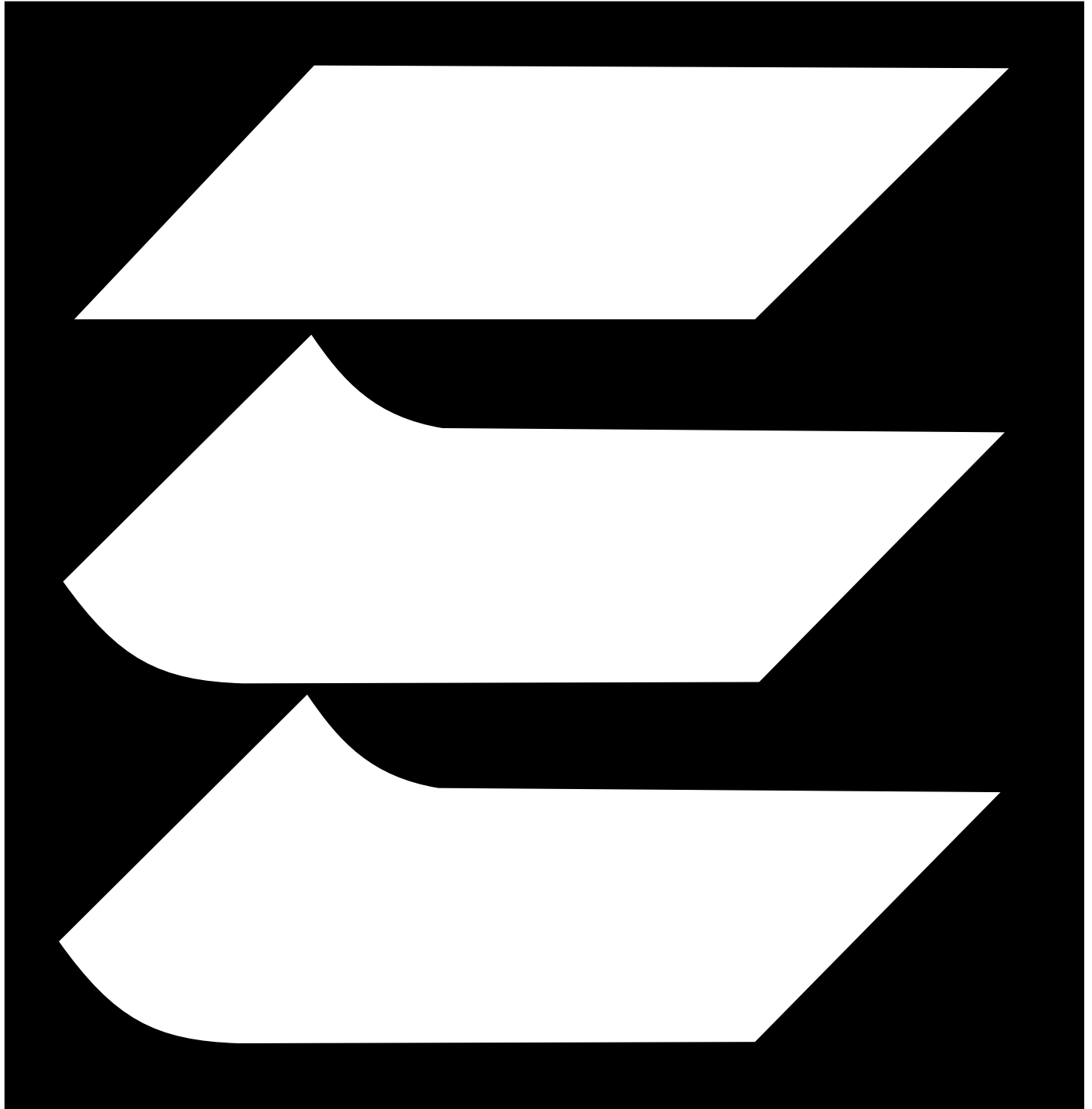




Single Wall
ROUND



SPIRAL PIPE & FITTINGS



Single Wall ROUND

SINGLE WALL ROUND SPIRAL DUCT AND FITTINGS CONSTRUCTION STANDARDS

Positive Pressure

Gauge selection for galvanized steel (ASTM A 653), paint grip steel, type 304 and 316 stainless steel, and Eastern Poly Coated Steel (PCS).*

Fittings are spot welded and/or gorelocked through 40" diameter. All larger fittings are continuously welded except for PCS fittings. All fittings can be provided as continuously welded if required. All galvanized spiral pipe 6" and larger is corrugated. All spiral pipe from other materials will be smooth.

DUCT DIAMETER	2005 SMACNA 10" WG		1995 SMACNA 2" WG		1995 SMACNA 10" WG	
	SPIRAL PIPE	FITTINGS	SPIRAL PIPE	FITTINGS	SPIRAL PIPE	FITTINGS
3"-6"	26	26	26	26	26	26
7"-8"	26	26	26	26	26	26
9"-10"	26	26	26	26	26	26
11"-12"	26	26	26	26	26	24
13"-14"	26	26	26	26	26	24
15"-16"	26	26	24	24	24	22
17"-18"	26	26	24	24	24	22
19"-24"	26	24	24	24	24	22
25"-26"	24	22	24	24	24	22
27"-36"	24	22	24	22	22	20
37"-42"	24	22	22	20	22	20
43"-48"	22	20	22	20	20	20
49"-50"	22	20	22	20	20	20
51"-60"	22	20	20	18	18	18
61"-66"	22	18	18	16	18	16
67"-84"	20	18	18	16	18	16

DUCT DIAMETER	1985 SMACNA 2" WG		1985 SMACNA 10" WG		1975 SMACNA 10" WG	
	SPIRAL PIPE	FITTINGS	SPIRAL PIPE	FITTINGS	SPIRAL PIPE	FITTINGS
3"-8"	26	26	26	24	26	20
9"-14"	26	26	26	24	26	20
15"-26"	24	24	24	22	24	20
27"-36"	24	22	22	20	22	20
37"-50"	22	20	20	20	20	18
51"-60"	20	18	18	18	18	18
61"-84"	18	16	18	16	18	16

Gauge selection for aluminum type 3003.

Fittings are spot welded and/or gorelocked through 40" diameter. All larger fittings are continuously welded.

All fittings can be provided as continuously welded if required. All pipe 14" and larger is corrugated.

DUCT DIAMETER	2005 SMACNA 2" WG: POSITIVE		2005 SMACNA 2" WG: NEGATIVE	
	SPIRAL PIPE	FITTINGS	SPIRAL PIPE	FITTINGS
3"-8"	0.025"	0.032"	0.025"	0.040"
9"-14"	0.025"	0.032"	0.032"	0.040"
15"-26"	0.032"	0.040"	0.040"	0.050"
27"-36"	0.040"	0.050"	0.050"	0.063"
37"-50"	0.050"	0.063"	0.063"	0.071"
51"-60"	0.063"	0.071"	consult factory	0.090"
61"-84"	consult factory	0.090"	consult factory	consult factory

* Because of the limitations of the construction methods we can use, Eastern PCS may require additional sealing in the field. Eastern will provide sealer as required for this, but will not be liable for labor for this sealing.

While the use of this type of material is widespread, ESM urges engineers always to consider the use of stainless steel whenever possible for systems other than underground.

Eastern PCS is not recommended for use in high visibility exposed applications. Please refer to the Eastern PCS Product Guide for more information.



Single Wall ROUND

SINGLE WALL ROUND DUCT AND FITTINGS CONSTRUCTION STANDARDS

Negative Pressure

Gauge selection for galvanized steel (ASTM A 653), paint grip steel, type 304 and 316 stainless steel, and Eastern Poly Coated Steel (PCS).*

Fittings are spot welded and/or gorelocked through 40" diameter. All larger fittings are continuously welded except for PCS fittings. All fittings can be provided as continuously welded if required. All galvanized spiral pipe 6" and larger is corrugated. All spiral pipe from other materials will be smooth.

MAX. DUCT DIAM.	2005 SMACNA 2" WG				2005 SMACNA 4" WG				2005 SMACNA 6" WG			
	SPIRAL PIPE	REIN. & SPACNG	FITTINGS	REIN. & SPACNG	SPIRAL PIPE	REIN. & SPACNG	FITTINGS	REIN. & SPACNG	SPIRAL PIPE	REIN. & SPACNG	FITTINGS	REIN. & SPACNG
6"	26		26		26		26		26		26	
8"	26		26		26		26		26		26	
10"	26		26		26		26		26		24	
12"	26		26		26		24		24		24	
14"	26		24		24		22		24		22	
16"	26		24		24		22		26	A 12	22	A 12
18"	26	A 12	24	A 12	26	A 12	24	A 12	26	A 12	22	A 12
20"	26	A 12	24	A 12	26	A 12	24	A 12	26	A 12	22	A 12
22"	26	A 12	24	A 12	26	A 12	24	A 12	24	A 12	22	A 12
24"	26	A 12	24	A 12	26	A 12	24	A 12	24	A 12	22	A 12
30"	26	A 12	24	A 12	24	A 12	22	A 12	24	A 12	20	A 12
36"	26	A 12	24	A 12	24	A 12	22	A 12	22	B 12	20	B 12
42"	26	A 12	22	A 12	22	B 12	20	B 12	22	B 12	18	B 12
48"	24	A 12	22	A 12	22	B 12	20	B 12	20	B 12	18	B 12
54"	24	B 12	22	B 12	22	B 12	18	B 12	20	C 12	18	C 12
60"	24	B 12	22	B 12	22	C 12	18	C 12	20	C 12	18	C 12
66"	24	B 12	20	B 12	20	C 12	18	C 12	18	E 12	16	E 12
72"	22	B 12	20	B 12	20	D 12	18	D 12	18	E 12	16	E 12
78"	22	C 12	20	C 12	20	E 12	18	E 12	18	E 12	16	E 12
84"	22	C 12	20	C 12	20	E 12	18	E 12	18	F 12	16	F 12
90"	22	D 12	18	D 12	18	E 12	16	E 12	18	G 12	16	G 12
96"	22	E 12	18	E 12	18	E 12	16	E 12	18	G 12	16	G 12

MAX. DUCT DIAM.	2005 SMACNA 10" WG				1985 SMACNA 2" WG				RIDCS CLASS 1 2" WG			
	SPIRAL PIPE	REIN. & SPACNG	FITTINGS	REIN. & SPACNG	SPIRAL PIPE	REIN. & SPACNG	FITTINGS	REIN. & SPACNG	SPIRAL PIPE	REIN. & SPACNG	FITTINGS	REIN. & SPACNG
6"	26		26		26		24		22		22	
8"	26		24		26		24		22		22	
10"	26		24		26		24		22		22	
12"	24		22		26		24		22		22	
14"	24	A 12	22	A 12	26		24		22		22	
16"	24	A 12	22	A 12	24		22		22		22	
18"	24	A 12	22	A 12	24		22		20		20	F1 20
20"	24	A 12	22	A 12	24		22		20		20	F1 20
22"	24	A 12	20	A 12	24		22		18		20	F1 20
24"	22	A 12	20	A 12	24		20		18		20	F1 20
30"	22	A 12	18	A 12	22		20		16		18	F1 20
36"	20	B 12	18	B 12	22		20		16		16	F1 12
42"	20	B 12	18	B 12	20		18		20	F1 12	16	F1 12
48"	18	C 12	16	C 12	20		18		20	F1 12	14	F1 12
54"	18	D 12	16	D 12	18		16		20	F1 12	14	F1 12
60"	18	E 12	16	E 12	18		16		18	F1 12	12	F1 12
66"	18	E 12	16	E 10	16		14		18	F1 12	12	F1 12
72"	18	F 12	16	F 10	16		14		18	F1 12	12	F1 12
78"	16	G 12	16	G 6	16		14		18	F1 12	10	F1 12
84"	16	G 12	16	G 6	16		14		18	F1 12	10	F1 12
90"	16	G 12	16	G 6	NA		NA		18	F1 12	10	F1 12
96"	16	G 12	16	G 6	NA		NA		18	F1 12	10	F1 12

A,B,C,D,E,F,G = Angle ring reinforcements per SMACNAS 2005 HVAC DCS Table 3-2

F1 = F1 reinforcement per SMACNA RIDCS, Chapter 12

* Refer to note on the bottom of page 2.

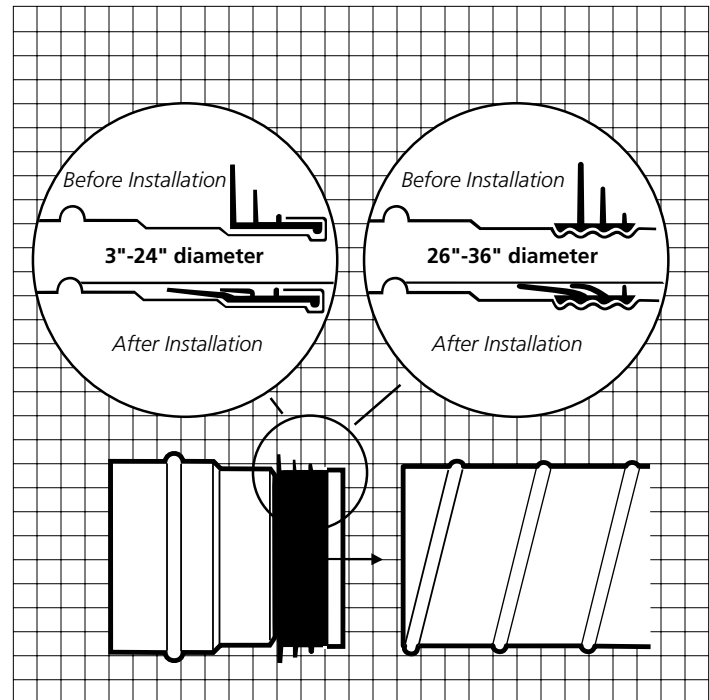


EASTERN TIGHT™

EASTERN TIGHT Fittings will save you money by reducing installation time by eliminating joint sealing. They feature a triple-lipped EPDM rubber gasket, held in place with a 180° hemmed edge, that provides a reliable, airtight seal. EASTERN TIGHT Fittings are suitable for use for temperatures ranging from -20° F to 212° F. When tested in accordance with ASTM E84, EASTERN TIGHT Fittings have flame-spread and smoke-developed ratings of 0/0.

Full-bodied fittings, couplings, reducers, elbows, and taps are available in even and odd sizes from 3" through 10" in diameter, and even sizes up to 36" in diameter. Fittings are secured to the duct with self-tapping screws uniformly located around the circumference per SMACNA standards.

EASTERN TIGHT Fittings are available in single-wall construction, fabricated from galvanized, galvanized and stainless steel. EASTERN TIGHT Fittings have been independently tested and meet SMACNA Class 3 leakage standards for -2" WG to +10" WG.



EASTERN TIGHT ROUND SPIRAL DUCT AND FITTINGS CONSTRUCTION STANDARDS

Gauge selection for galvanized steel (ASTM A653).

Fittings are assembled with stitch welds, spot welds, or standing seams and are sealed. All galvanized spiral pipe 6" and larger is corrugated. All spiral pipe from other materials will be smooth.

DUCT DIAMETER	2005 SMACNA 10" WG POSITIVE		2005 SMACNA 2" WG NEGATIVE	
	SPIRAL PIPE	FITTINGS	SPIRAL PIPE	FITTINGS
3"-6"	26	26	26	26
7"-18"	26	26	26	26
9"-10"	26	26	26	26
11"-12"	26	26	26	26
13"-14"	26	26	26	24
15"-16"	26	26	26	24
17"-18"	26	26	26R	24R
19"-20"	26	24	26R	24R
21"-22"	26	24	26R	24R
23"-24"	26	24	26R	24R
25"-30"	24	22	26R	24R
31"-36"	24	22	26R	24R

R = Reinforcement ring at 12' maximum spacing. Individual fittings may not have reinforcement.

EASTERN TIGHT Fittings have been tested in our standard gauges for -2" to +10" WG and met SMACNA Class 3 leakage standards.

EASTERN TIGHT Fittings and Couplings are covered by one or more of the following U.S. Patents: D437,034; D435,090; D430,482; D427,673; D427,668; D427,667; D553,238; D551,336; 7287407; D518,885; D517,679; D516,698; D516,697. Other patents pending.

For more information, refer to Eastern Sheet Metal's EASTERN TIGHT Product Guide.



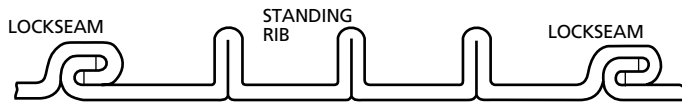
Single Wall Round CONSTRUCTION



SPIRAL PIPE LOCK SEAM (RL—1)

GALVANIZED
STAINLESS STEEL
ALUMINUM
PAINT GRIP
POLY VINYL COATED
PERFORATED

Available Gauges
28-14
26-18
22-14
26-16
26-18
22



SPIRORIB (TRIPLE RIB REINFORCED) SPIRAL PIPE (RL—1)

GALVANIZED
PAINT GRIP
PERFORATED

Available Gauges
28-24
28-24
26-24



SEALER
LAP SEAM
spot weld
seam weld
stitch weld
button punch
rivet

GALVANIZED
STAINLESS STEEL
ALUMINUM
PAINT GRIP
POLY VINYL COATED

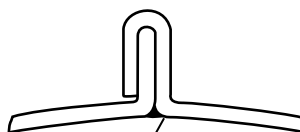
Available Gauges
26-18
26-18
22-18
26-18
26-18



BUTT-WELDED SEAM

GALVANIZED
STAINLESS STEEL
ALUMINUM
PAINT GRIP
HOT ROLLED

Available Gauges
20-10
22-10
16-1/4"
20-16
16-1/4"



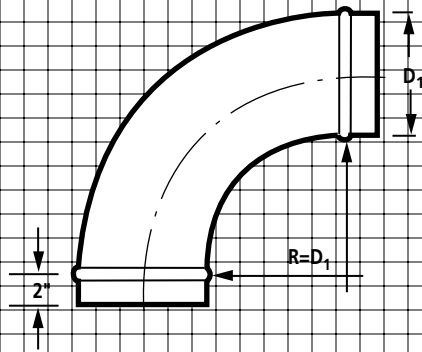
SEALER
GORELOCKED SEAM

GALVANIZED
STAINLESS STEEL
ALUMINUM
PAINT GRIP
POLY VINYL COATED

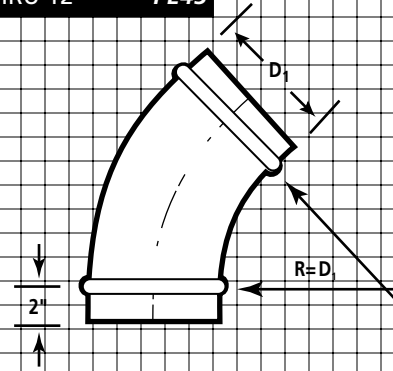
Available Gauges
26-18
26-22
24-16
26-18
26-18

Single Wall Round **ELBOWS**

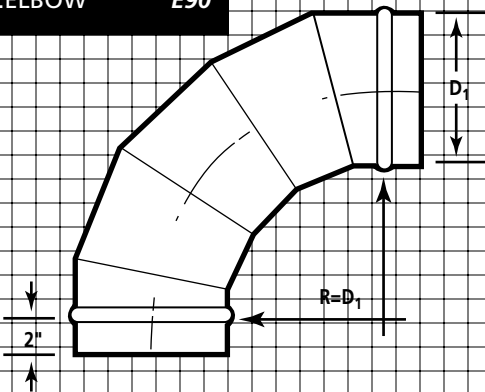
90° PRESSED ELBOW
3" DIA. THRU 12" **PE90**



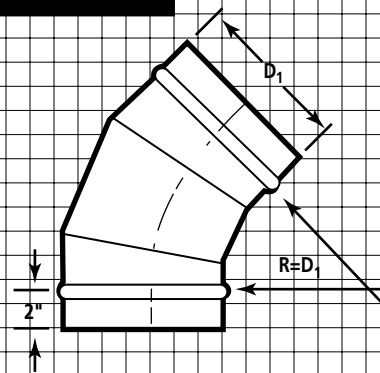
45° PRESSED ELBOW
3" DIA. THRU 12" **PE45**



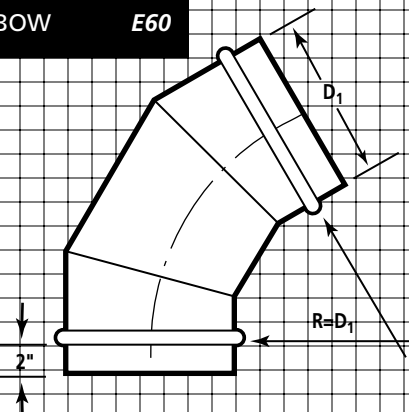
90° 5-PC. ELBOW **E90**



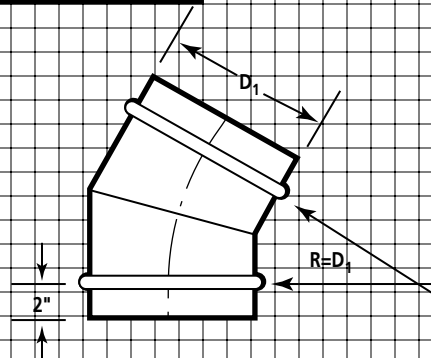
45° 3-PC. ELBOW **E45**



60° 3-PC. ELBOW **E60**



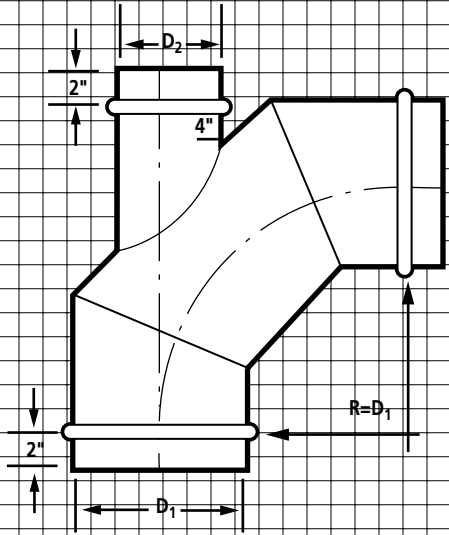
22½° AND 30° 2-PC. ELBOW
E22/E30





Single Wall Round ELBOWS

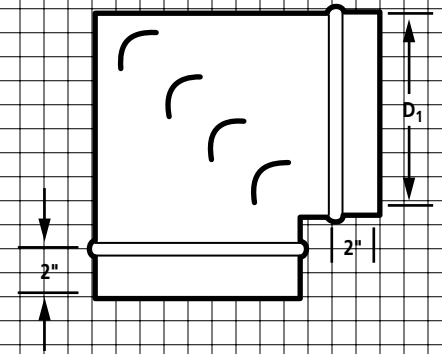
90° 3-PC. ELBOW WITH
HEEL TAP **E90L**



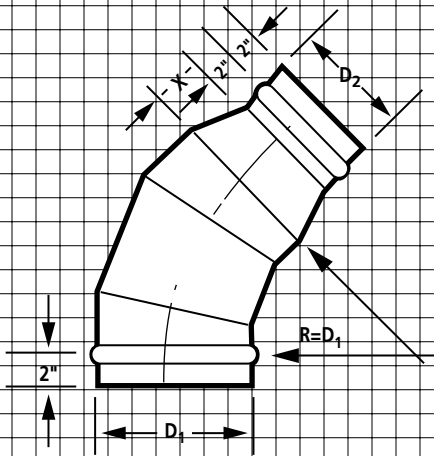
90° 2-PC. ELBOW
E290/EV290

With or without vanes.

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

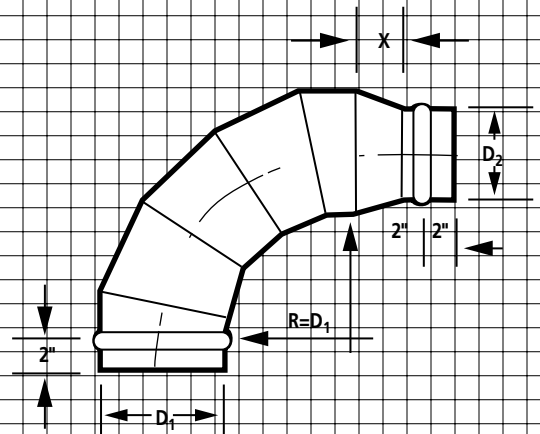


45° 3-PC. ELBOW
WITH REDUCER **E45R**



X = D₁ - D₂
4" Minimum

90° 5-PC. ELBOW
WITH REDUCER **E90R**

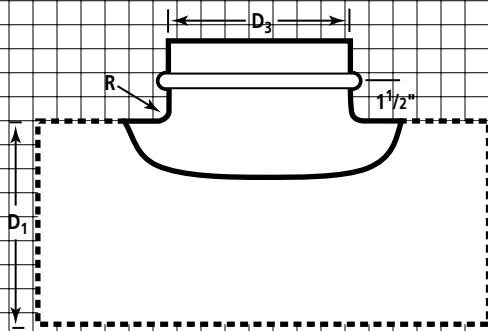


X = D₁ - D₂
4" Minimum

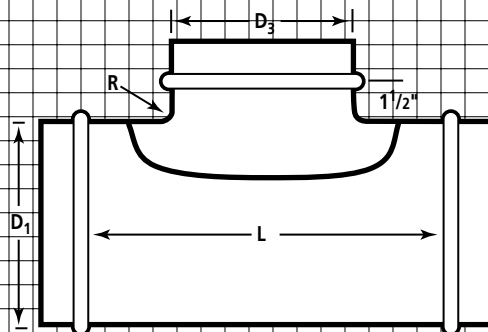


Single Wall Round PRESSED TEES

**FIELD INSTALLED PRESSED
TAP PFT**



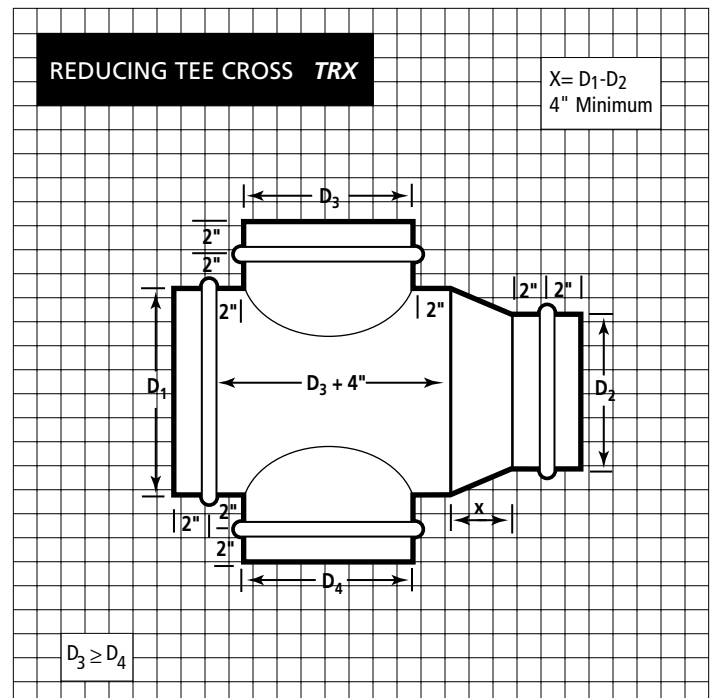
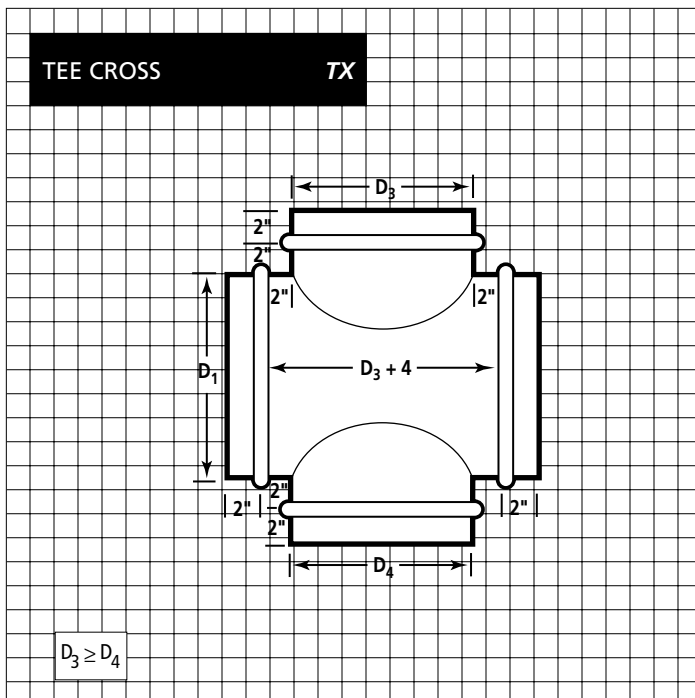
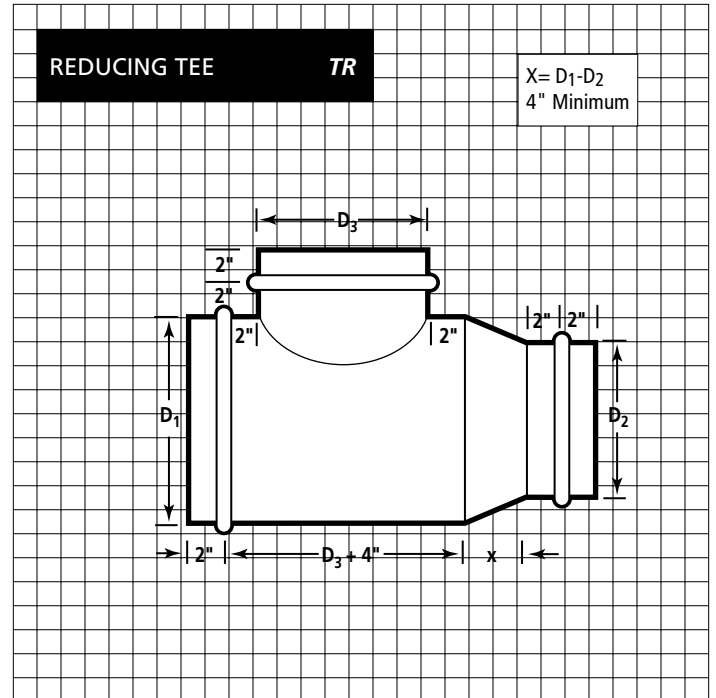
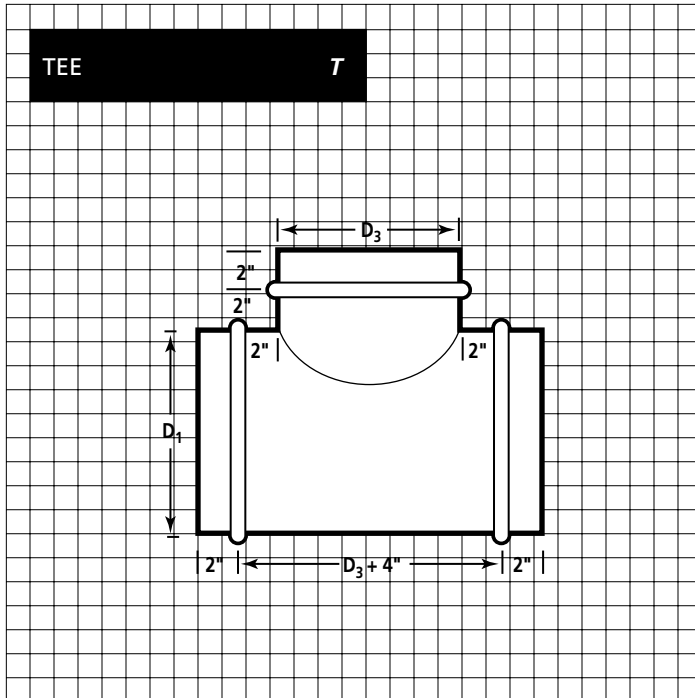
PRESSED TEE PT



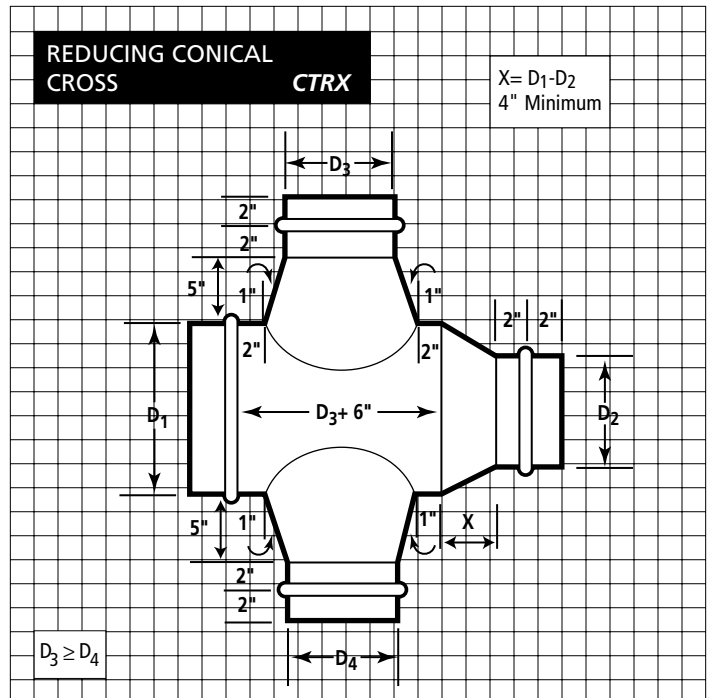
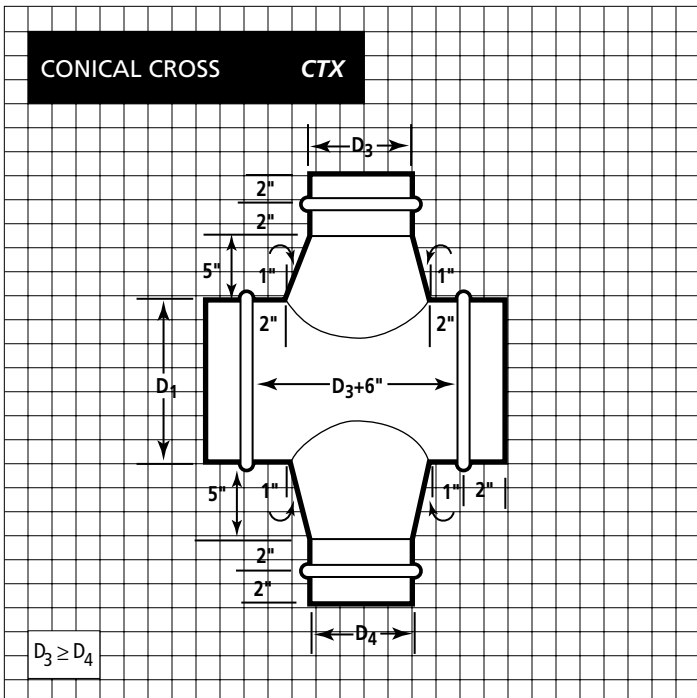
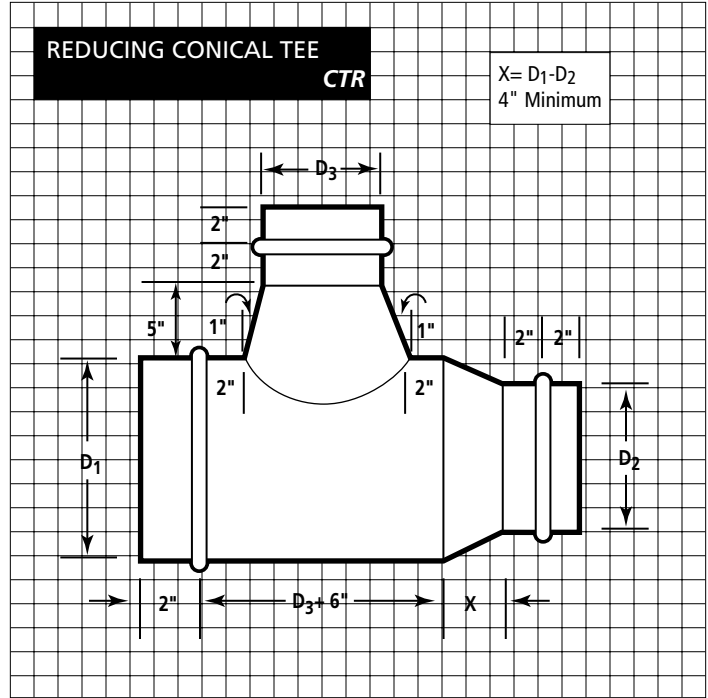
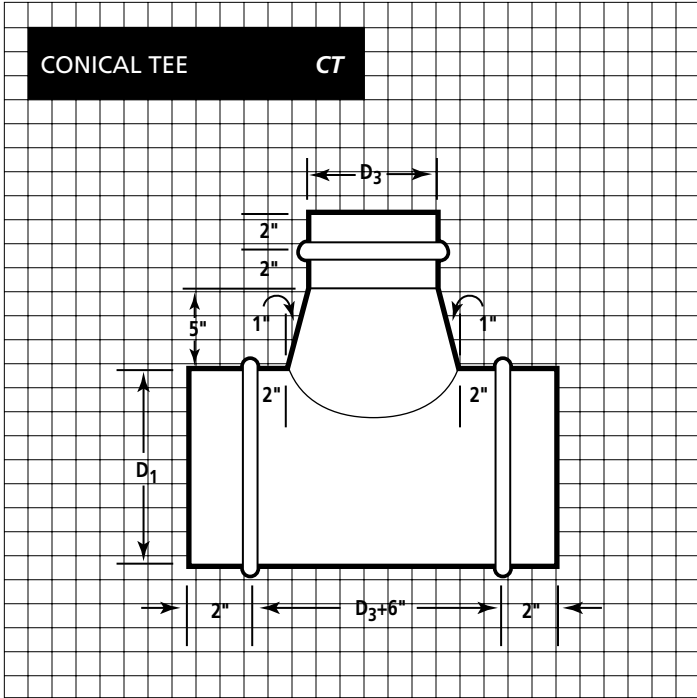
D ₃ /D ₁	R	L (PT)
4"/4"	.394"	14"
4"/6"	.394"	14"
4"/8"	.394"	14"
4"/10"	.394"	14"
4"/12"	.394"	14"
6"/6"	.787"	16"
6"/8"	.787"	16"
6"/10"	.787"	16"
6"/12"	.787"	16"
6"/14"	.787"	16"
6"/16"	.787"	16"
6"/18"	.787"	16"
8"/8"	.787"	18"
8"/10"	.787"	18"
8"/12"	.787"	18"
8"/14"	.787"	18"
8"/16"	.787"	18"
8"/18"	.787"	18"
8"/20"	.787"	18"
8"/22"	.787"	18"
8"/24"	1.0"	20"
10"/10"	1.0"	20"
10"/12"	1.0"	20"
10"/14"	1.0"	20"
10"/16"	1.0"	20"
10"/18"	1.0"	20"
10"/20"	1.0"	20"
10"/22"	1.0"	20"
10"/24"	1.0"	20"
12"/12"	1.0"	22"
12"/14"	1.0"	22"
12"/16"	1.0"	22"
12"/18"	1.0"	22"
12"/20"	1.0"	22"
12"/22"	1.0"	22"
12"/24"	1.0"	22"



Single Wall Round STRAIGHT TEES

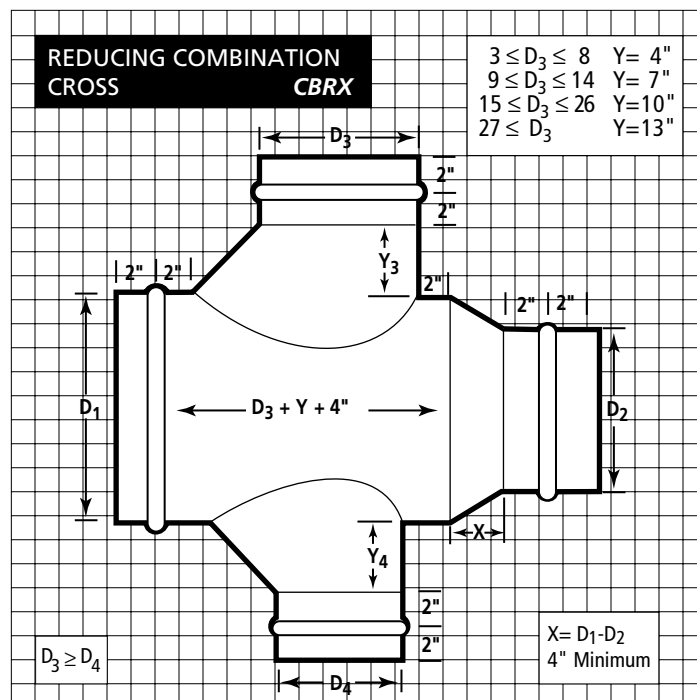
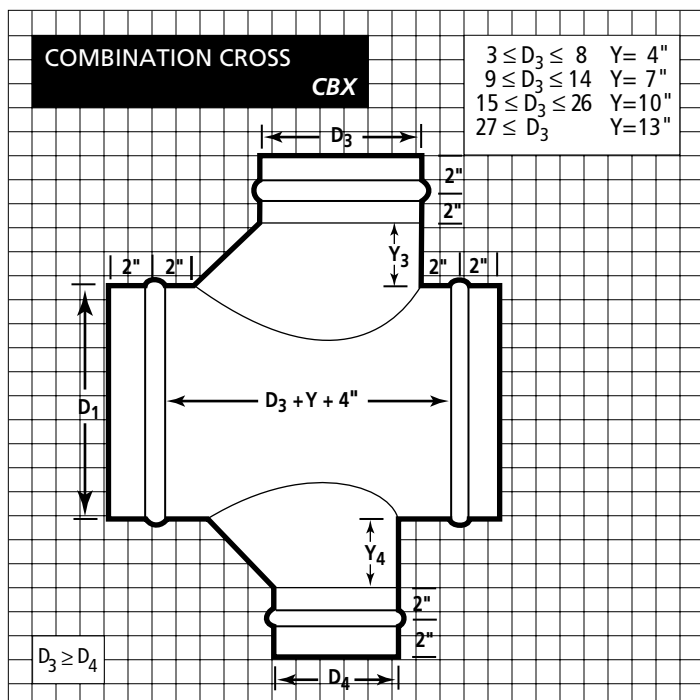
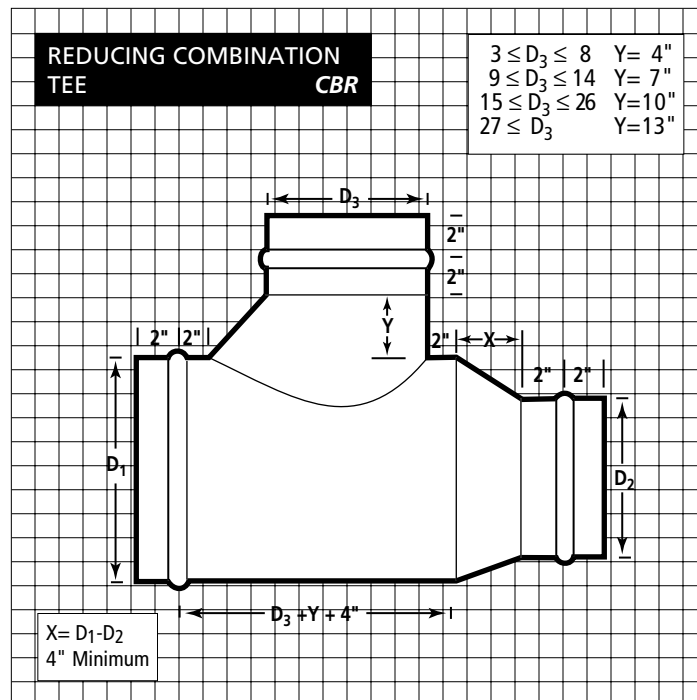
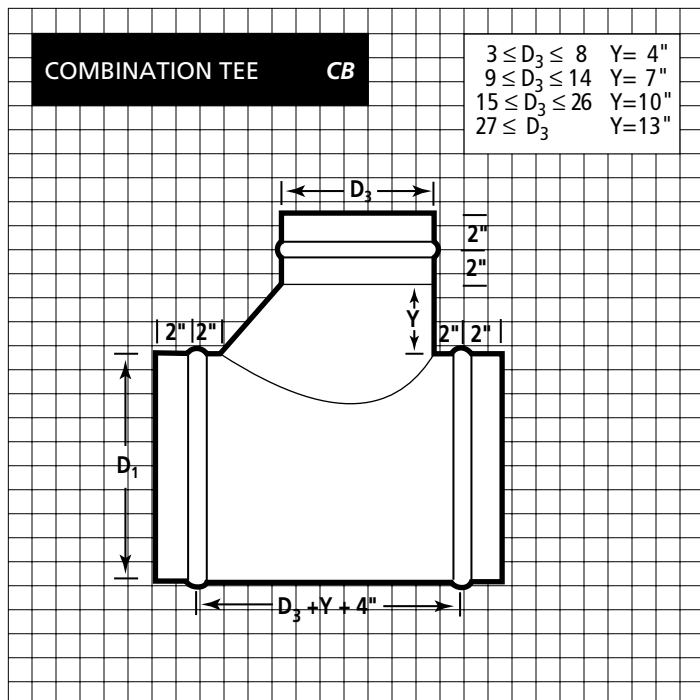


Single Wall Round CONICAL TEES



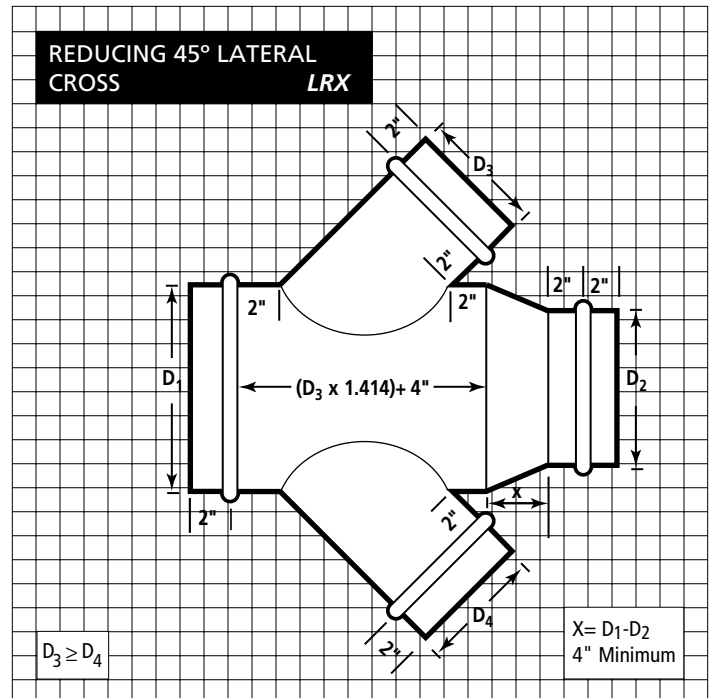
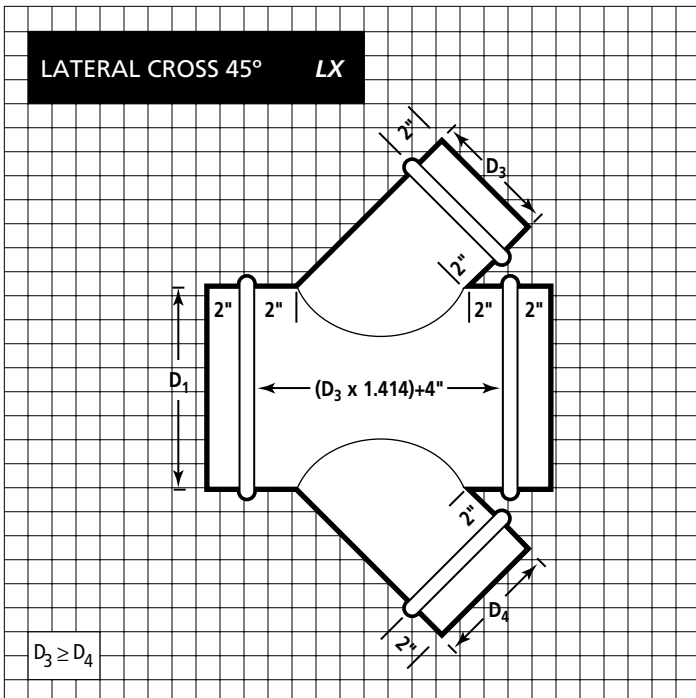
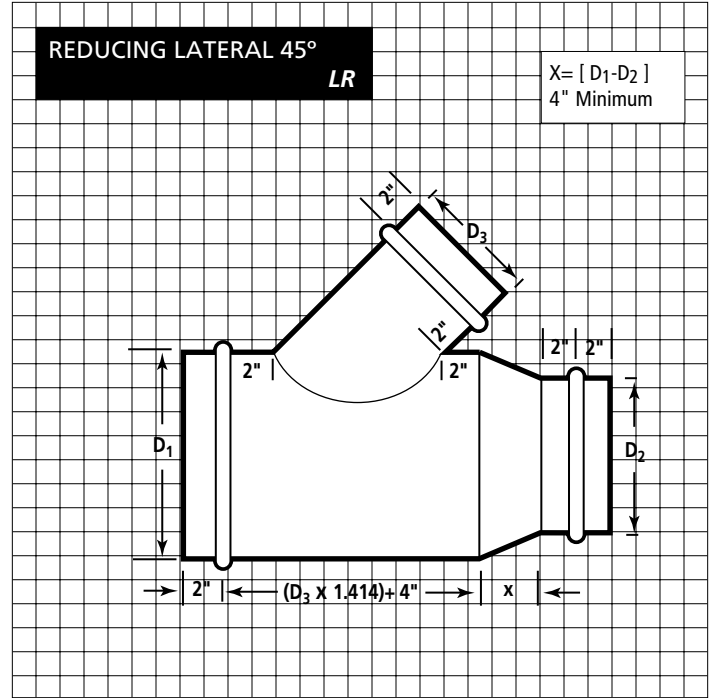
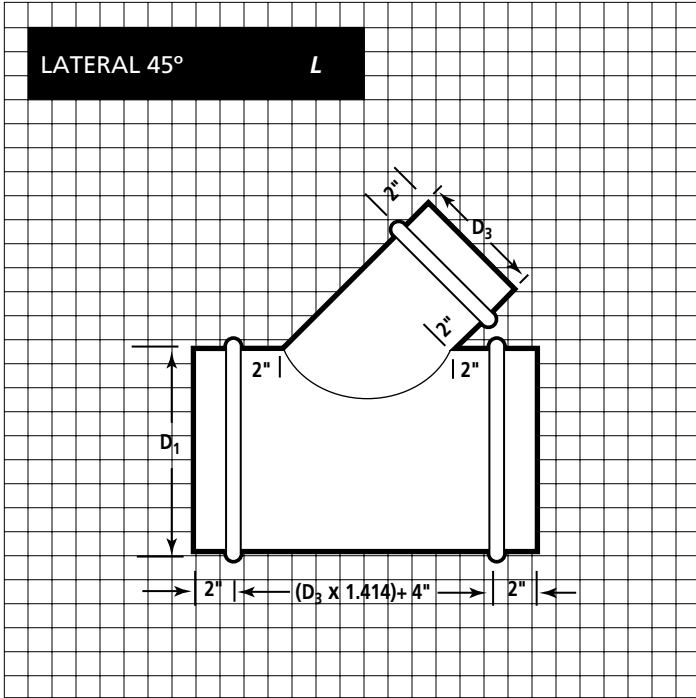


Single Wall Round COMBINATION TEES



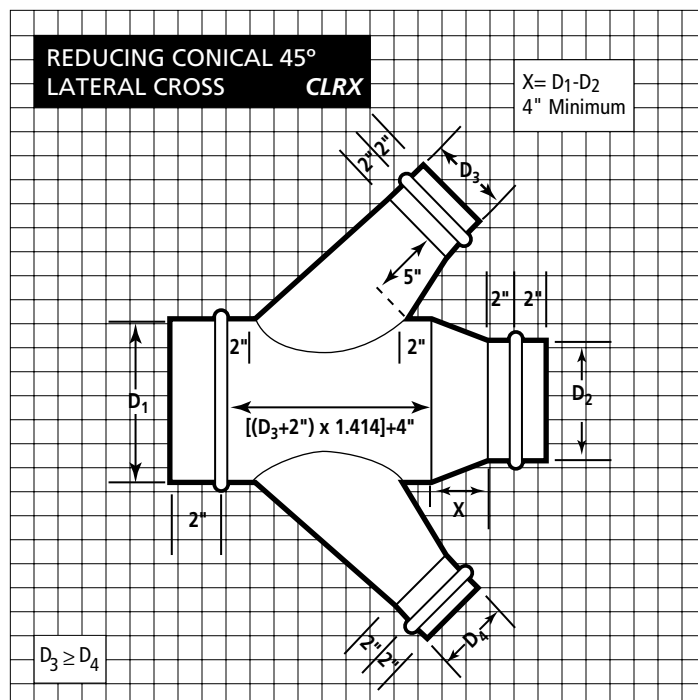
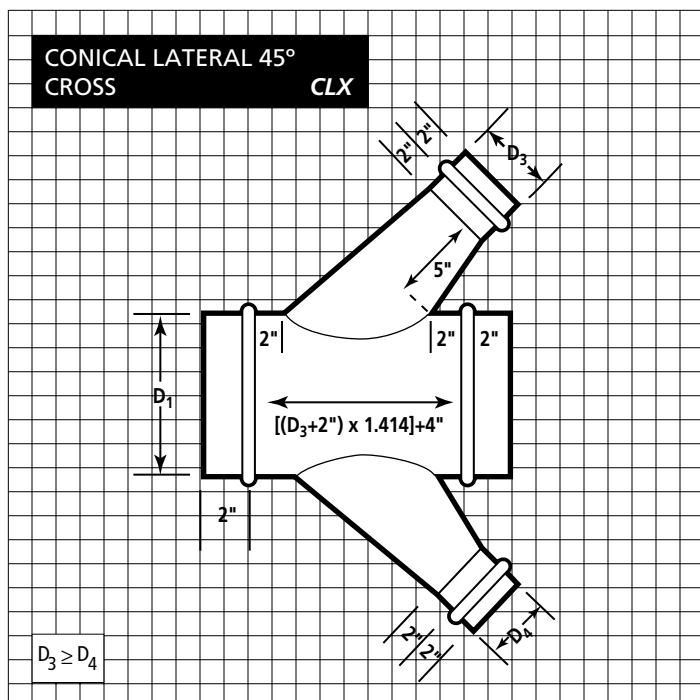
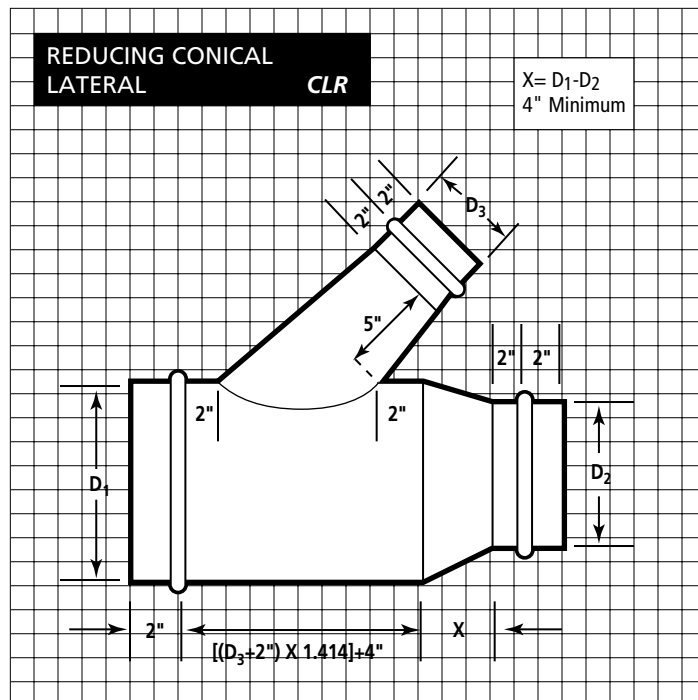
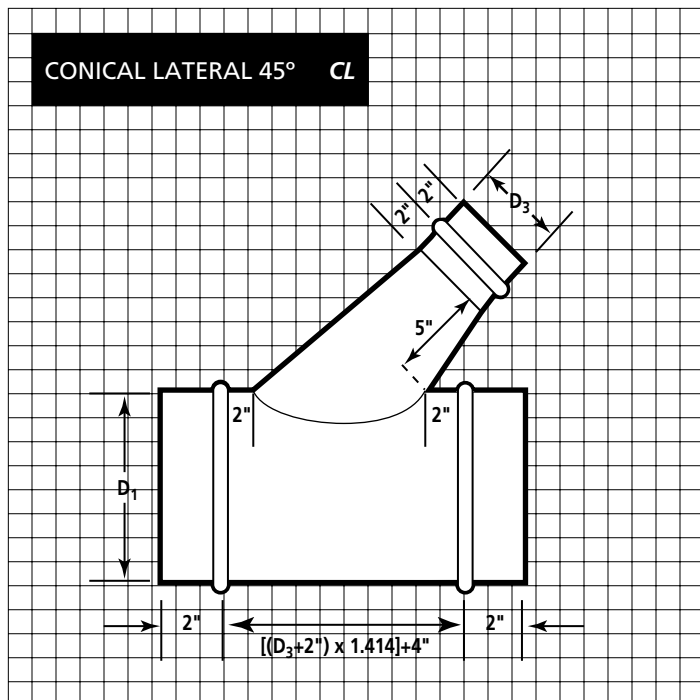


Single Wall Round STRAIGHT LATERALS





Single Wall Round CONICAL LATERALS

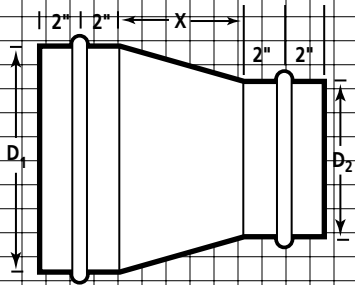




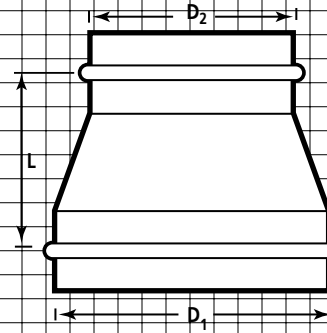
Single Wall Round REDUCERS

CONCENTRIC REDUCER *RD*

$X = D_1 - D_2$
4" Minimum



PRESSED REDUCER *PRD*

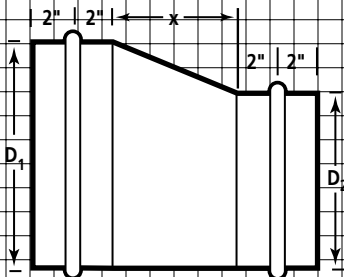


D ₁ /D ₂	L
4" / 3"	1 1/4"
5" / 3"	2 1/4"
5" / 4"	1 1/4"
6" / 4"	3 1/4"
6" / 5"	2 1/4"
7" / 5"	3 3/4"
7" / 6"	2 1/4"
8" / 5"	4 1/4"
8" / 6"	3 3/4"
8" / 7"	2 1/4"
9" / 6"	4 1/4"
9" / 7"	3 3/4"
9" / 8"	2 1/4"
10" / 6"	5 1/4"
10" / 7"	4 1/4"
10" / 8"	3 3/4"
10" / 9"	2 1/4"
12" / 8"	5 1/4"
12" / 9"	4 1/4"
12" / 10"	3 3/4"

Protected by US Patent 6,548,760

ECCENTRIC REDUCER *RDE*

$X = 2 [D_1 - D_2]$
4" Minimum





Single Wall Round MISCELLANEOUS

DAMPER *D*

D ₁
3"
4"
5"
6"
7"
8"
9"
10"
12"
14"
16"
18"
20"
22"
24"

Dampers come standard with:

- 3/8" locking handle
- Nylon bushings
- Insulation stand off

PIPE COUPLINGS *PCP*

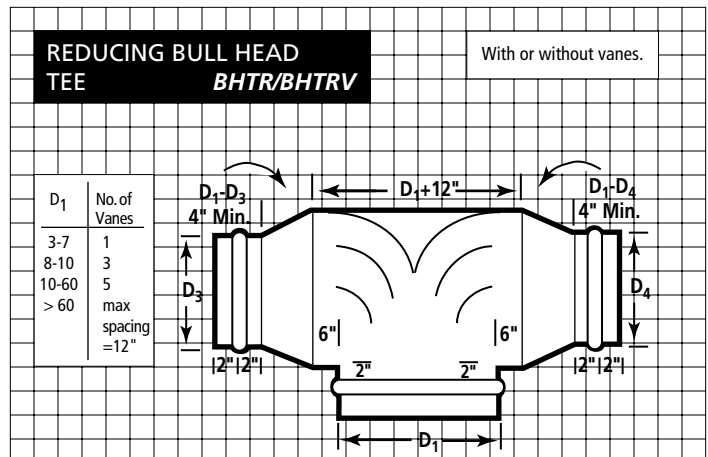
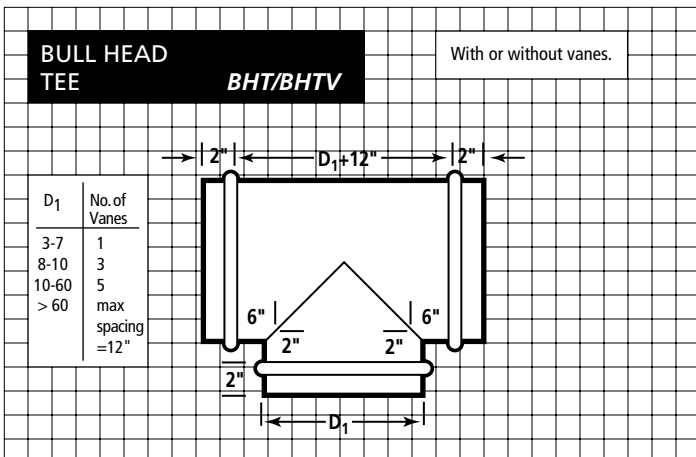
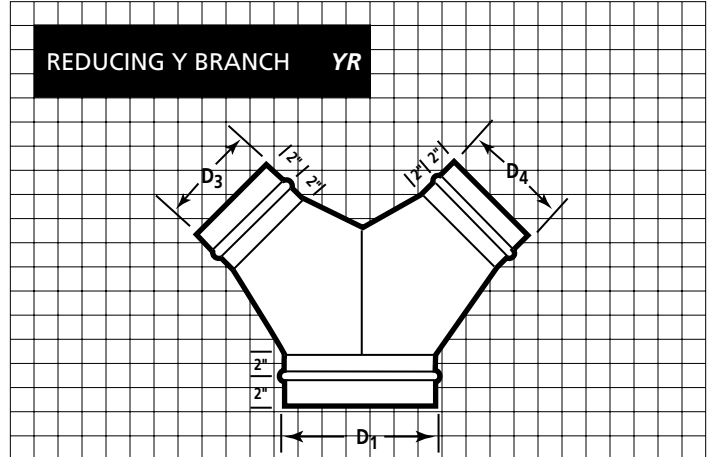
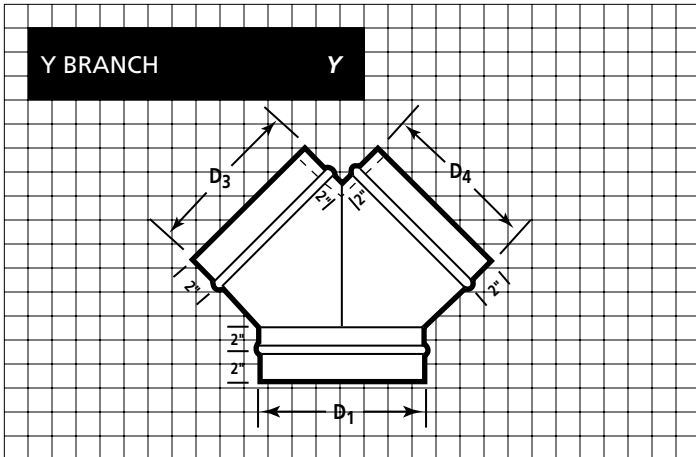
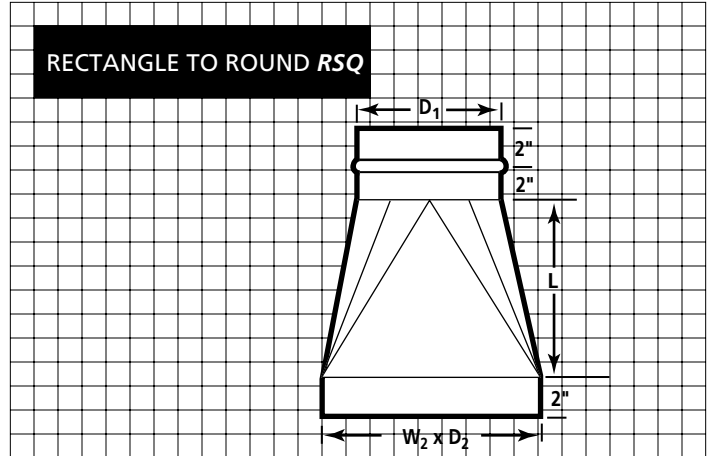
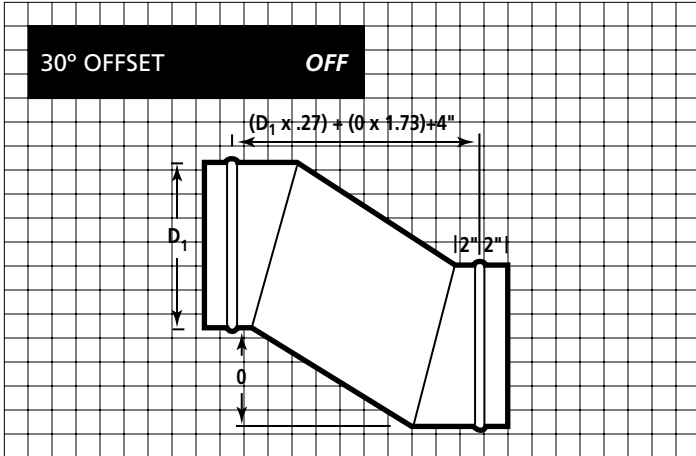
FITTING COUPLINGS
FCP

PRESSED END CAP *PEC*

END CAP *EC*



Single Wall Round MISCELLANEOUS





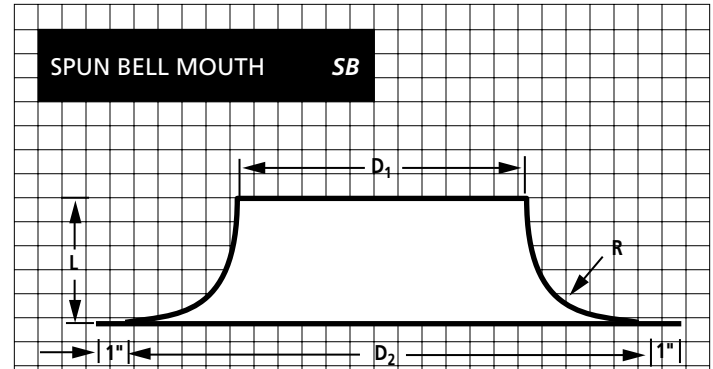
Single Wall Round MISCELLANEOUS

RECTANGULAR ACCESS SECTION RTA

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.



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"

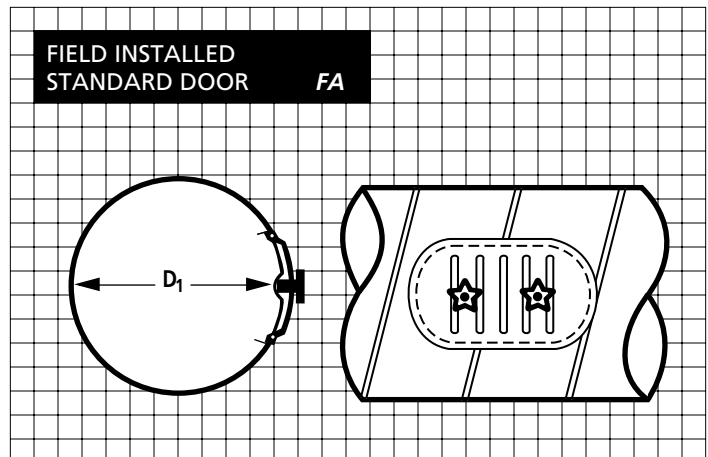
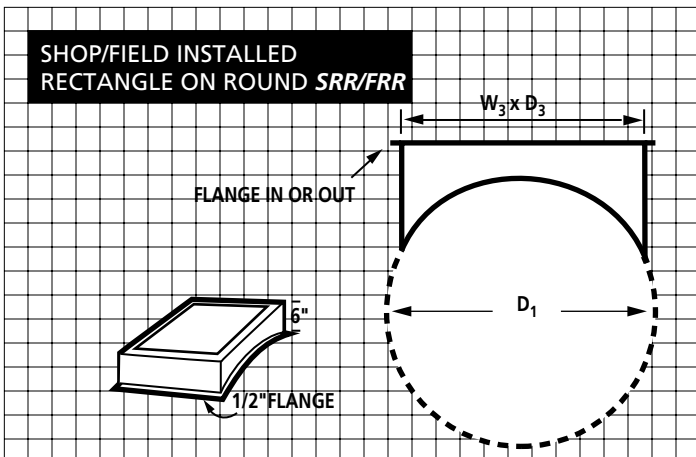
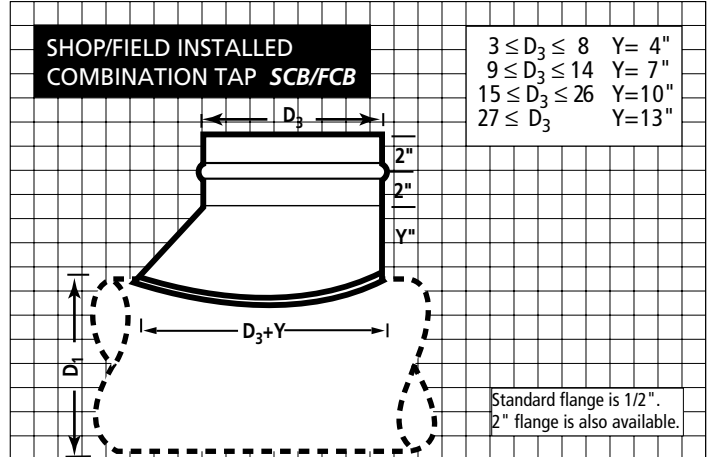
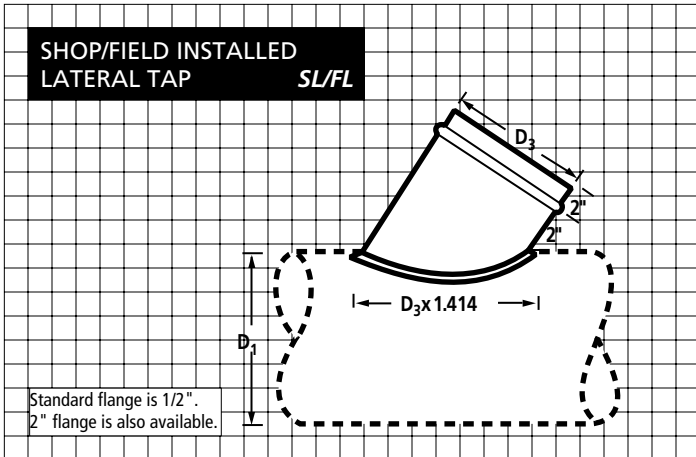
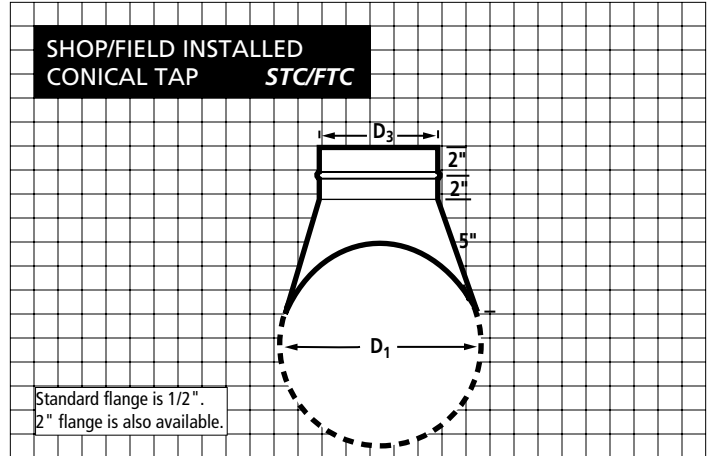
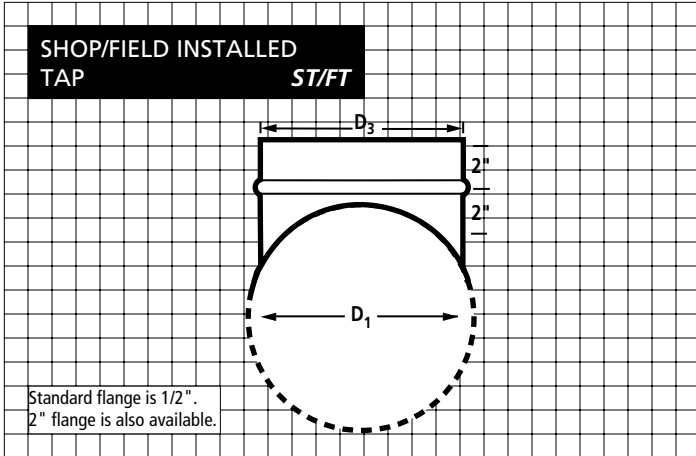
PRESSED BELL MOUTH GALVANIZED ONLY PB

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 Round ACCESSORIES

SHOP INSTALLED/ FIELD INSTALLED





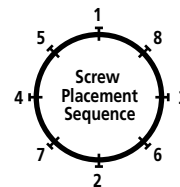
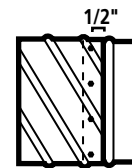
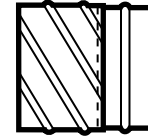
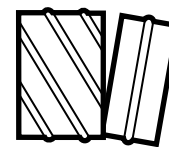
Single Wall Round INSTALLATION

SINGLE WALL SLIP JOINT

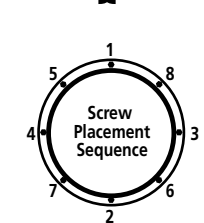
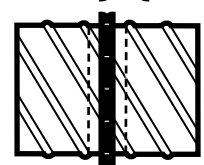
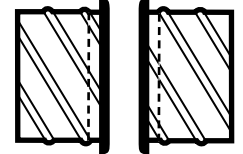
Eastern Sheet Metal fittings are sized to slip into, and should be used with, Eastern Sheet Metal spiral duct. A tight fit is necessary to minimize friction loss and to promote proper sealing. Care should be taken during handling and installation to avoid dents and distortions that can cause improper 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. Skip this step if installing Eastern Tight fittings.
4. Push the fitting into the spiral duct until the stop bead meets the edge of the spiral duct.
5. 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.

Installation of
Slip Joint Connector



Installation of
Eastern Flange Connector



EASTERN FLANGE

Eastern Flanges come factory-mounted on fittings and spiral duct. Eastern Flanges are standard for all duct over 61" in diameter, but are available on smaller sizes.

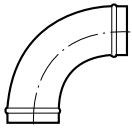
1. Place closed cell neoprene gasket on the face of one of the mating flanges.
2. Push the flanges together keeping the edges of the flanges aligned.
3. Clamp the flanges to help hold them in place.
4. Screw the flanges together with self-tapping screws per the chart at right. The screws should be evenly 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.

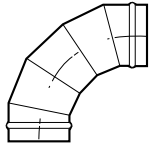
DUCT PERIMETER ROUND EQUIV.	#OF SCREWS	
	SLIP FIT	EASTERN FLANGE
4"-9"	3	NA
10"	3	4
11"-16"	3	6
17"-21"	4	8
22"-26"	5	10
27"-30"	6	12
32"-36"	7	14
38"-42"	8	16
44"-46"	9	18
48"-52"	10	20
54"-56"	11	22
58"-60"	12	24
62"-66"	NA	26
68"-72"	NA	28
74"-76"	NA	30
78"-84"	NA	32



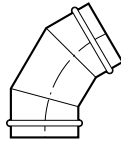
Single Wall ROUND



PE90



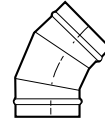
E90



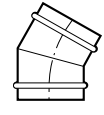
E60



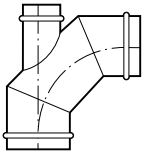
PE45



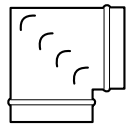
E45



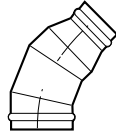
E22/E30



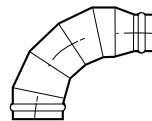
E90L



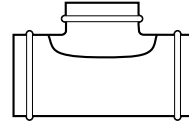
E290/EV290



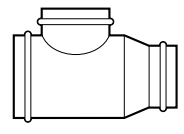
E45R



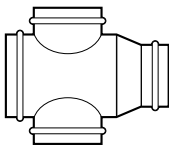
E90R



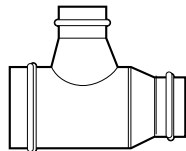
PT



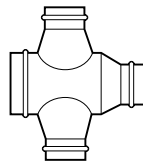
TR



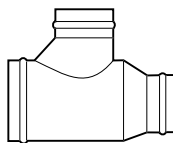
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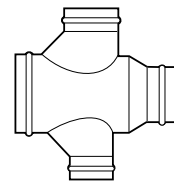
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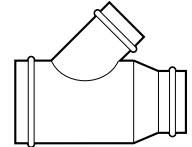
CTRX



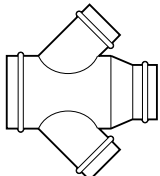
CBR



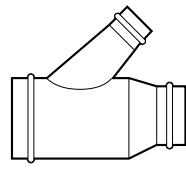
CBRX



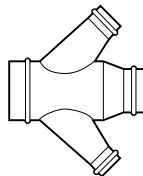
LR



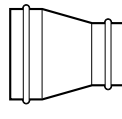
LRX



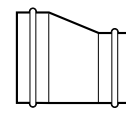
CLR



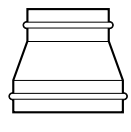
CLRX



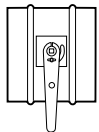
RD



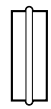
RDE



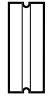
PRD



D



PCP



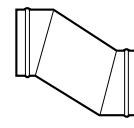
FCP



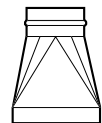
PEC



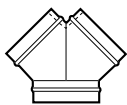
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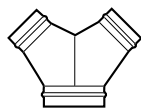
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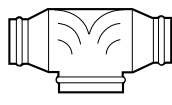
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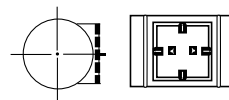
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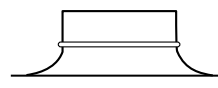
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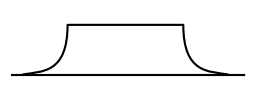
BHTR/BHTRV



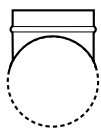
RTA



PB



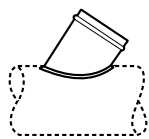
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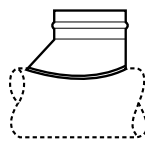
ST/FT



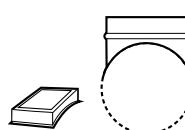
STC/FTC



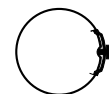
SL/FL



SCB/FCB



SRR/FRR



FA

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