *T*

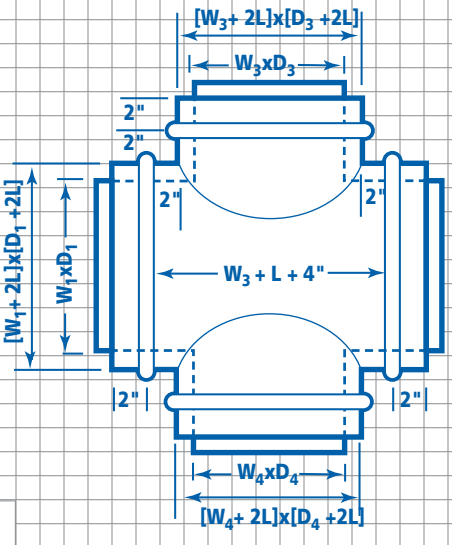


REDUCING TEE *TR*

X= W_1-W_2
4" Minimum



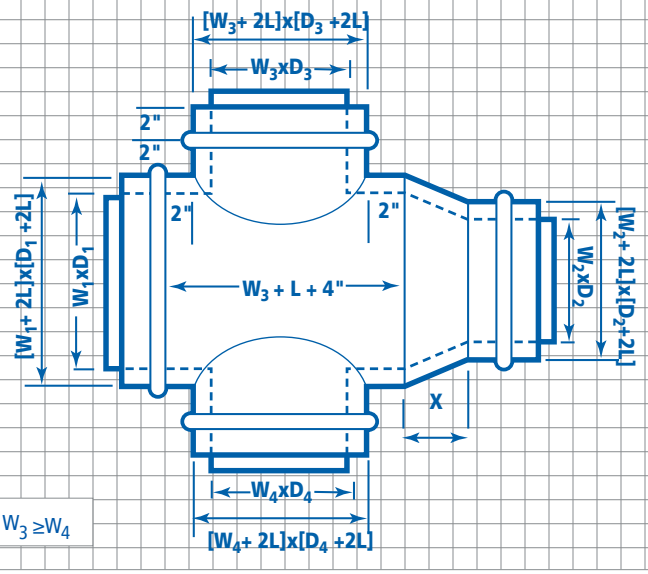
TEE CROSS *TX*



$W_3 \geq W_4$

REDUCING TEE CROSS *TRX*

X= W_1-W_2
4" Minimum



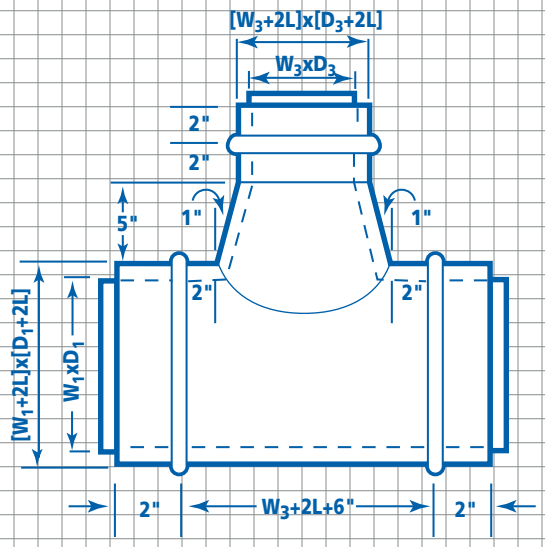
$W_3 \geq W_4$

Eastern Sheet Metal

Dual-Wall Flat Oval
CONICAL TEES

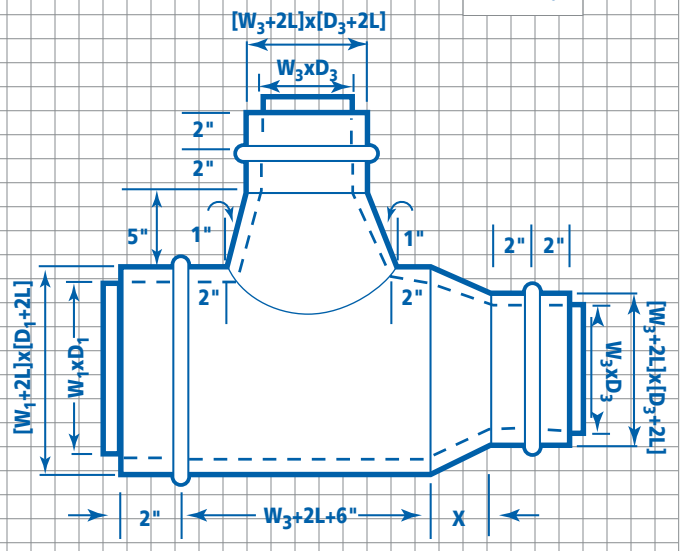
L = Liner Thickness

COMBINATION TEE *CT*

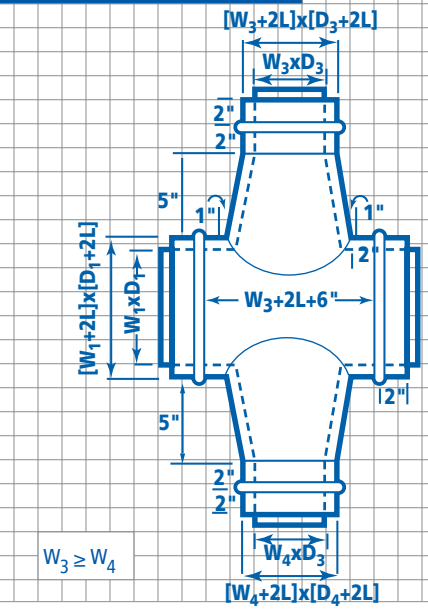


REDUCING CONICAL TEE *CTR*

X= W1-W2
4" Minimum



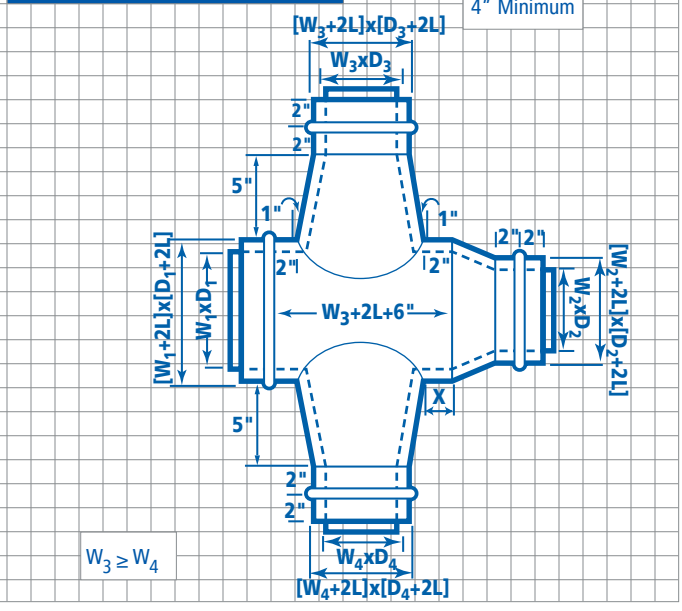
CONICAL CROSS *CTX*



W3 ≥ W4

REDUCING CONICAL CROSS *CTRX*

X= W1-W2
4" Minimum



W3 ≥ W4

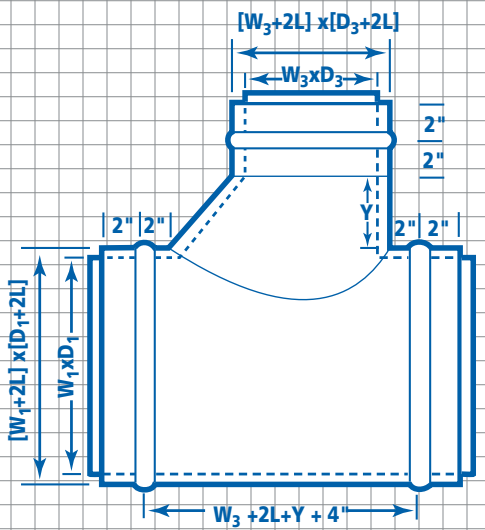
Eastern Sheet Metal

Dual-Wall Flat Oval
COMBINATION TEES

L = Liner Thickness

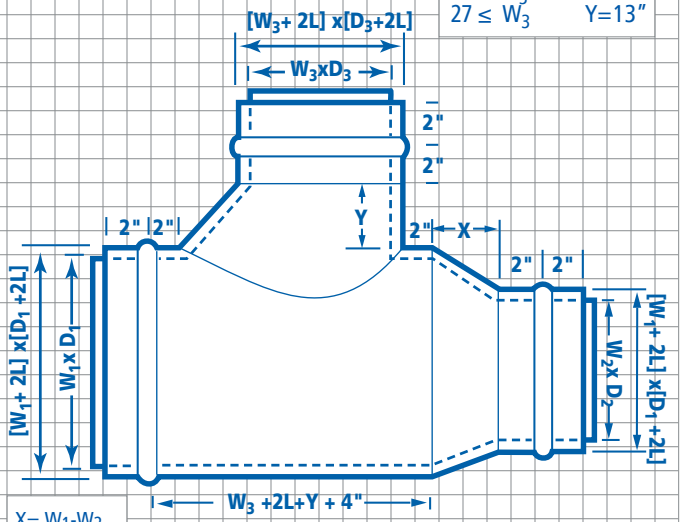
COMBINATION TEE *CB*

$3 \le W_3 \le 8$ Y= 4″
$9 \le W_3 \le 14$ Y= 7″
$15 \le W_3 \le 26$ Y=10″
$27 \le W_3$ Y=13″



REDUCING COMBINATION TEE *CBR*

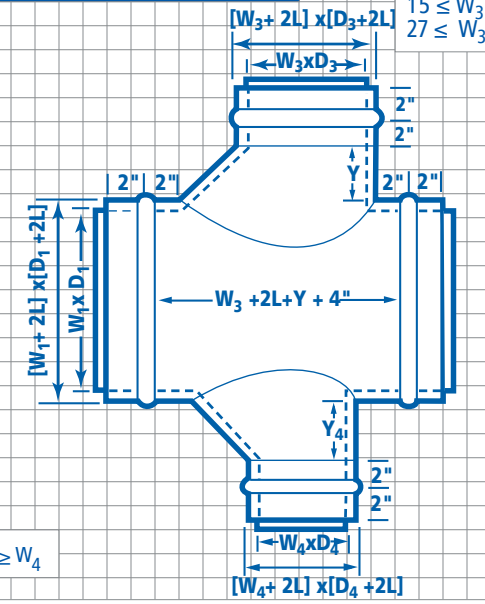
$3 \le W_3 \le 8$ Y= 4″
$9 \le W_3 \le 14$ Y= 7″
$15 \le W_3 \le 26$ Y=10″
$27 \le W_3$ Y=13″



X= W_1-W_2
4″ Minimum

COMBINATION CROSS *CBX*

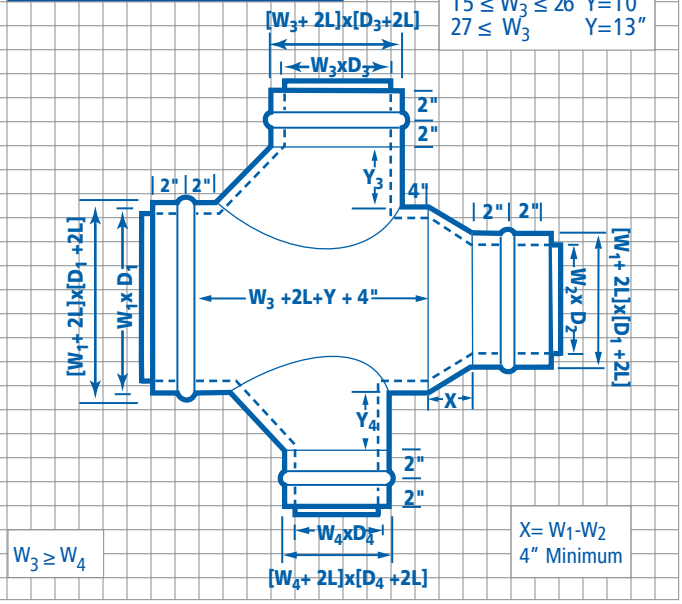
$3 \le W_3 \le 8$ Y= 4″
$9 \le W_3 \le 14$ Y= 7″
$15 \le W_3 \le 26$ Y=10″
$27 \le W_3$ Y=13″



$W_3 \ge W_4$

REDUCING COMBINATION CROSS *CBRX*

$3 \le W_3 \le 8$ Y= 4″
$9 \le W_3 \le 14$ Y= 7″
$15 \le W_3 \le 26$ Y=10″
$27 \le W_3$ Y=13″



$W_3 \ge W_4$

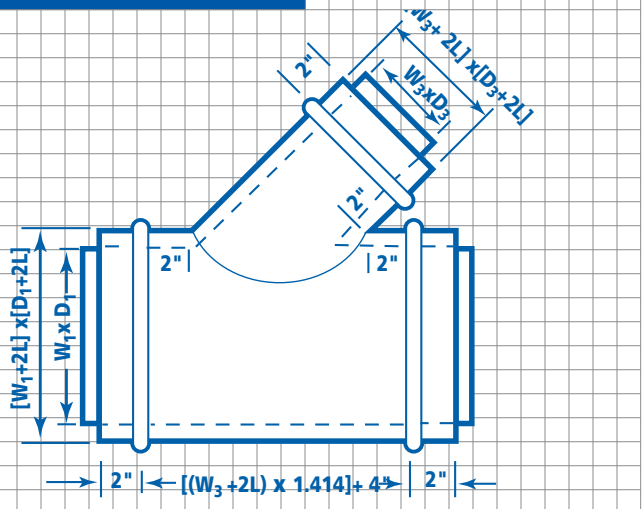
X= W_1-W_2
4″ Minimum

Eastern Sheet Metal

Dual-Wall Flat Oval
STRAIGHT LATERALS

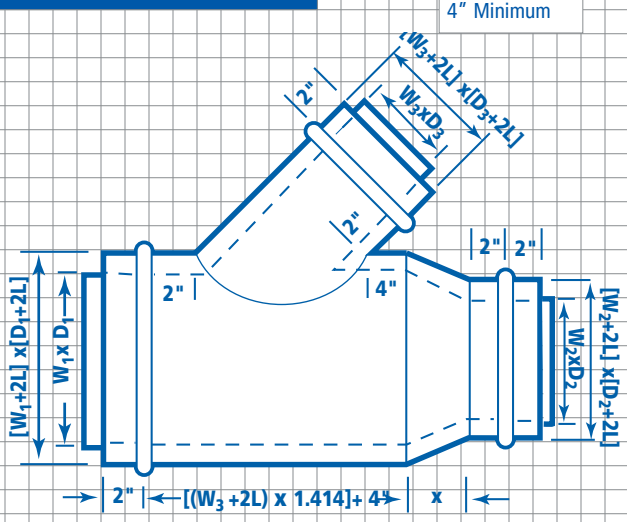
L = Liner Thickness

LATERAL 45° *L*

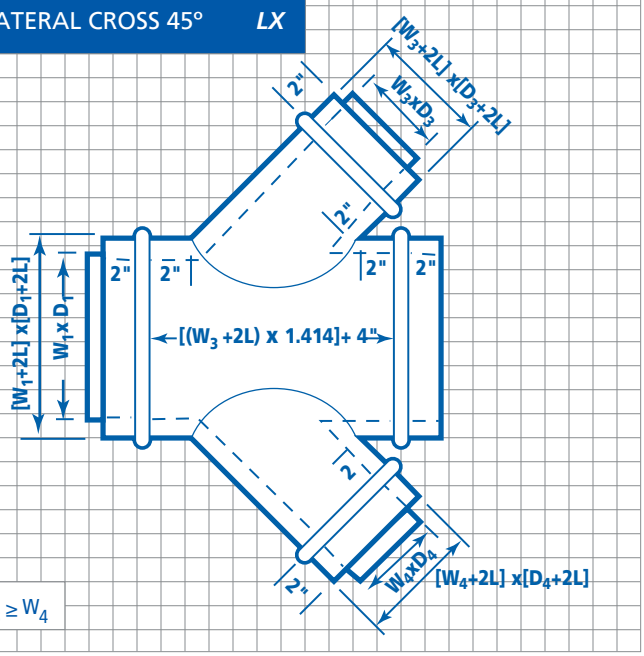


REDUCING LATERAL 45° *LR*

X=W1-W2
4" Minimum



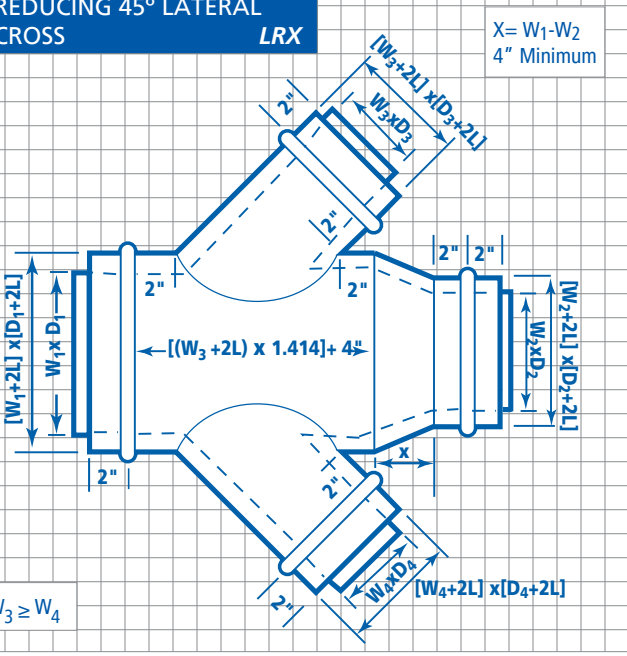
LATERAL CROSS 45° *LX*



W3 ≥ W4

REDUCING 45° LATERAL CROSS *LRX*

X= W1-W2
4" Minimum



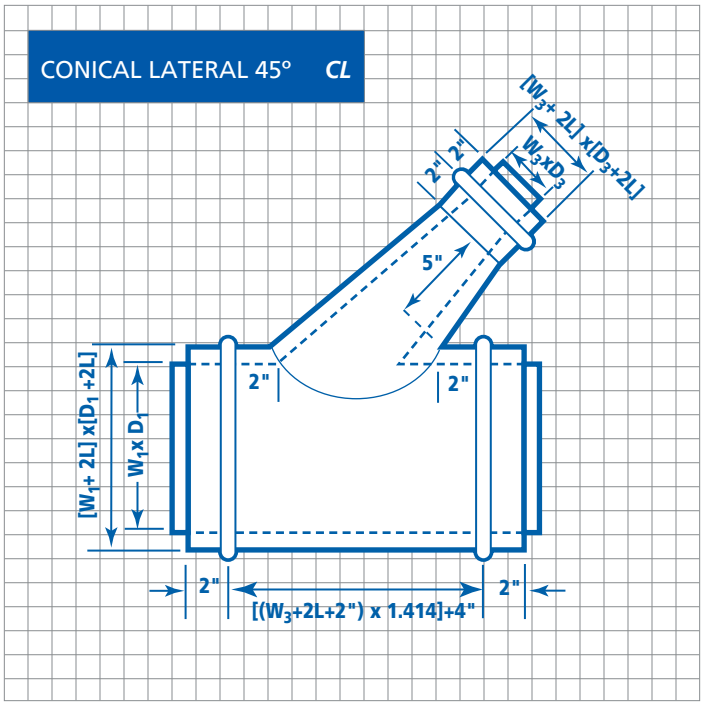
W3 ≥ W4

Eastern Sheet Metal

Dual-Wall Flat Oval
CONICAL LATERALS

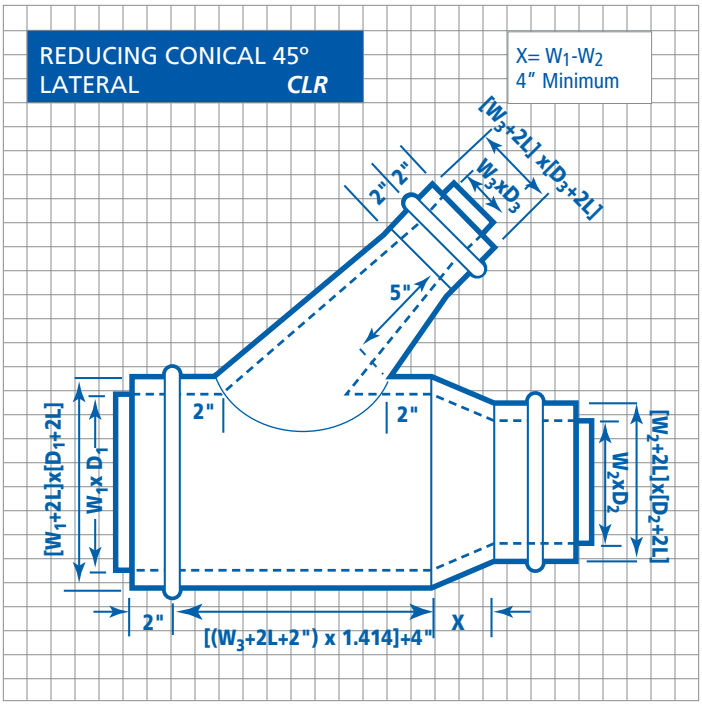
L = Liner Thickness

CONICAL LATERAL 45° *CL*

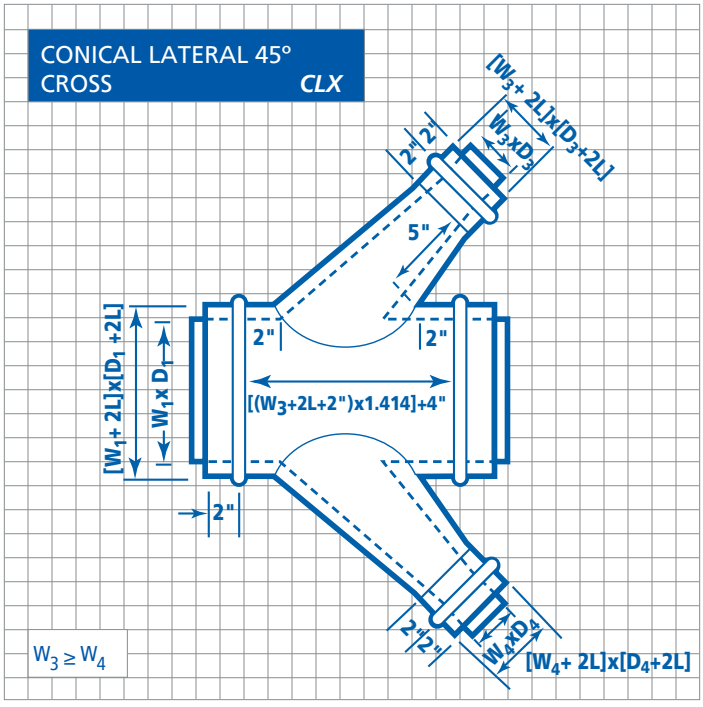


REDUCING CONICAL 45° LATERAL *CLR*

X= W_1-W_2
4" Minimum



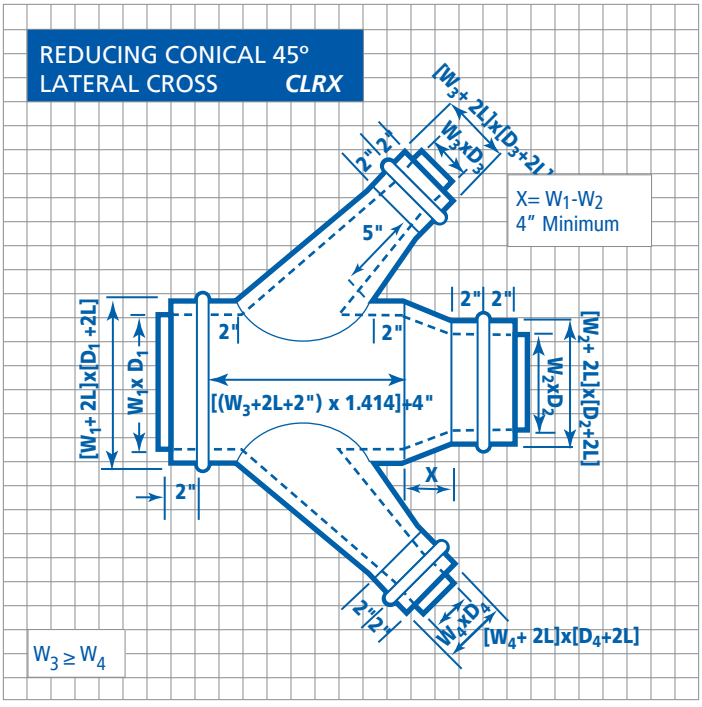
CONICAL LATERAL 45° CROSS *CLX*



$W_3 \geq W_4$

REDUCING CONICAL 45° LATERAL CROSS *CLRX*

X= W_1-W_2
4" Minimum



$W_3 \geq W_4$

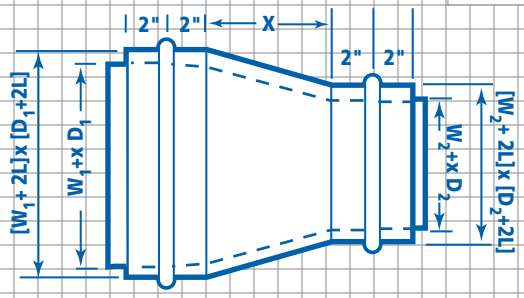
Eastern Sheet Metal

Dual-Wall Flat Oval
MISCELLANEOUS

L = Liner Thickness

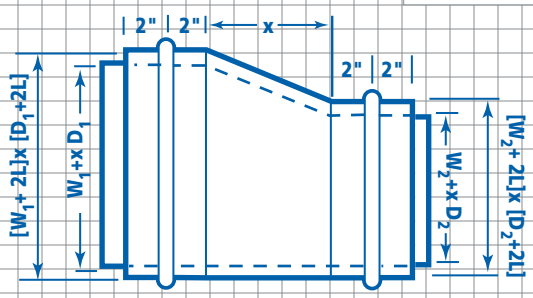
CONCENTRIC REDUCER *RD*

X= W_1-W_2
4" Minimum

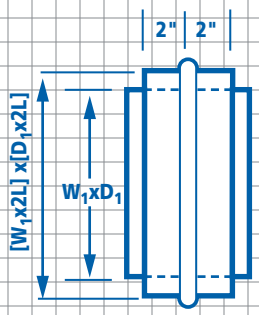


ECCENTRIC REDUCER *RDE*

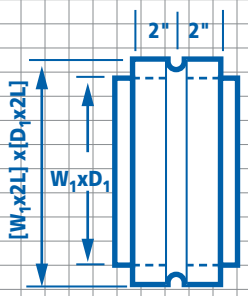
X= 2 [W_1-W_2]
4" Minimum



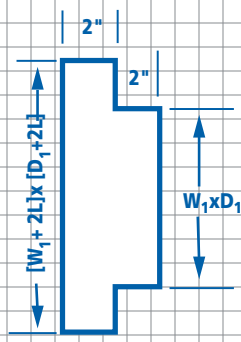
PIPE COUPLINGS *PCP*



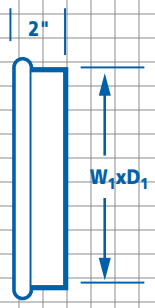
FITTING COUPLINGS *FCP*



INSULATION STOP *IS*



SPUN END CAP *EC*

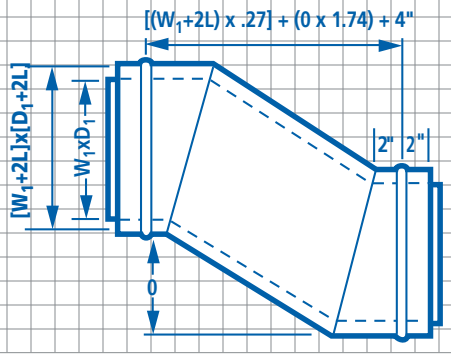


Eastern Sheet Metal

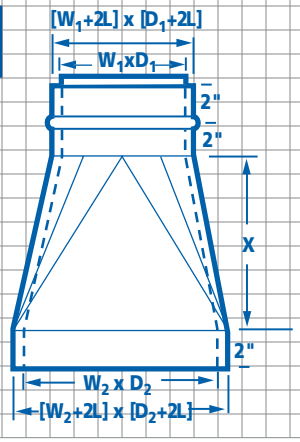
Dual-Wall Flat Oval
MISCELLANEOUS

L = Liner Thickness

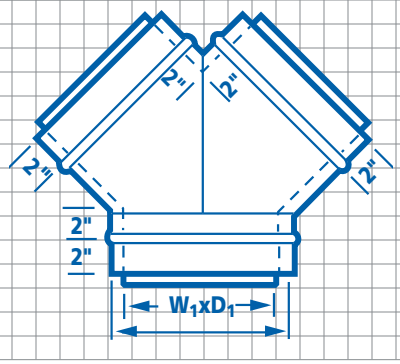
30° OFFSET *OFF*



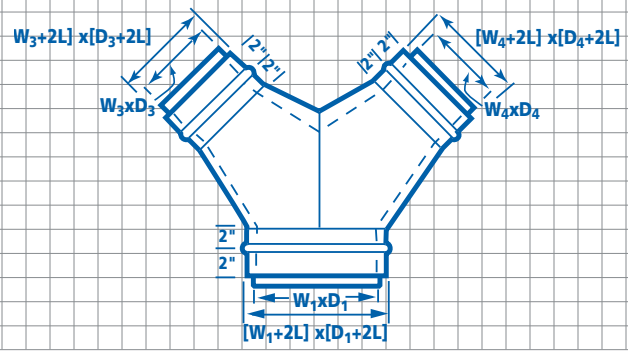
RECTANGLE TO OVAL *RSQ*



Y BRANCH *Y*

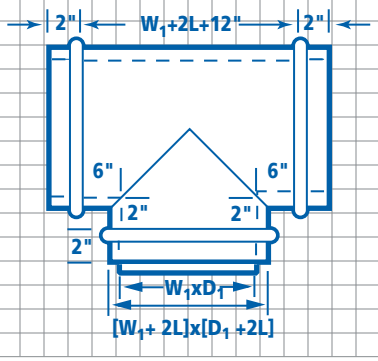


REDUCING Y BRANCH *YR*



BULL HEAD TEE *BHT/BHTV*

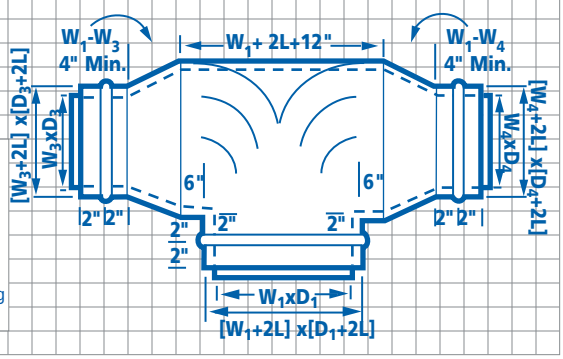
With or without vanes.



W_1	No. of Vanes
3-7	1
8-10	3
10-60	5
> 60	max spacing =12"

REDUCING BULL HEAD TEE *BHTR/BHTRV*

With or without vanes.



W_1	No. of Vanes
3-7	1
8-10	3
10-60	5
> 60	max spacing =12"

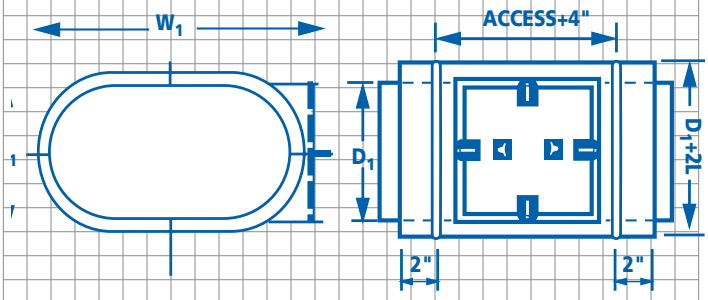
Eastern Sheet Metal

Dual-Wall Flat Oval
MISCELLANEOUS

L = Liner Thickness

RECTANGULAR ACCESS SECTION *AXRT*

Also available as shop-installed SRTA or field-installed accessory FRTA.

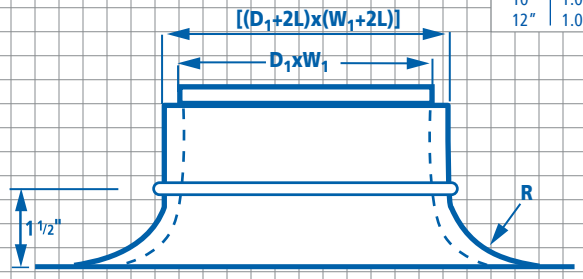


D_1	ACCESS SIZE
8" to 12"	8" x 8"
13" to 17"	12" x 12"
18" and OVER	18" x 18"

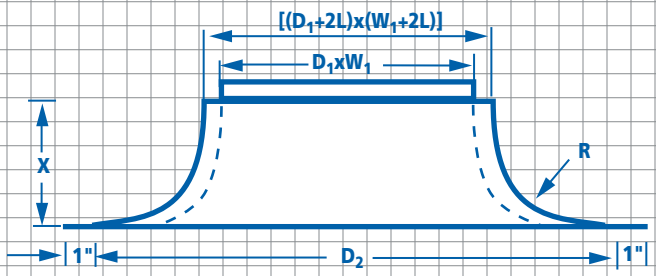
Negative and positive pressure.

PRESSED BELL MOUTH GALVANIZED ONLY *PB*

D_1	R
4"	.394"
5"	.472"
6"	.787"
7"	1.0"
8"	1.0"
9"	1.0"
10"	1.0"
12"	1.0"



SPUN BELL MOUTH *SB*



STANDARD BELL MOUTH

D_1	D_2	L	R
13"	19"	4"	3"
14"	21"	4"	3"
15"	24"	5"	4"
16"	26"	5"	4"
17"	25"	5"	4"
18"	26"	5"	4"
19"	27"	5"	4"
20"	28"	5"	4"
21"	29"	5"	4"
22"	32"	6"	5"
23"	33"	6"	5"
24"	34"	6"	5"
26"	38"	7"	6"
28"	40"	7"	6"
30"	42"	7"	6"
32"	46"	8"	7"
34"	48"	8"	7"
36"	50"	8"	7"
38"	52"	8"	7"
40"	56"	9"	8"
42"	58"	9"	8"
44"	60"	9"	8"
46"	62"	9"	8"
48"	64"	9"	8"

SHORT RADIUS BELL MOUTH

D_1	D_2	L
13"	15"	3½"
14"	16"	3½"
15"	17"	3½"
16"	18"	3½"
17"	19"	3½"
18"	20"	3½"
19"	21"	3½"
20"	22"	3½"
21"	23"	3½"
22"	24"	3½"
23"	25"	3½"
24"	26"	3½"
26"	28"	3½"
28"	30"	3½"
30"	32"	3½"
32"	34"	3½"
34"	36"	3½"
36"	38"	3½"
38"	40"	3½"
40"	42"	3½"
42"	44"	3½"
44"	46"	3½"
46"	48"	3½"
48"	50"	3½"
50"	52"	3½"
52"	54"	3½"
54"	56"	3½"
56"	58"	3½"
56"	60"	3½"
60"	62"	3½"

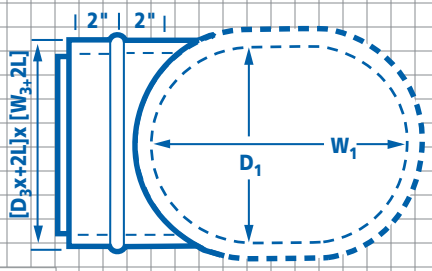
Eastern Sheet Metal

Dual-Wall Flat Oval ACCESSORIES

SHOP INSTALLED/ FIELD INSTALLED

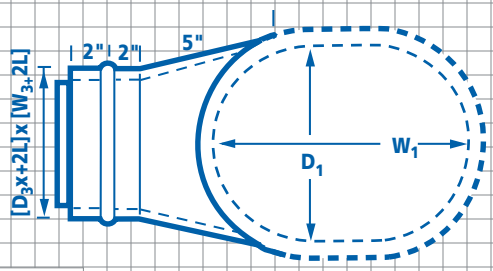
L = Liner Thickness

SHOP/FIELD INSTALLED TAP *ST/FT*



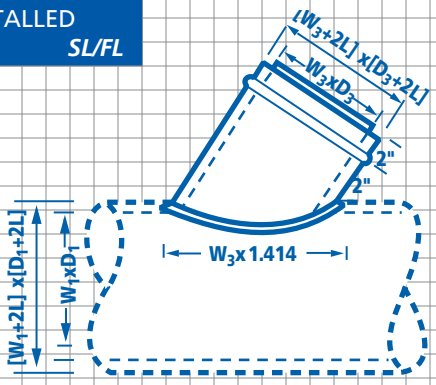
Standard flange is 1/2".
2" flange is also available.

SHOP/FIELD INSTALLED CONICAL TAP *STC/FTC*



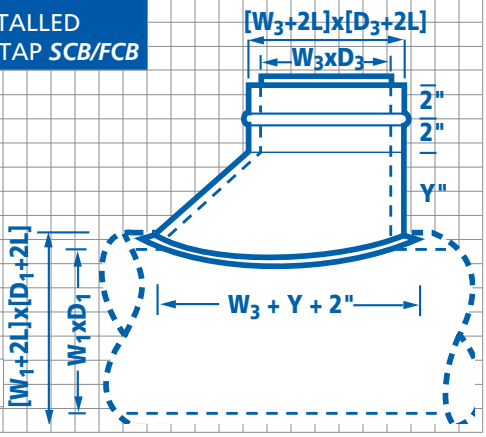
Standard flange is 1/2".
2" flange is also available.

SHOP/FIELD INSTALLED LATERAL TAP *SL/FL*



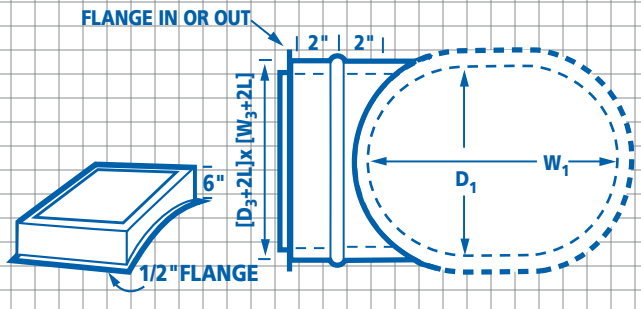
Standard flange is 1/2".
2" flange is also available.

SHOP/FIELD INSTALLED COMBINATION TAP *SCB/FCB*

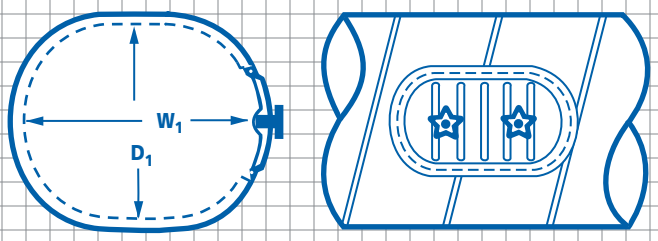


Standard flange is 1/2".
2" flange is also available.

SHOP/FIELD INSTALLED RECTANGLE ON ROUND *SRR/FRR*



FIELD INSTALLED STANDARD DOOR *SA/FA*



Eastern Sheet Metal

Dual-Wall Flat Oval
INSTALLATION

DUAL-WALL SLIP FIT

The inner and outer collars Eastern Sheet Metal fitting are sized to slip into, and should be used with, Eastern Sheet Metal spiral duct. The inner collar projects beyond the outer collar. This permits the inner collar to be started into the inner liner of the spiral duct in a manner similar to the single wall technique. A tight fit is necessary to minimize friction loss and to promote proper sealing. Care should be taken during the handling and installationto avoid dents and distortions that can case improper fit or difficult installation.

1. Bring the bottom of the inner fitting collar into the inner spiral duct at a slight angle.
2. Work the rest of the inner collar into the spiral duct.
3. When the inner collar is fully inserted, start the outer collar in the same manner.
4. Carefully work the rest of the collar into the spiral duct until approximately one inch of the collar remains exposed between the end of the spiral duct and the stop bead of the fitting collar. Do not use a screwdriver or knife to help make the connection. Apply pressure with the heal of your hand or with your fist to help slip the fitting into the duct.
5. Apply duct sealer to this exposed area.
6. Push the fitting into the spiral duct until the stop bead meets the edge of the spiral duct.
7. Fasten the fitting into the spiral duct with screws per the chart at right. The screws should be evenly spaced around the perimeter of the connection, approximately 1/2" back from the stop bead. Placement of the screws should be opposite of each other as demonstrated in the diagram. Stainless steel Eastern Flanges are only available for minor axis outer walls of 16" and larger.

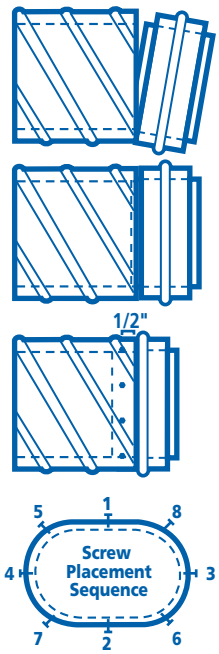
DUAL-WALL EASTERN FLANGE

Eastern Flanges come factory-mounted on fittings and spiral duct. Eastern Flanges are standard for all duct over 71" major axis, but are available on smaller sizes. Dual-wall Eastern Flanges attach to both the outer wall and the inner wall of the duct, eliminating the need to make an inner connection.

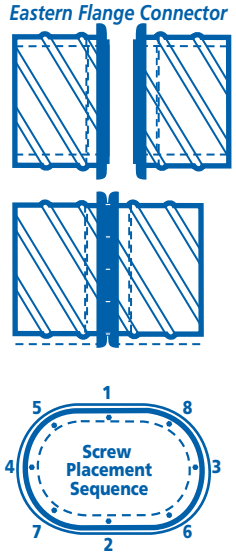
1. Place closed cell neoprene gasket on the face of one of the mating outer flanges.
2. Push the flanges together keeping the edges of the flanges aligned.
3. Clamp the flanges to help hold them in place.
4. Screw the flanges together with self-tapping screws per the chart below. The screws should be evenly spaced around the perimeter of the connection. Placement of the screws should be opposite of each other as demonstrated in the diagram.

Protected by the following U.S. Patents: 7,287,407; D518,885; D517,679; D516,698; D516,697.

Installation of Slip Joint Connector



Installation of Eastern Flange Connector



OUTER WALL DUCT PERIMETER ROUND EQUIV.	#OF SCREWS	
	SLIP FIT	EASTERN FLANGE
4"-9"	3	NA
10"	3	4
11"-16"	3	6
17"-21"	4	8
22"-26"	5	10
27"-30"	6	12
32"-36"	7	14
38"-42"	8	16
44"-46"	9	18
48"-52"	10	20
54"-56"	11	22
58"-60"	12	24
62"-66"	NA	26
68"-72"	NA	28
74"-76"	NA	30
78"-84"	NA	32