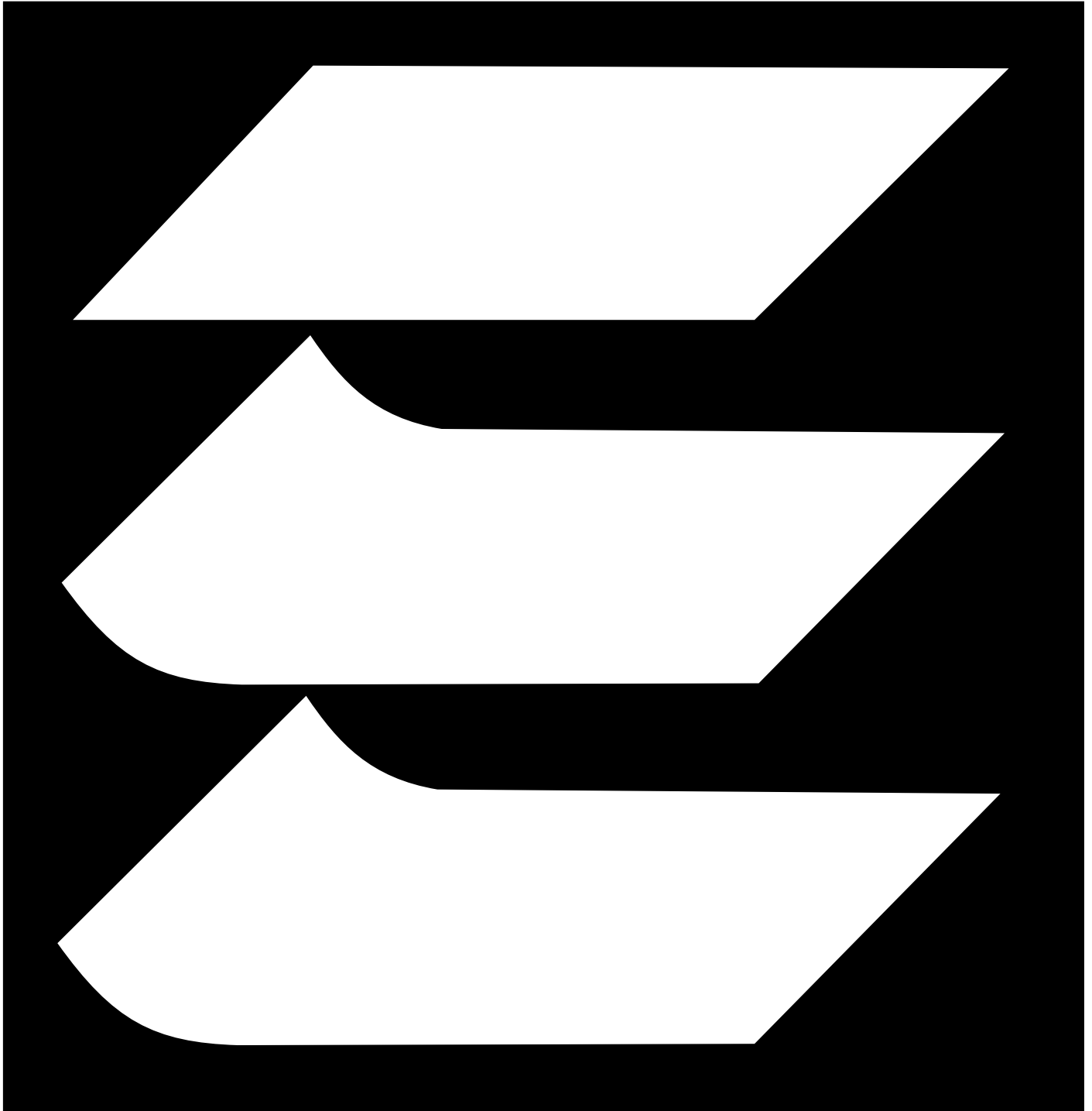




Single Wall
OVAL



SPIRAL PIPE & FITTINGS



Single Wall OVAL

SINGLE WALL 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 pipe is corrugated.

MAJOR AXIS	2005 SMACNA POSITIVE PRESSURE	
	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

Other materials and gauges are available.

NOMINAL SPIRAL OVAL PIPE SIZES

INITIAL SPIRAL SIZE	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					75	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								81	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															89	87	86	
70																91	89	
72																	93	



Single Wall OVAL

ACTUAL SPIRAL OVAL PIPE SIZES

INITIAL SPIRAL SIZE	MINOR AXIS																MAJOR AXIS
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	
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					74.83	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								80.83	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															88.55	87.41	86.27
70																90.55	89.41
72																	92.55



Single Wall OVAL

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

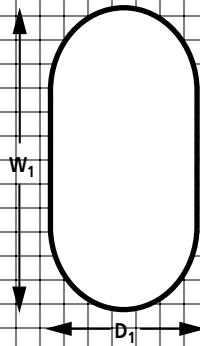
Example: Change 18" x 34" oval to a smaller size. To change the size, first note the equivalent round size listed for 18" x 34", it is 25.7". This means 18" x 34" oval spiral will have the same friction loss as 25.7" round spiral. Next, find 25.7" for an oval with a smaller minor axis. Two choices are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

NOMINAL SPIRAL OVAL PIPE SIZES AND ROUND EQUIVALENT

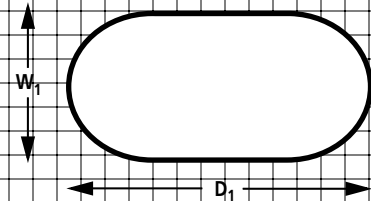
INITIAL SPIRAL SIZE	MINOR AXIS																MAJOR AXIS	
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34		36
8	6.7/10																	
9	7.2/12	8.4/11																
10	7.6/13	9.0/12	9.8/11															
11	8.0/15	9.5/14	10.5/13															
12	8.3/17	10.0/15	11.2/14	11.8/13														
13	8.7/18	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	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	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	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	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	40.1/62	41.5/61	42.7/59	43.7/58	44.6/57	45.5/56	46.2/55	46.2/55
50			23.3/74	26.4/73		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	47.6/58
52				29.7/75	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	48.9/61	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	50.2/64	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	51.5/67	51.5/67
58							38.8/81	40.9/80	42.8/79	44.6/77	46.3/76	47.8/75	49.2/74	50.5/73	51.7/72	52.7/71	52.7/71	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	53.9/74	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	55.0/77	55.0/77
64											48.8/86	50.5/85	52.1/83	53.5/82	54.9/81	56.1/80	56.1/80	56.1/80
66													53.0/87	54.5/85	55.9/84	57.2/83	57.2/83	57.2/83
68														55.4/89	56.9/87	58.2/86	58.2/86	58.2/86
70																57.8/91	59.2/89	59.2/89
72																	60.2/93	60.2/93

Single Wall Oval ELBOWS

HARD BEND

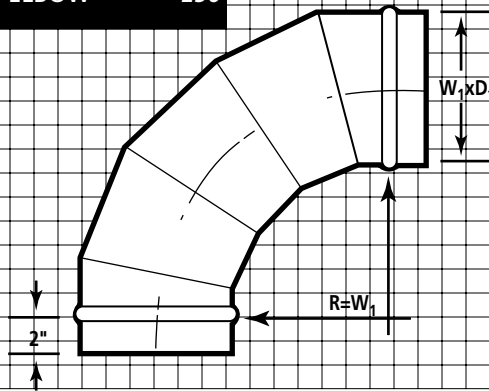


EASY BEND



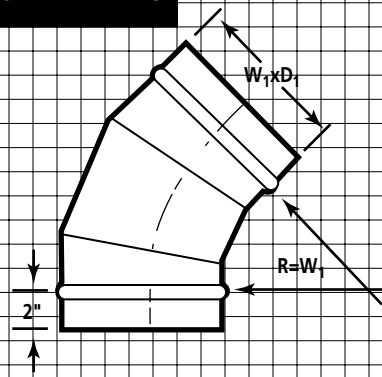
90° 5-PC. ELBOW

E90



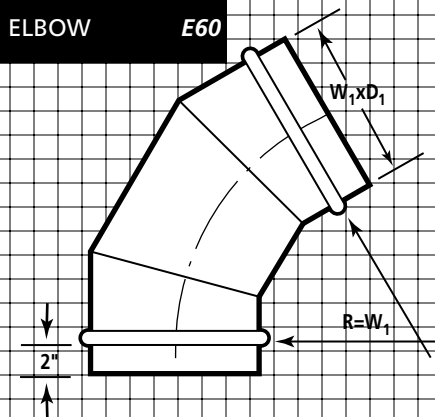
45° 3-PC. ELBOW

E45



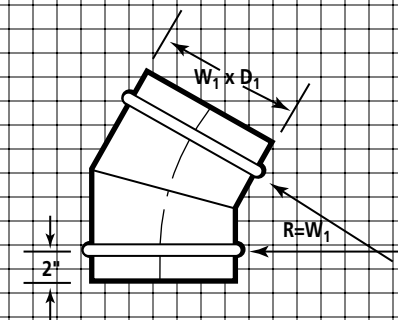
60° 3-PC. ELBOW

E60



22 1/2° AND 30° 2-PC. ELBOW

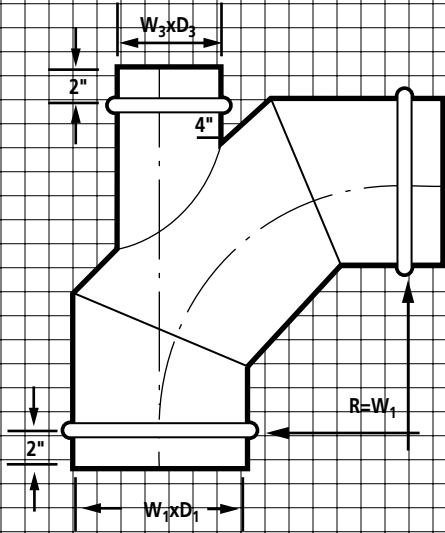
E22/E30





Single Wall Oval ELBOWS

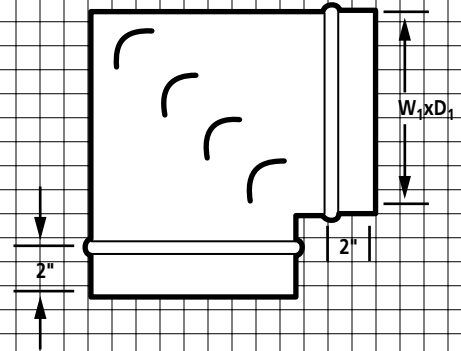
90° 3-PC. ELBOW WITH
HEEL TAP **E90L**



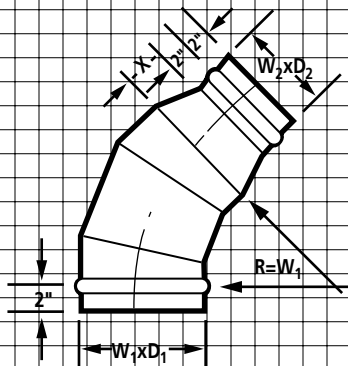
90° 2-PC. ELBOW
E290/EV290

With or without vanes.

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

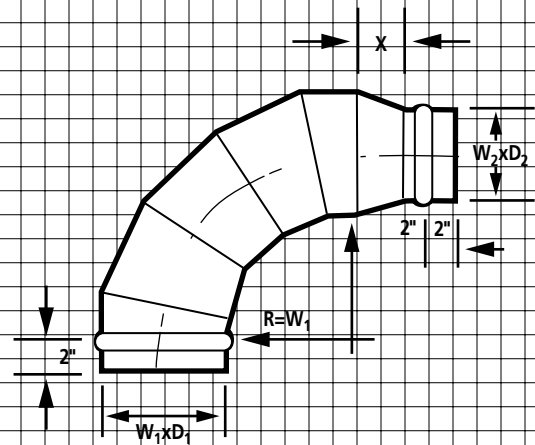


45° 3-PC. ELBOW
WITH REDUCER **E45R**



X = W₁ - W₂
4" Minimum

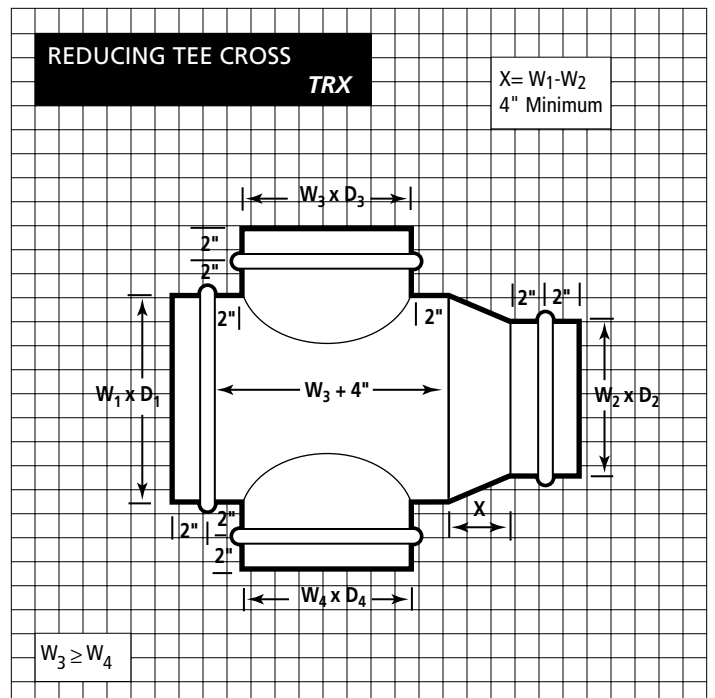
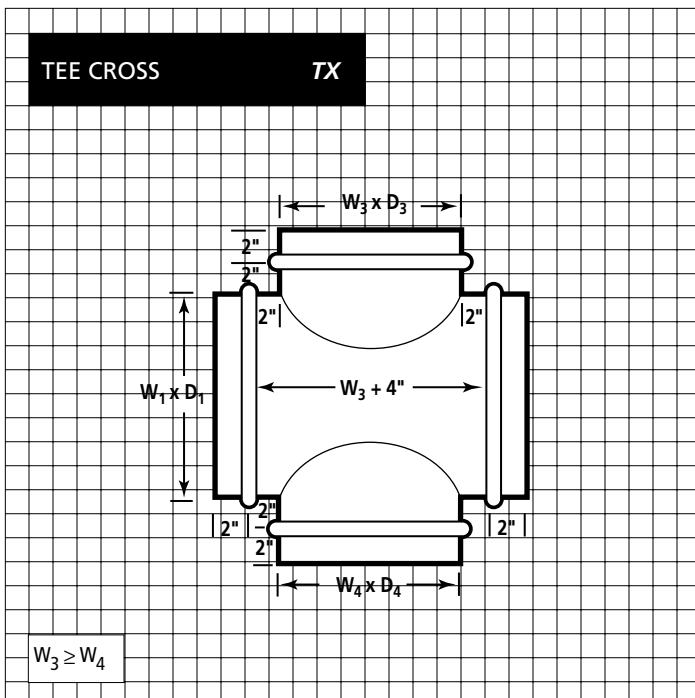
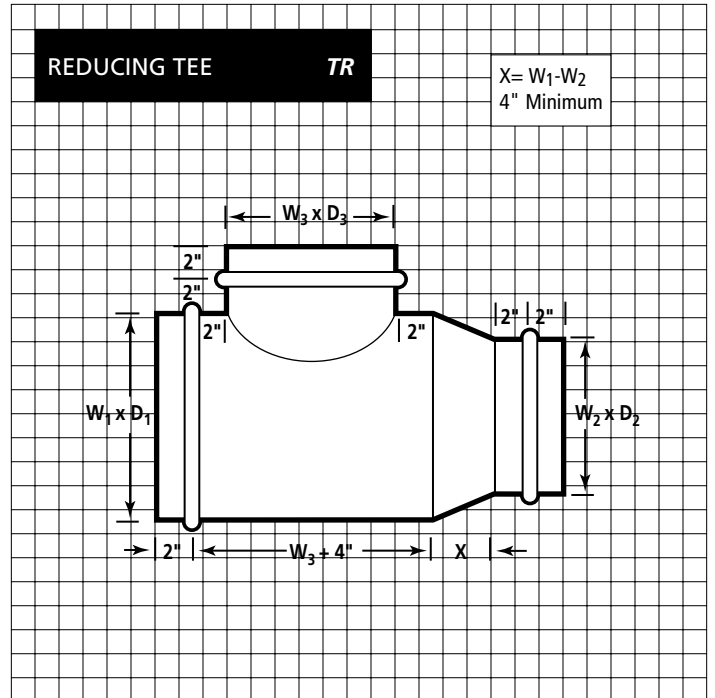
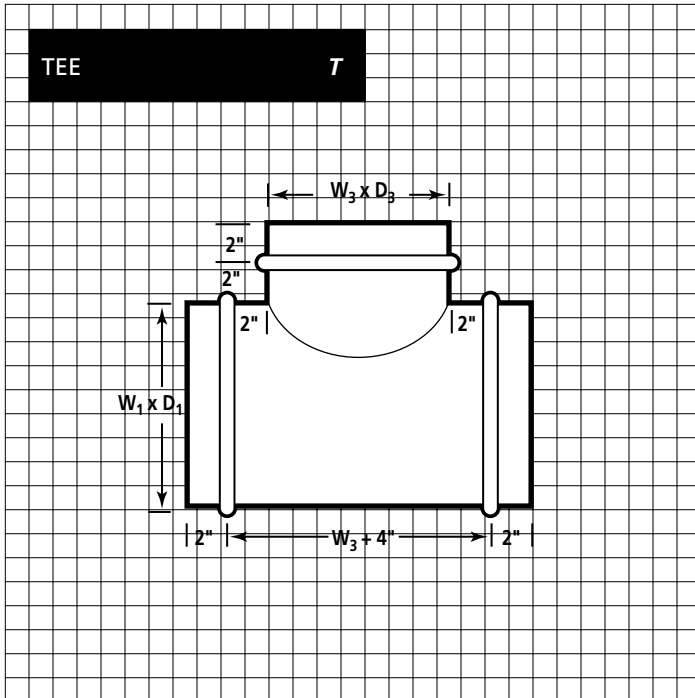
90° 5-PC. ELBOW
WITH REDUCER **E90R**



X = W₁ - W₂
4" Minimum

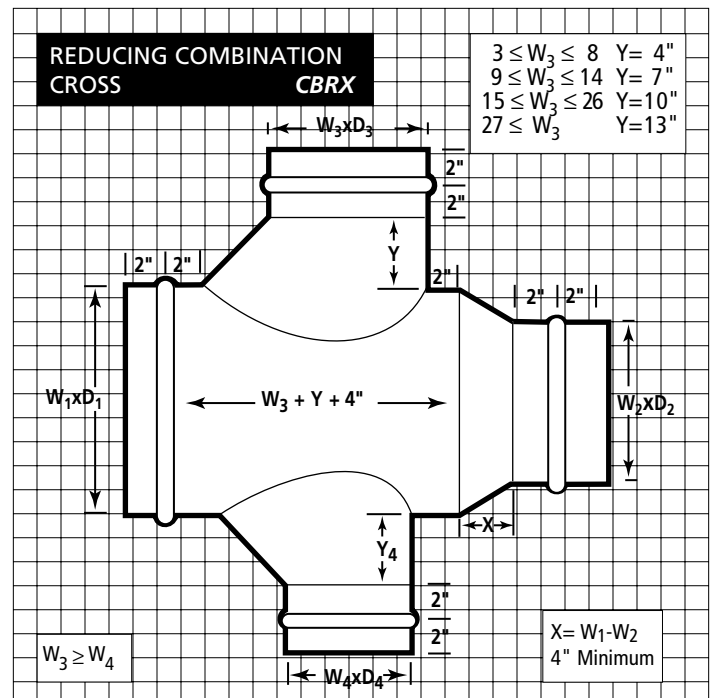
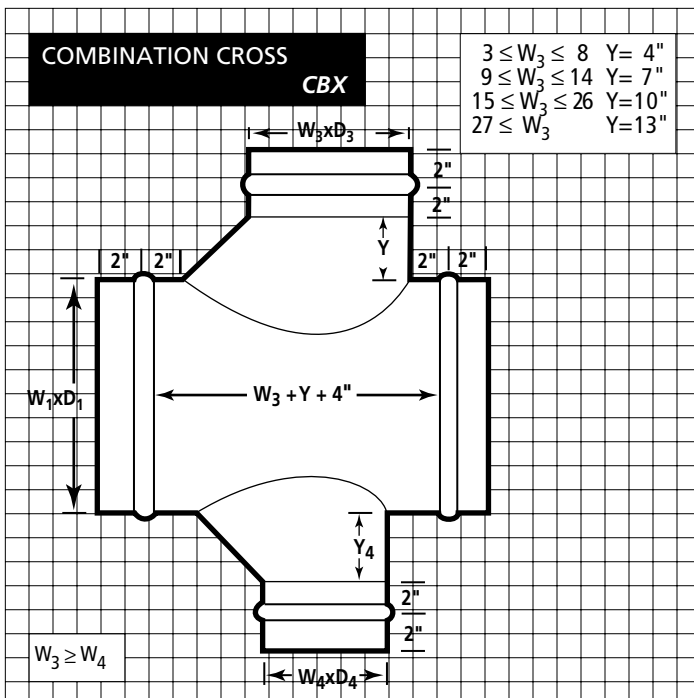
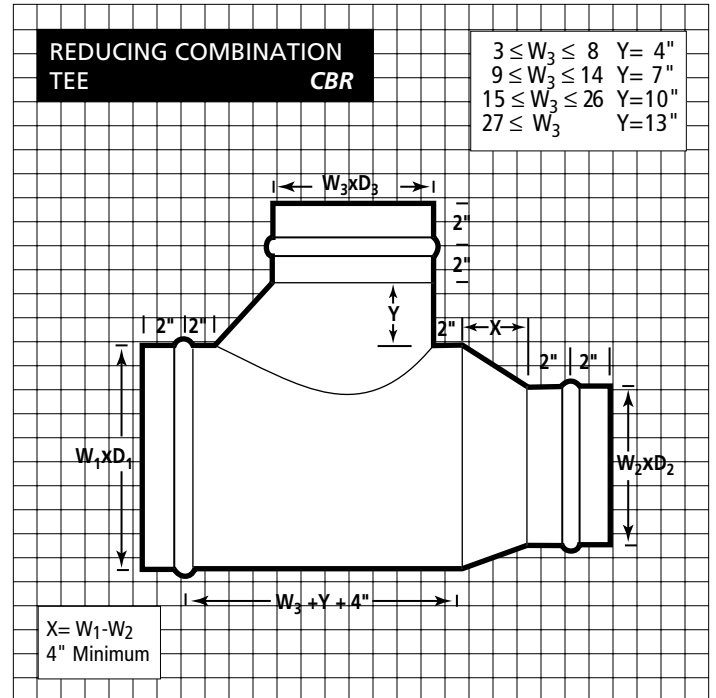
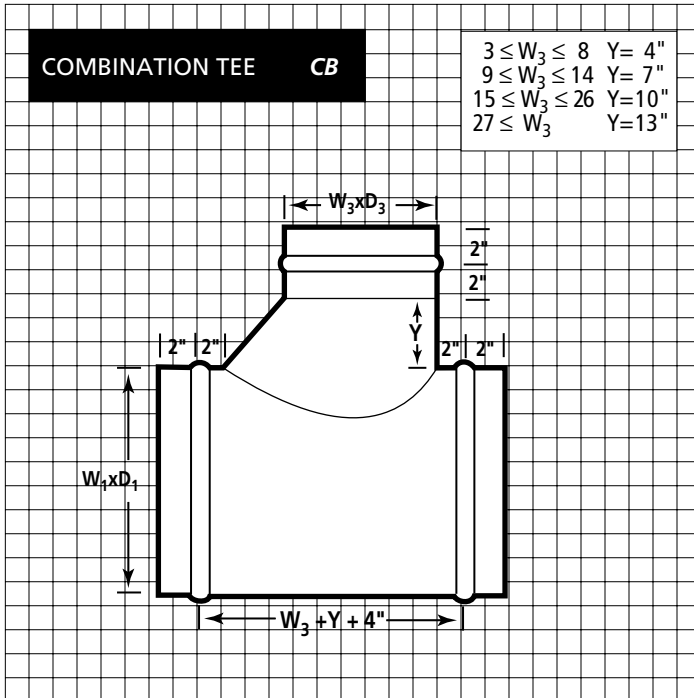


Single Wall Oval STRAIGHT TEES



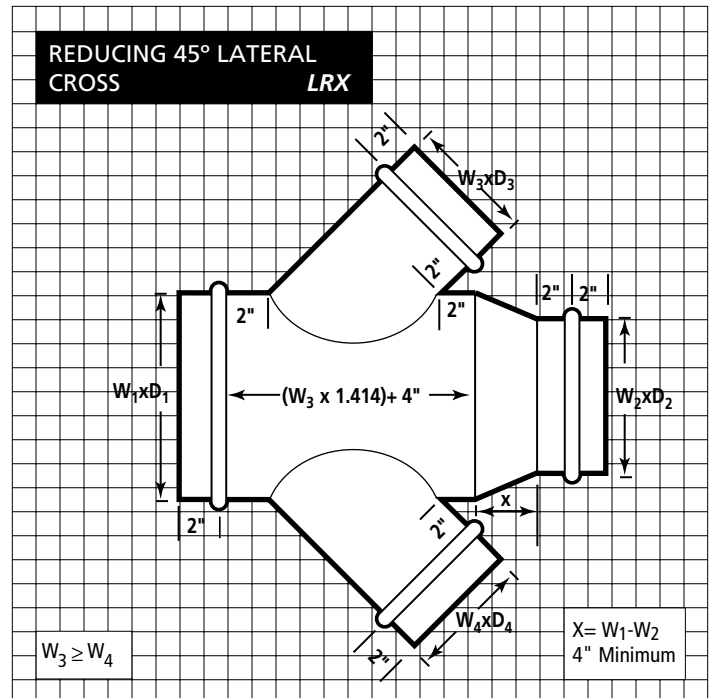
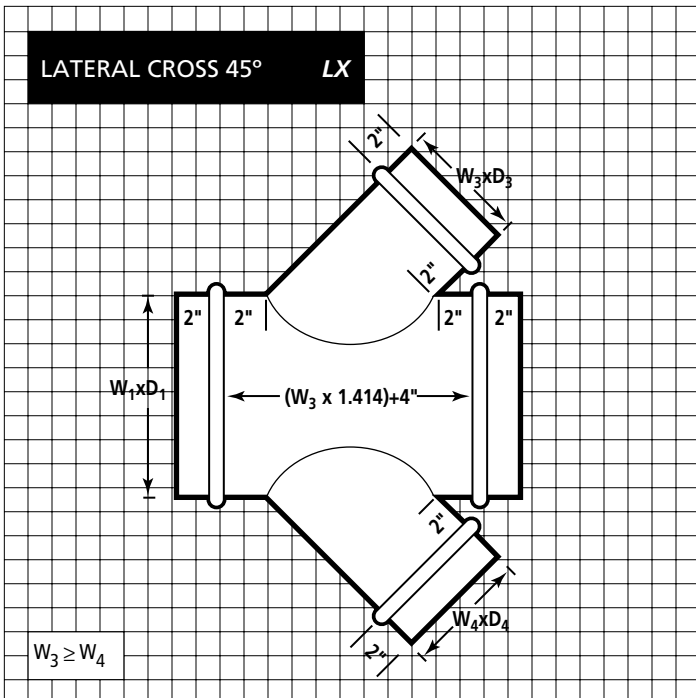
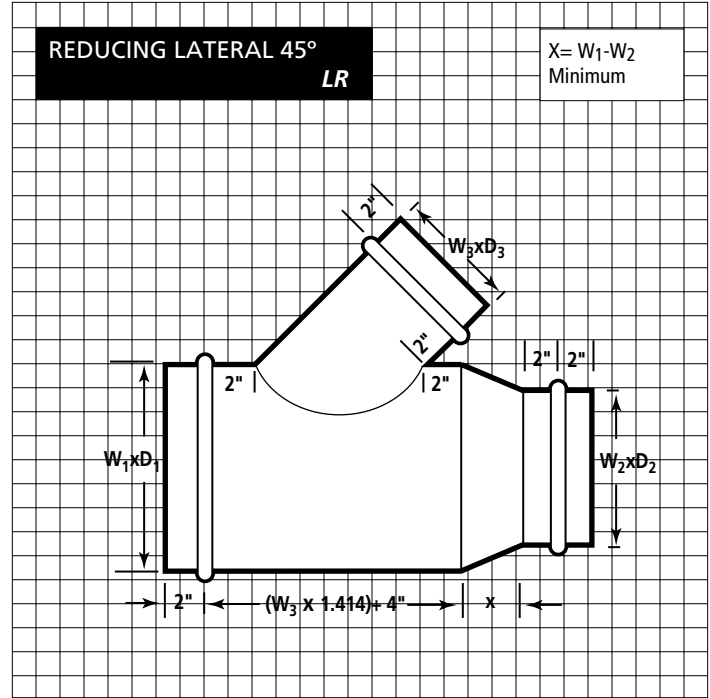
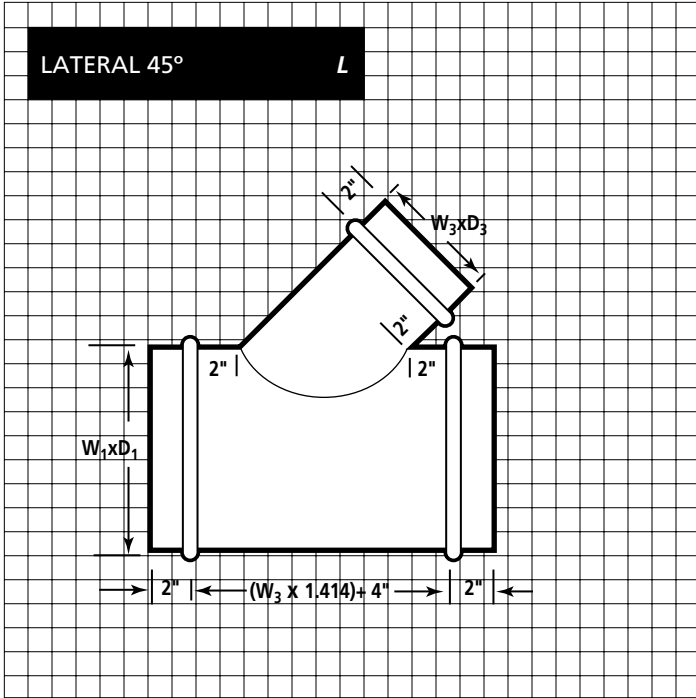


Single Wall Oval COMBINATION TEES



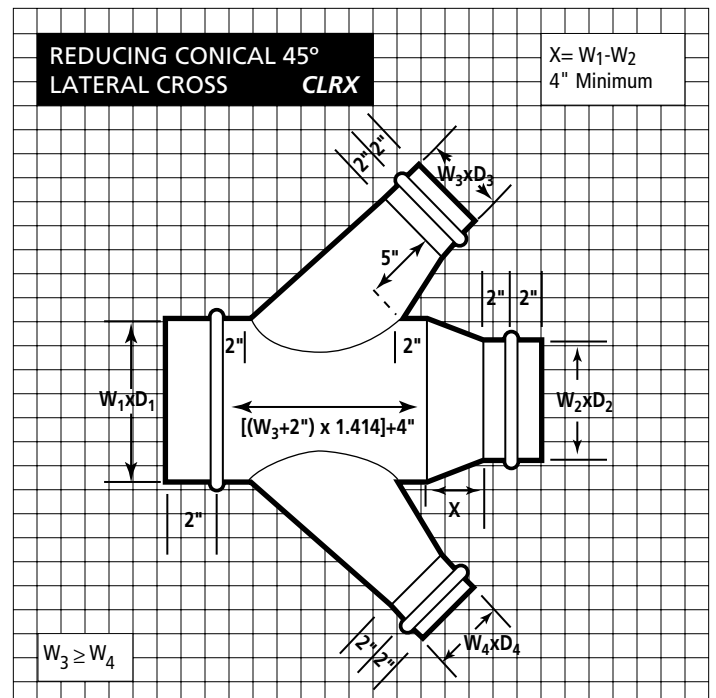
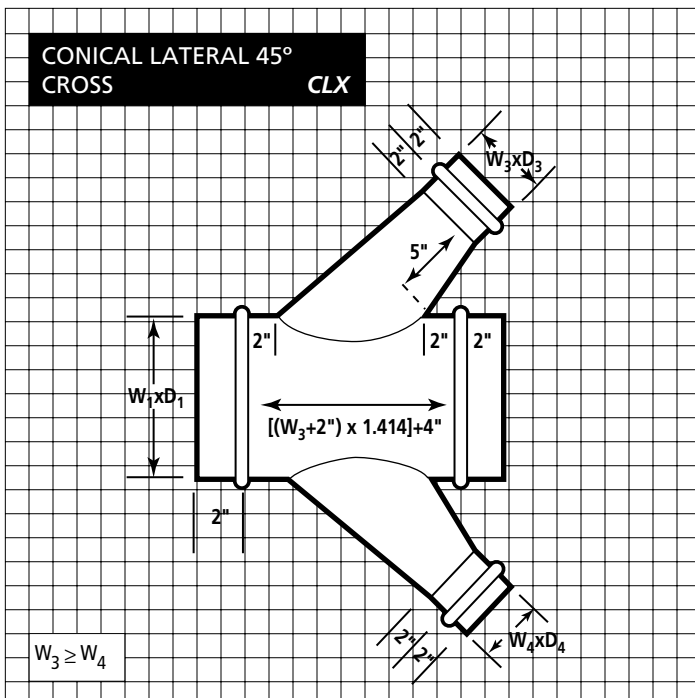
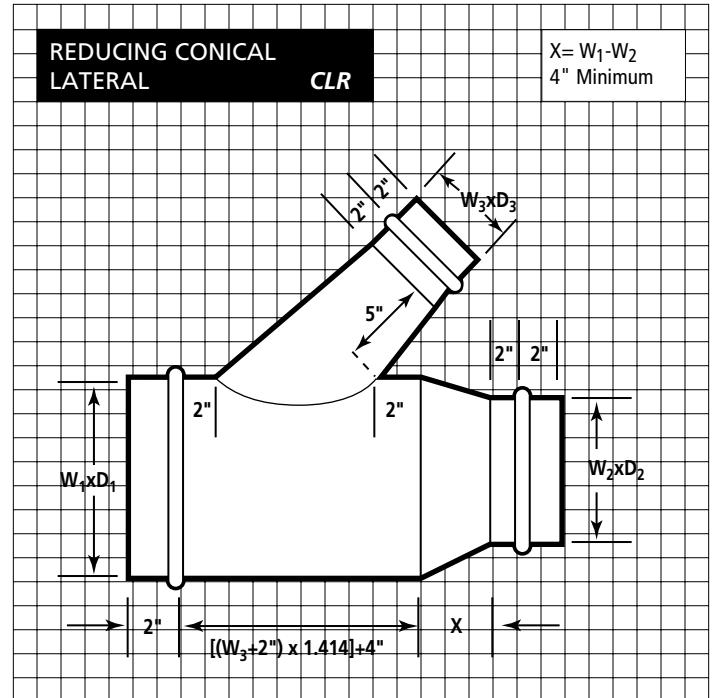
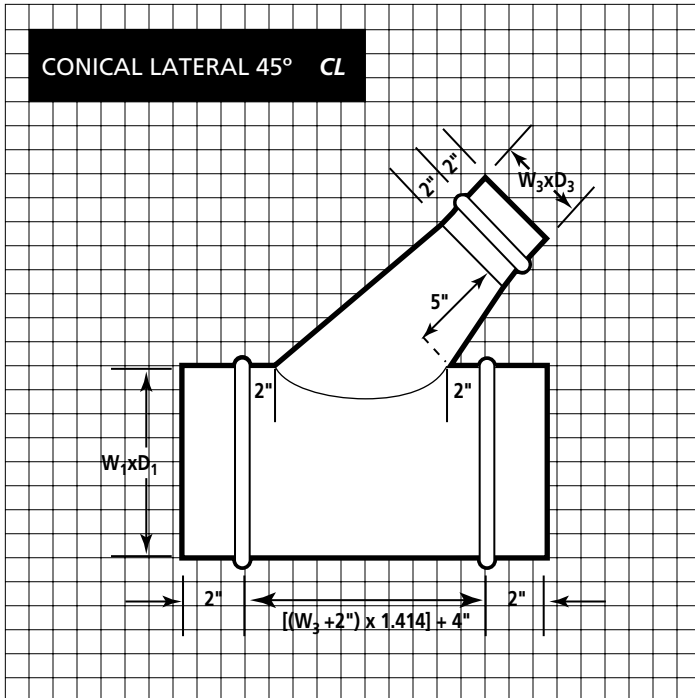


Single Wall Oval STRAIGHT LATERALS

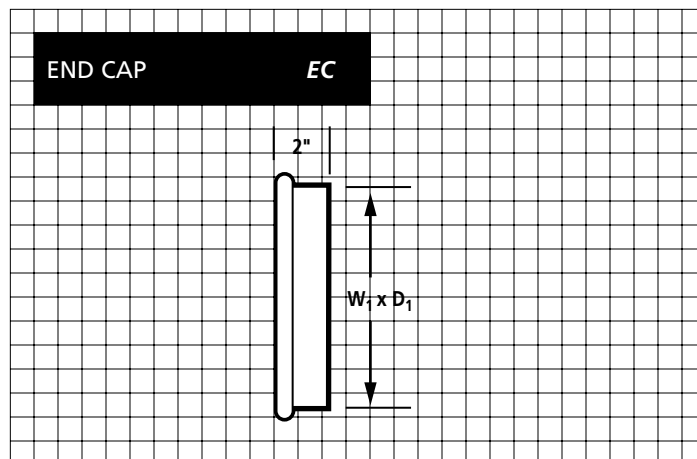
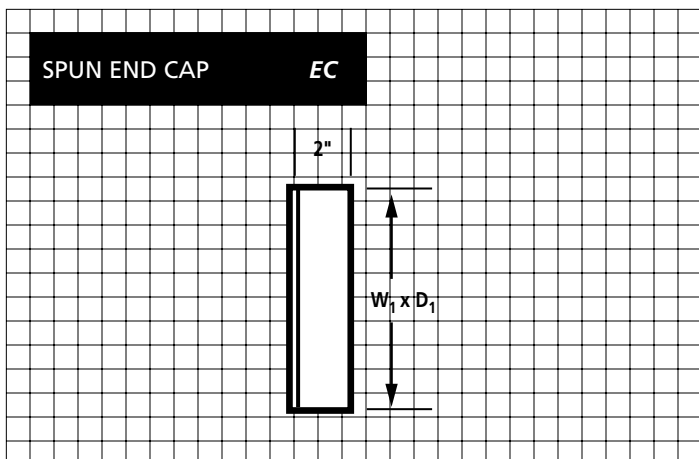
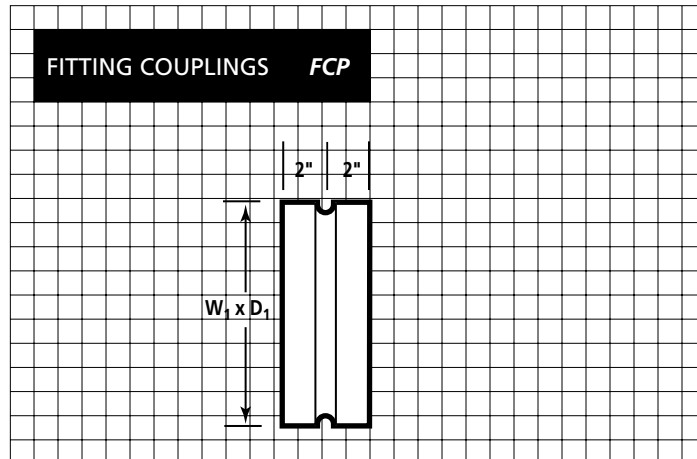
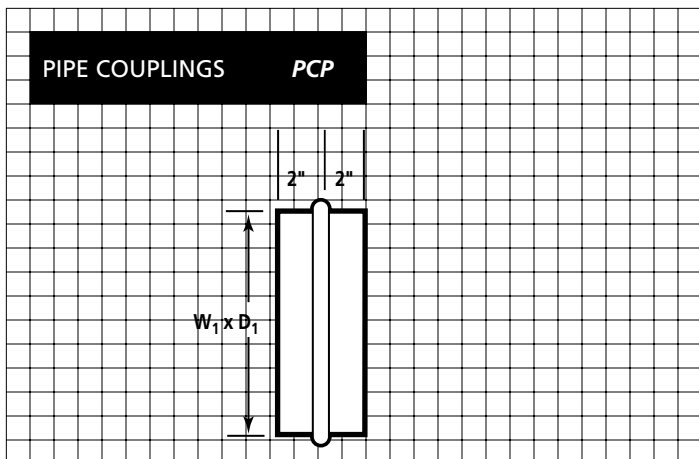
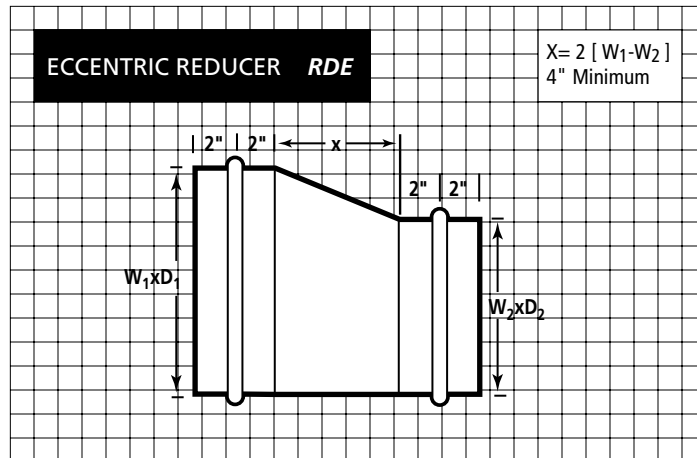
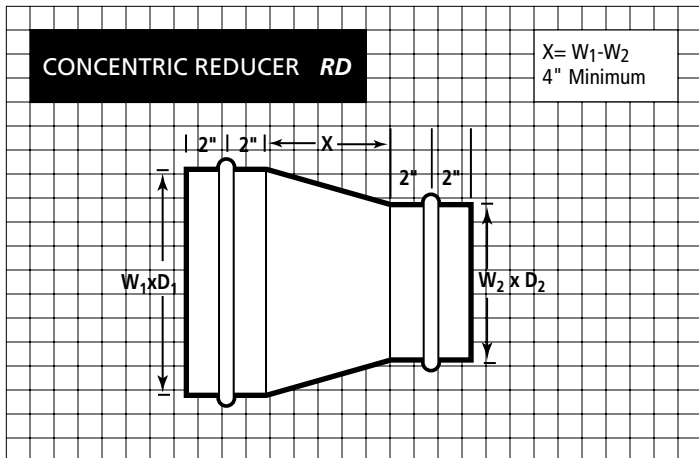


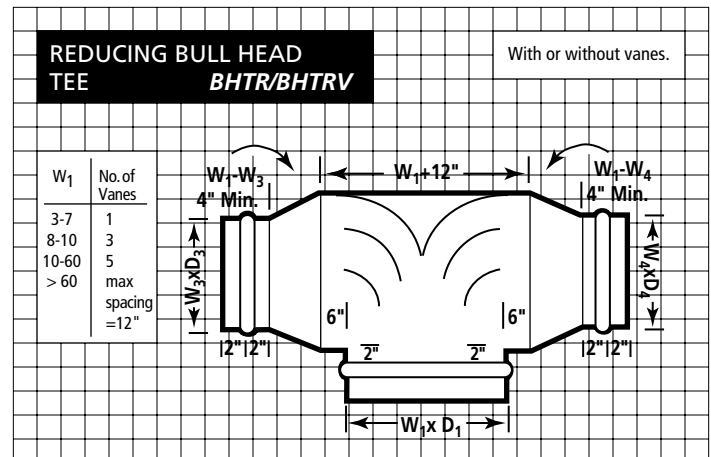
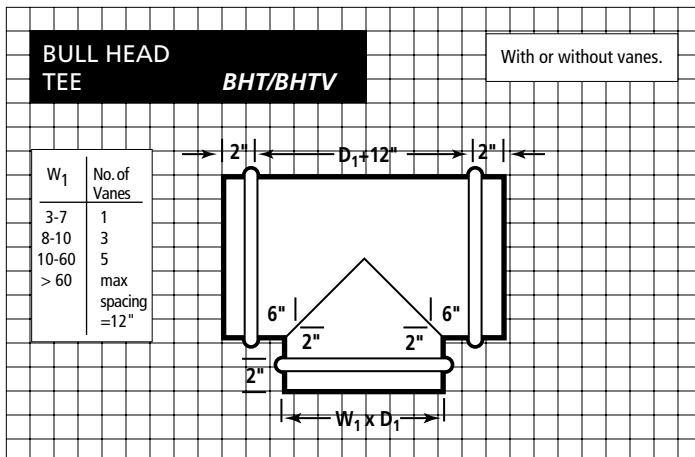
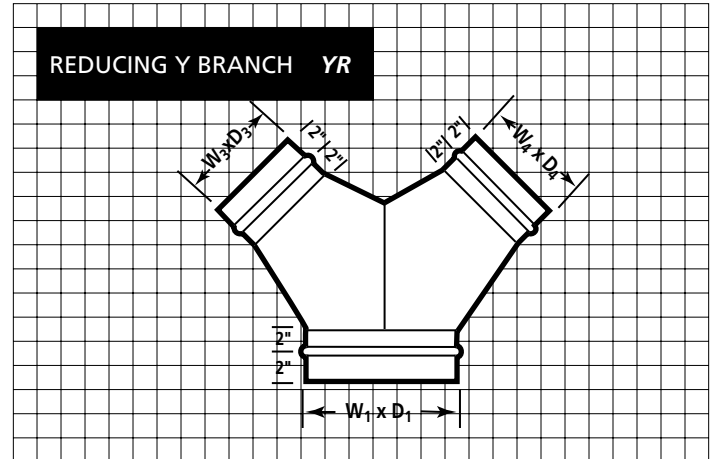
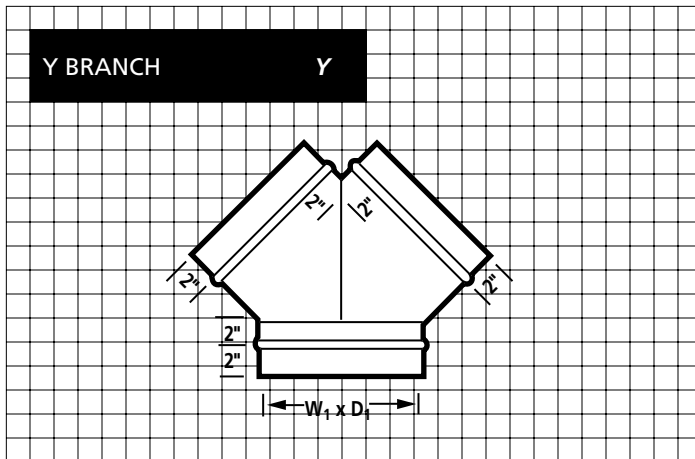
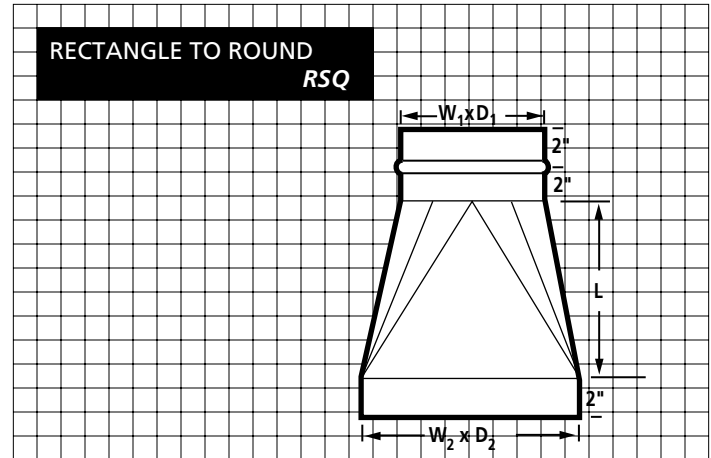
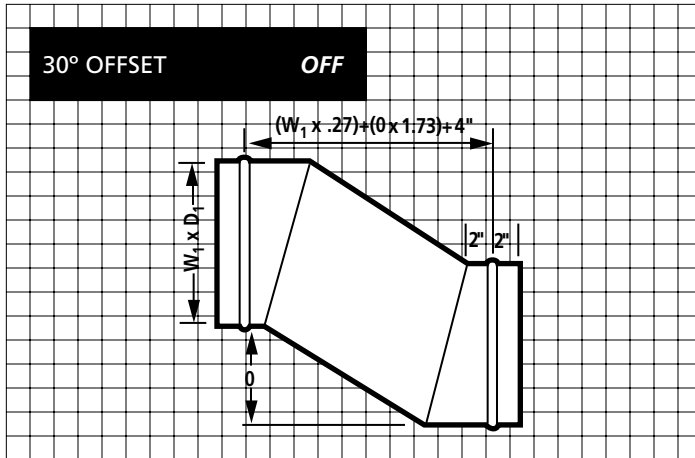


Single Wall Oval CONICAL LATERALS



Single Wall Oval MISCELLANEOUS







Single Wall Oval MISCELLANEOUS

RECTANGULAR ACCESS SECTION *RTAX*

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.

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"

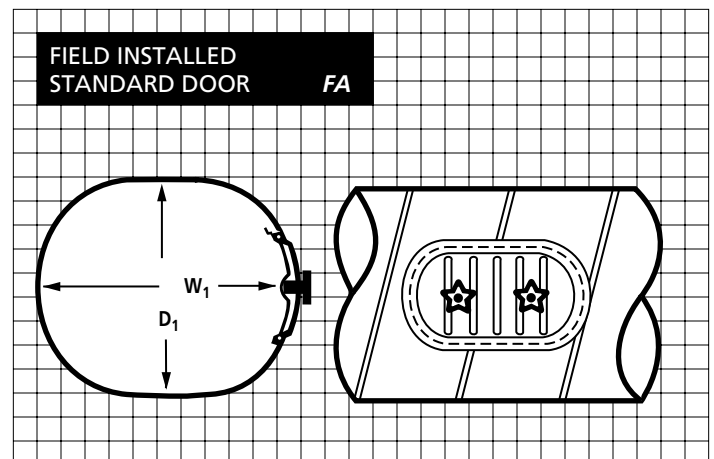
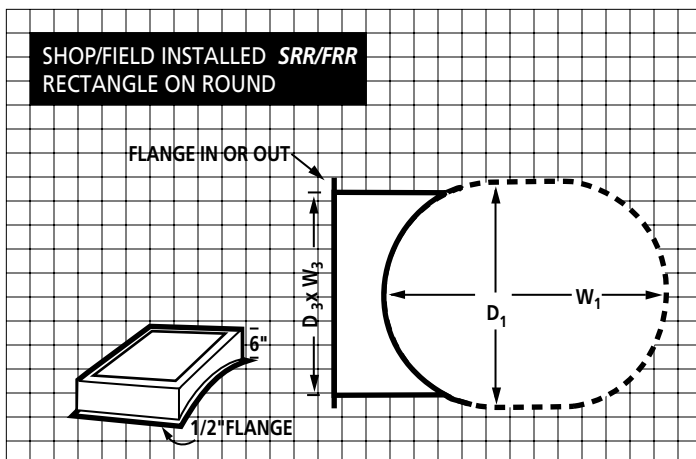
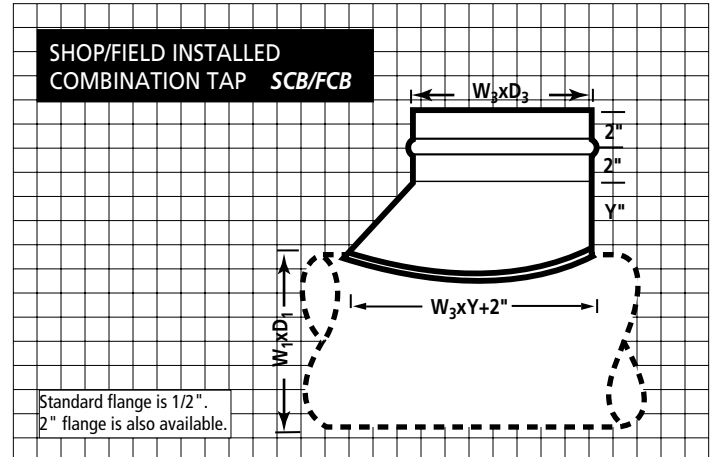
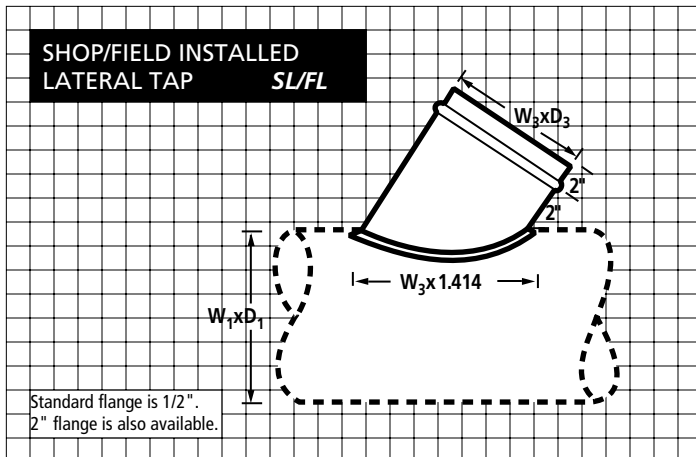
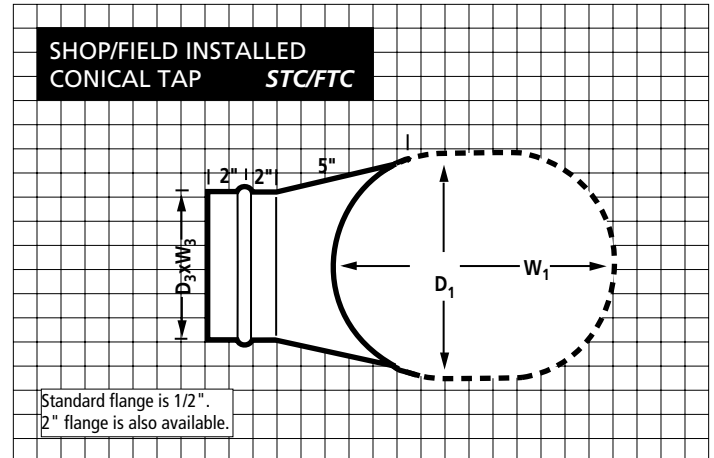
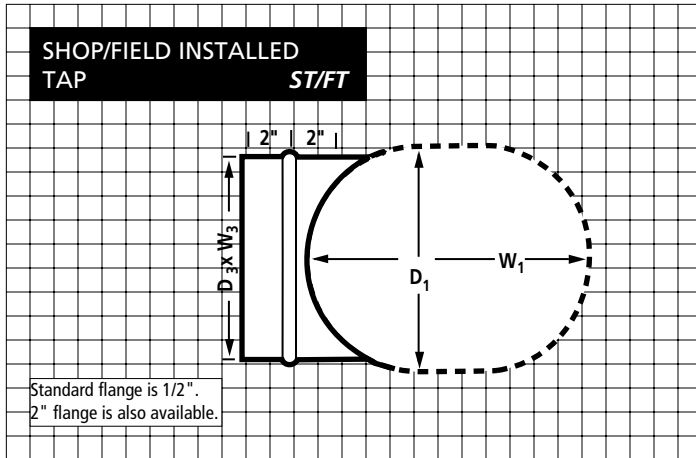
PRESSED BELL MOUTH GALVANIZED ONLY *PB*

D ₁	R
4"	.394"
5"	.472"
6"	.787"
7"	1.0"
8"	1.0"
9"	1.0"
10"	1.0"
12"	1.0"



Single Wall Oval ACCESSORIES

SHOP INSTALLED/ FIELD INSTALLED



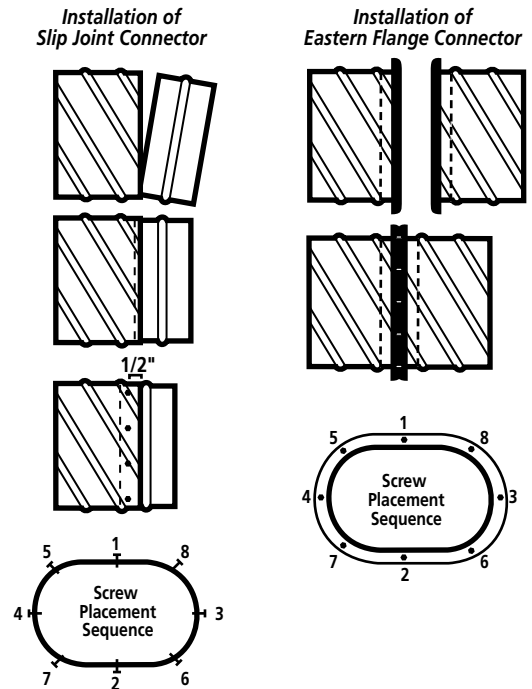


Single Wall Oval INSTALLATION

SINGLE WALL SLIP JOINT

Eastern Sheet Metal fittings are sized to slip into, and should be used with, Eastern Sheet Metal spiral duct. A tight fit is necessary to minimize friction loss and to promote proper sealing. Care should be taken during handling and installation to avoid dents and distortions that can cause improper fit or difficult installation.

1. Bring the bottom of the fitting collar into the spiral duct at a slight angle.
2. 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 heel of your hand or with your fist to help slip the fitting into the duct.
3. Apply duct sealer to this exposed area.
3. Push the fitting into the spiral duct until the stop bead meets the edge of the spiral duct.
4. 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.



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.

1. Place closed cell neoprene gasket on the face of one of the mating 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 at right. 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.

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