

**LANGDON**  
Inc.

# Oval Duct & Fittings

**ALUMINUM, GALVANIZED, GALVANNEAL, PVC AND STAINLESS STEEL**

**9865 WAYNE AVENUE • CINCINNATI, OHIO 45215  
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## Single Wall Oval Duct & Fittings Specifications

*2 - 10" Inch Positive Static Pressure*

Major Dimension duct Width	Single Wall Oval Pipe Chart		Single Wall Oval Fittings Chart
	Spiral Seam Duct Gauge	Longitudinal Seam Duct Gauge	Gauge Of Fittings
to 24"	24	20	20
25" to 36"	22	20	20
37" to 48"	22	18	18
49" to 60"	20	18	18
61" to 70"	20	16	16
71" and up	18	16	16

**Static Pressure:** System \_\_\_\_\_ Supply \_\_\_\_\_ Return \_\_\_\_\_

**General :** Provide static pressure, quantity, type, size and connection for fittings and ductwork.

**Construction :** Single wall oval duct and fittings to be fabricated in accordance with 2005 SMACNA "HVAC Duct Construction Standards, Metal and Flexible". Ductwork and Fittings shall be the gauge for the pressure classification listed above and conform to the requirement in the referenced standards for metal thickness, conduits or tie rod applications and joint types. External reinforcement is to be field installed and coordinated with duct hanger.

**Metal :** Galvanized Steel of ASTM Standard A527 and 2005 SMACNA Standards.

**Fittings :** Radius type elbows with 1½ x centerline radius elbows are fabricated of multiple sections with maximum 22 1/2 degree change of directions per section with segmented standing seam or segmented seam spot welded construction. Concentric reducers 30 degree diverging, 90 degree straight and 45 degree type fittings for branch connections will be spot welded or mechanically attached to spiral and sealed per SMACNA class A specifications. All 90 and 45 degree type fittings are field installed unless specified otherwise.

**Oval pipe :** Spiral lockseam construction. Fabricated in 10'-0" lengths unless specified otherwise

**Connections :** Single wall fittings are small end slip connections, pipe to pipe is a coupler. Fasten screws at 15" intervals along the circumference ( three screws minimum on 14" diameter or less). Flange joints are available by request, when flange joints are used AccuFlange connections will be supplied on pipe and fittings.

**Sealant :** Non- hardening, non- migrating mastic or liquid elastic sealant specifically for sealing fittings or longitudinal seams in ductwork. (Seal class A or B, N/A for seal class C and 2" W.G.)

## Double Wall Oval Pipe & Fittings Specifications

*2 - 10" Inch Positive Static Pressure*

<i>Double Wall Oval Pipe Chart</i>				
Major Dimension	Outer Shell	Solid Inner Liner	Perf Inner Liner	Solid & Perforated Inner Liner Construction
to 24"	24	26	24	Standard
25" to 36"	22	24	24	Standard
37" to 48"	22	22	22	Standard
49" to 60"	20	20	20	Standard
61" to 70"	20	20	20	Standard
71" and up	18	20	20	Standard

<i>Double Wall Oval Fitting Chart</i>			
Major Dimension	Outer Shell	Solid Inner Liner	Perf Inner Liner
to 24"	20	24	24
25" to 34"	20	24	24
36" to 48"	18	22	22
49" to 60"	18	22	22
61" to 70"	16	20	20
71" and up	16	20	20

**Static Pressure:**                      System \_\_\_\_\_                      Supply \_\_\_\_\_                      Return \_\_\_\_\_

**General :** Provide static pressure, quantity, type, size and connection for fittings and ductwork. All double wall sizes are inside dimension.

**Construction :** Double wall Oval pipe and fittings to be fabricated in accordance with 2005 SMACNA "HVAC Duct Construction Standards, Metal and Flexible". Ductwork and Fittings shall be the gauge for the pressure classification listed above and conform to the requirement in the referenced standards for metal thickness, conduits or tie rod applications and joint types. External reinforcement is to be field installed and coordinated with duct hanger.

**Metal :** Galvanized Steel of ASTM Standard A527 and 2005 SMACNA Standards.

**Fittings :** Radius type elbows with 1½ x centerline radius elbows are fabricated of multiple sections with maximum 22 1/2 degree change of directions per section with segmented standing seam or segmented seam spot welded construction. Concentric reducers 30 degree diverging, 90 degree straight and 45 degree type fittings for branch connections will be spot welded or mechanically attached to spiral and sealed per SMACNA class A specifications. All 90 and 45 degree type fittings are field installed unless specified otherwise.

**Oval pipe :** Spiral lockseam construction: Fabricated in 10 foot lengths unless specified otherwise.

**Connections :** Double wall fittings are small end slip connections, pipe to pipe is a coupler. Fasten screws at 15" intervals along the circumference ( three screws minimum on 14" diameter or less). Flange joints are available by request, when flange joints are used AccuFlange connections will be supplied on pipe and fittings. ( see diagram on page 13 )

**Sealant :** Non- hardening, non- migrating mastic or liquid elastic sealant specifically for sealing fittings or longitudinal seams in ductwork. (Seal class A or B, N/A for seal class C and 2" W.G.)

**Inner Liner :** Oval pipe: Perforated 3/32" holes on 3/16" stagger centers with 22% open area. Fittings Solid galvanized inner unless specified otherwise. Inner liner shall be the gauge for the pressure classification listed above.

**Insulation :** RA-26 1" thick per specification on page 46 of this catalog. Unless specified otherwise.

Minor	X	Major	Basic Round	Straight	Overall Major	Stretch Out
6	X	17	13	11.00	17.00	40.84
6	X	19	14	12.57	18.57	43.98
6	X	20	15	14.14	20.14	47.12
6	X	22	16	15.71	21.71	50.27
6	X	23	17	17.28	23.28	53.41
6	X	25	18	18.85	24.85	56.55
6	X	26	19	20.42	26.42	59.69
6	X	28	20	21.99	27.99	62.83
6	X	31	22	25.13	31.13	69.12
6	X	34	24	28.27	34.27	75.40
6	X	37	26	31.42	37.42	81.68
6	X	41	28	34.56	40.56	87.96
6	X	44	30	37.70	43.70	94.25
6	X	47	32	40.84	46.84	100.53
6	X	50	34	43.98	49.98	106.81
6	X	53	36	47.12	53.12	113.10
6	X	56	38	50.27	56.27	119.38
6	X	59	40	53.41	59.41	125.66
6	X	63	42	56.55	62.55	131.95
6	X	66	44	59.69	65.69	138.23
6	X	69	46	62.83	68.83	144.51
6	X	72	48	65.97	71.97	150.80
6	X	75	50	69.12	75.12	157.08
6	X	78	52	72.26	78.26	163.36
6	X	81	54	75.40	81.40	169.65
6	X	85	56	78.54	84.54	175.93
8	X	17	14	9.42	17.42	43.98
8	X	19	15	11.00	19.00	47.12
8	X	21	16	12.57	20.57	50.27
8	X	22	17	14.14	22.14	53.41
8	X	24	18	15.71	23.71	56.55
8	X	25	19	17.28	25.28	59.69
8	X	27	20	18.85	26.85	62.83
8	X	30	22	21.99	29.99	69.12
8	X	33	24	25.13	33.13	75.40
8	X	36	26	28.27	36.27	81.68
8	X	39	28	31.42	39.42	87.96
8	X	43	30	34.56	42.56	94.25
8	X	46	32	37.70	45.70	100.53
8	X	49	34	40.84	48.84	106.81
8	X	52	36	43.98	51.98	113.10
8	X	55	38	47.12	55.12	119.38
8	X	58	40	50.27	58.27	125.66
8	X	61	42	53.41	61.41	131.95
8	X	65	44	56.55	64.55	138.23
8	X	68	46	59.69	67.69	144.51
8	X	71	48	62.83	70.83	150.80
8	X	74	50	65.97	73.97	157.08
8	X	77	52	69.12	77.12	163.36
8	X	80	54	72.26	80.26	169.65
8	X	83	56	75.40	83.40	175.93

Minor	X	Major	Basic Round	Straight	Overall Major	Stretch Out
10	X	18	15	7.85	17.85	47.12
10	X	19	16	9.42	19.42	50.27
10	X	21	17	11.00	21.00	53.41
10	X	23	18	12.57	22.57	56.55
10	X	24	19	14.14	24.14	59.69
10	X	26	20	15.71	25.71	62.83
10	X	29	22	18.85	28.85	69.12
10	X	32	24	21.99	31.99	75.40
10	X	35	26	25.13	35.13	81.68
10	X	38	28	28.27	38.27	87.96
10	X	41	30	31.42	41.42	94.25
10	X	45	32	34.56	44.56	100.53
10	X	48	34	37.70	47.70	106.81
10	X	51	36	40.84	50.84	113.10
10	X	54	38	43.98	53.98	119.38
10	X	57	40	47.12	57.12	125.66
10	X	60	42	50.27	60.27	131.95
10	X	63	44	53.41	63.41	138.23
10	X	67	46	56.55	66.55	144.51
10	X	70	48	59.69	69.69	150.80
10	X	73	50	62.83	72.83	157.08
10	X	76	52	65.97	75.97	163.36
10	X	79	54	69.12	79.12	169.65
10	X	82	56	72.26	82.26	175.93
12	X	18	16	6.28	18.28	50.27
12	X	20	17	7.85	19.85	53.41
12	X	21	18	9.42	21.42	56.55
12	X	23	19	11.00	23.00	59.69
12	X	25	20	12.57	24.57	62.83
12	X	28	22	15.71	27.71	69.12
12	X	31	24	18.85	30.85	75.40
12	X	34	26	21.99	33.99	81.68
12	X	37	28	25.13	37.13	87.96
12	X	40	30	28.27	40.27	94.25
12	X	43	32	31.42	43.42	100.53
12	X	47	34	34.56	46.56	106.81
12	X	50	36	37.70	49.70	113.10
12	X	53	38	40.84	52.84	119.38
12	X	56	40	43.98	55.98	125.66
12	X	59	42	47.12	59.12	131.95
12	X	62	44	50.27	62.27	138.23
12	X	65	46	53.41	65.41	144.51
12	X	69	48	56.55	68.55	150.80
12	X	72	50	59.69	71.69	157.08
12	X	75	52	62.83	74.83	163.36
12	X	78	54	65.97	77.97	169.65
12	X	81	56	69.12	81.12	175.93
12	X	84	58	72.26	84.26	182.21
14	X	20	18	6.28	20.28	56.55
14	X	22	19	7.85	21.85	59.69
14	X	23	20	9.42	23.42	62.83

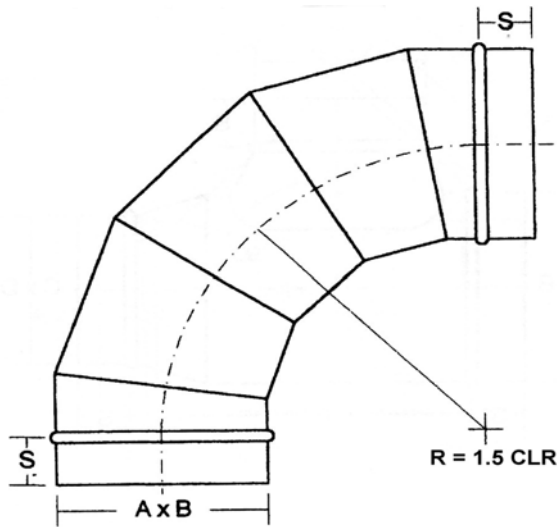
Minor	X	Major	Basic Round	Straight	Overall Major	Stretch Out
14	X	27	22	12.57	26.57	69.12
14	X	30	24	15.71	29.71	75.40
14	X	33	26	18.85	32.85	81.68
14	X	36	28	21.99	35.99	87.96
14	X	39	30	25.13	39.13	94.25
14	X	42	32	28.27	42.27	100.53
14	X	45	34	31.42	45.42	106.81
14	X	49	36	34.56	48.56	113.10
14	X	52	38	37.70	51.70	119.38
14	X	55	40	40.84	54.84	125.66
14	X	58	42	43.98	57.98	131.95
14	X	61	44	47.12	61.12	138.23
14	X	64	46	50.27	64.27	144.51
14	X	67	48	53.41	67.41	150.80
14	X	71	50	56.55	70.55	157.08
14	X	74	52	59.69	73.69	163.36
14	X	77	54	62.83	76.83	169.65
14	X	80	56	65.97	79.97	175.93
14	X	83	58	69.12	83.12	182.21
14	X	86	60	72.26	86.26	188.50
16	X	21	19	4.71	20.71	59.69
16	X	22	20	6.28	22.28	62.83
16	X	25	22	9.42	25.42	69.12
16	X	29	24	12.57	28.57	75.40
16	X	32	26	15.71	31.71	81.68
16	X	35	28	18.85	34.85	87.96
16	X	38	30	21.99	37.99	94.25
16	X	41	32	25.13	41.13	100.53
16	X	44	34	28.27	44.27	106.81
16	X	47	36	31.42	47.42	113.10
16	X	51	38	34.56	50.56	119.38
16	X	54	40	37.70	53.70	125.66
16	X	57	42	40.84	56.84	131.95
16	X	60	44	43.98	59.98	138.23
16	X	63	46	47.12	63.12	144.51
16	X	66	48	50.27	66.27	150.80
16	X	69	50	53.41	69.41	157.08
16	X	73	52	56.55	72.55	163.36
16	X	76	54	59.69	75.69	169.65
16	X	79	56	62.83	78.83	175.93
16	X	82	58	65.97	81.97	182.21
16	X	85	60	69.12	85.12	188.50
18	X	24	22	6.28	24.28	69.12
18	X	27	24	9.42	27.42	75.40
18	X	31	26	12.57	30.57	81.68
18	X	34	28	15.71	33.71	87.96
18	X	37	30	18.85	36.85	94.25
18	X	40	32	21.99	39.99	100.53
18	X	43	34	25.13	43.13	106.81
18	X	46	36	28.27	46.27	113.10
18	X	49	38	31.42	49.42	119.38

Minor	X	Major	Basic Round	Straight	Overall Major	Stretch Out
18	X	53	40	34.56	52.56	125.66
18	X	56	42	37.70	55.70	131.95
18	X	59	44	40.84	58.84	138.23
18	X	62	46	43.98	61.98	144.51
18	X	65	48	47.12	65.12	150.80
18	X	68	50	50.27	68.27	157.08
18	X	71	52	53.41	71.41	163.36
18	X	75	54	56.55	74.55	169.65
18	X	78	56	59.69	77.69	175.93
18	X	81	58	62.83	80.83	182.21
18	X	84	60	65.97	83.97	188.50
20	X	26	24	6.28	26.28	75.40
20	X	29	26	9.42	29.42	81.68
20	X	33	28	12.57	32.57	87.96
20	X	36	30	15.71	35.71	94.25
20	X	39	32	18.85	38.85	100.53
20	X	42	34	21.99	41.99	106.81
20	X	45	36	25.13	45.13	113.10
20	X	48	38	28.27	48.27	119.38
20	X	51	40	31.42	51.42	125.66
20	X	55	42	34.56	54.56	131.95
20	X	58	44	37.70	57.70	138.23
20	X	61	46	40.84	60.84	144.51
20	X	64	48	43.98	63.98	150.80
20	X	67	50	47.12	67.12	157.08
20	X	70	52	50.27	70.27	163.36
20	X	73	54	53.41	73.41	169.65
20	X	77	56	56.55	76.55	175.93
20	X	80	58	59.69	79.69	182.21
20	X	83	60	62.83	82.83	188.50
22	X	28	26	6.28	28.28	81.68
22	X	31	28	9.42	31.42	87.96
22	X	35	30	12.57	34.57	94.25
22	X	38	32	15.71	37.71	100.53
22	X	41	34	18.85	40.85	106.81
22	X	44	36	21.99	43.99	113.10
22	X	47	38	25.13	47.13	119.38
22	X	50	40	28.27	50.27	125.66
22	X	53	42	31.42	53.42	131.95
22	X	57	44	34.56	56.56	138.23
22	X	60	46	37.70	59.70	144.51
22	X	63	48	40.84	62.84	150.80
22	X	66	50	43.98	65.98	157.08
22	X	69	52	47.12	69.12	163.36
22	X	72	54	50.27	72.27	169.65
22	X	75	56	53.41	75.41	175.93
22	X	79	58	56.55	78.55	182.21
22	X	82	60	59.69	81.69	188.50
24	X	30	28	6.28	30.28	87.96
24	X	33	30	9.42	33.42	94.25
24	X	37	32	12.57	36.57	100.53

<b>Minor</b>	<b>X</b>	<b>Major</b>	<b>Basic Round</b>	<b>Straight</b>	<b>Overall Major</b>	<b>Stretch Out</b>
24	X	40	34	15.71	39.71	106.81
24	X	43	36	18.85	42.85	113.10
24	X	46	38	21.99	45.99	119.38
24	X	49	40	25.13	49.13	125.66
24	X	52	42	28.27	52.27	131.95
24	X	55	44	31.42	55.42	138.23
24	X	59	46	34.56	58.56	144.51
24	X	62	48	37.70	61.70	150.80
24	X	65	50	40.84	64.84	157.08
24	X	68	52	43.98	67.98	163.36
24	X	71	54	47.12	71.12	169.65
24	X	74	56	50.27	74.27	175.93
24	X	77	58	53.41	77.41	182.21
24	X	81	60	56.55	80.55	188.50



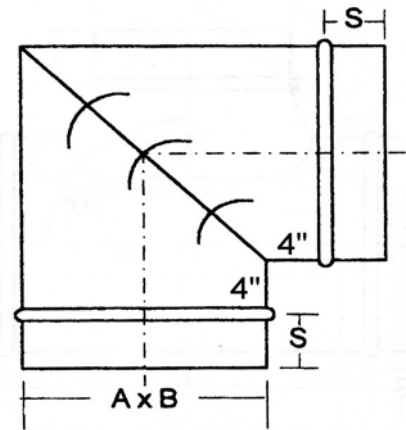
OVAL FITTINGS



ANGLE

**SPECIFY**

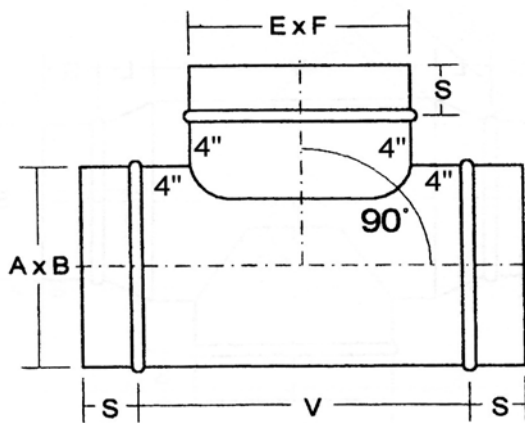
- Diameter A X B
- Angle
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection



MITERED 90

**SPECIFY**

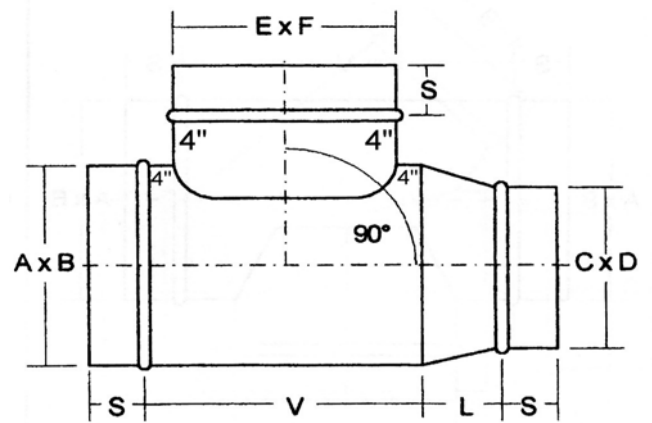
- Diameter A X B
- With or Without Vanes
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection



STRAIGHT TEE

**SPECIFY**

- Diameter A X B / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = E + 8"

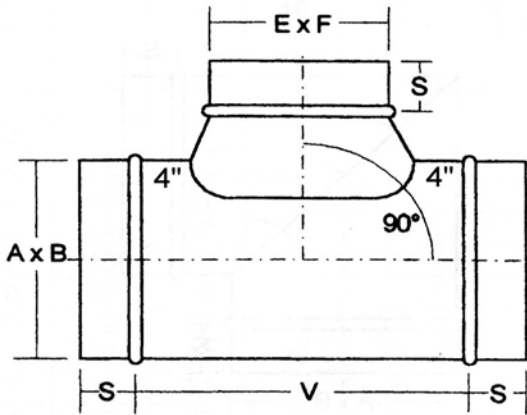


REDUCING TEE

**SPECIFY**

- Diameter A X B / Diameter C X D / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = E + 8"

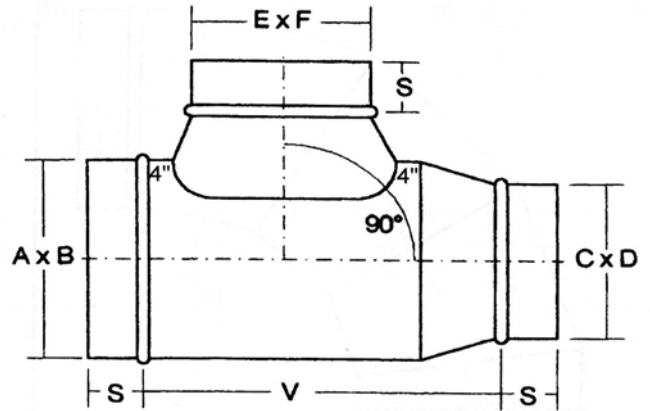
**OVAL FITTINGS**



**CONICAL TEE**

**SPECIFY**

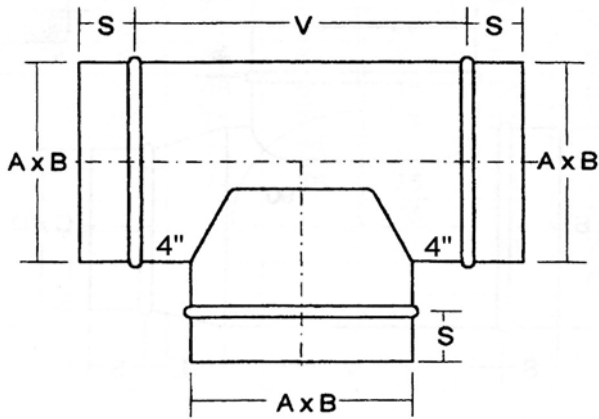
- Diameter A X B / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = E + 12



**REDUCING CONICAL TEE**

**SPECIFY**

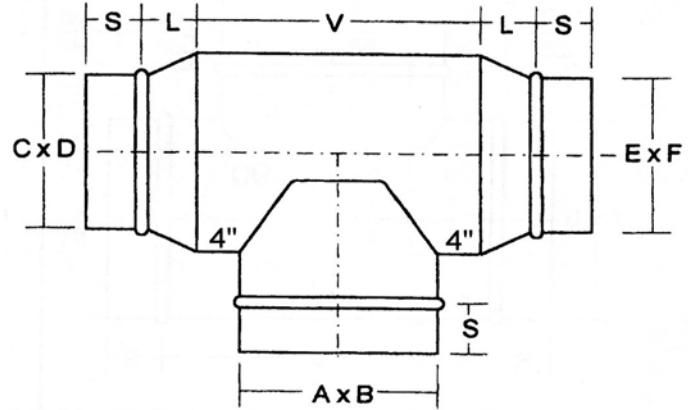
- Diameter A X B / Diameter C X D / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = (E+12) + (A-C) 2



**BULL HEAD TEE**

**SPECIFY**

- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = A + 8"

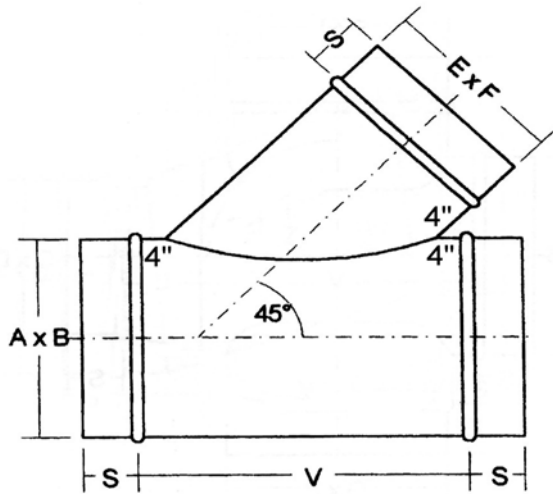


**REDUCING BULL HEAD TEE**

**SPECIFY**

- Diameter A X B / Diameter C X D / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = A + 8"

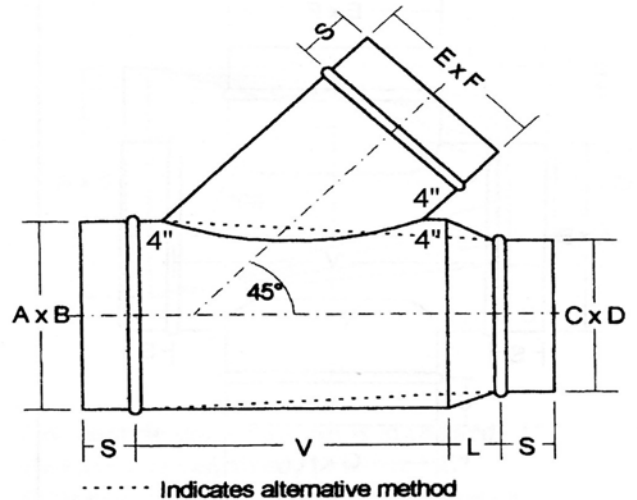
OVAL FITTINGS



LATERAL

**SPECIFY**

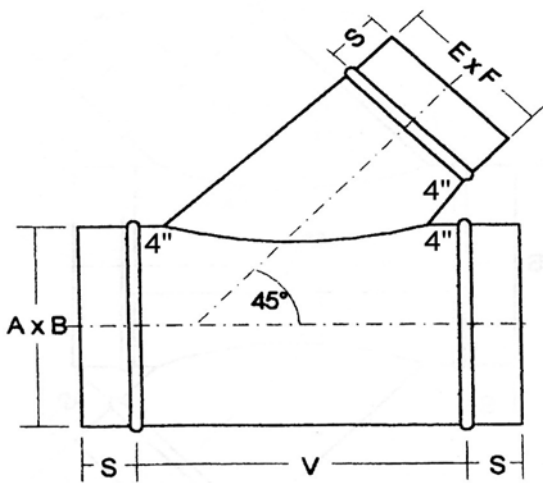
- Diameter A X B / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- $V = ( E \times 1.41 ) + 8"$



REDUCING LATERAL

**SPECIFY**

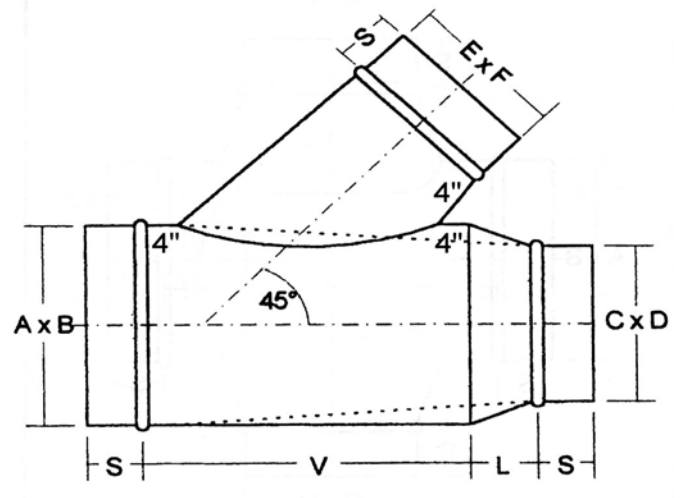
- Diameter A X B / Diameter C X D / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- $V = ( E \times 1.41 ) + 8"$
- $L = (A-C) 2$



CONICAL LATERAL

**SPECIFY**

- Diameter A X B / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- $V = ( E \times 1.41 ) + 8"$

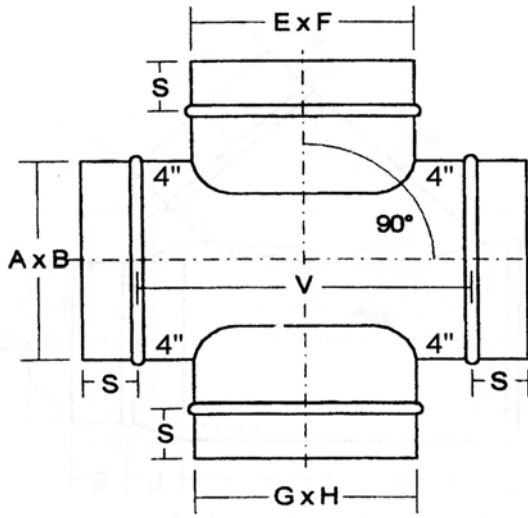


REDUCING CONICAL LATERAL

**SPECIFY**

- Diameter A X B / Diameter C X D / Diameter E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- $V = ( E \times 1.41 ) + 8"$

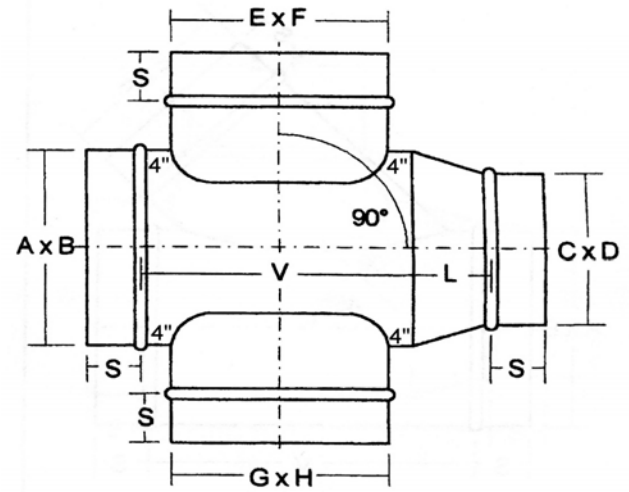
OVAL FITTINGS



CROSS

**SPECIFY**

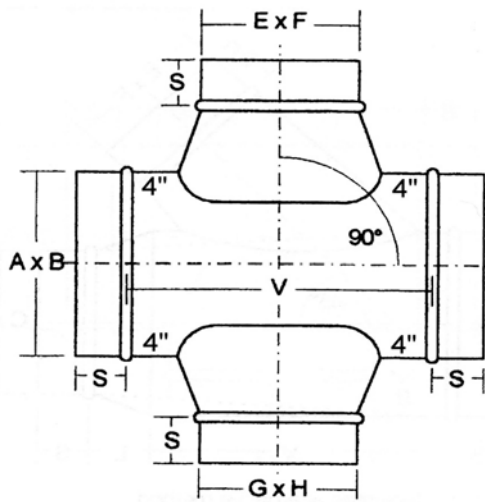
- Diameter A X B / Diameter E X F / Diameter G X H
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = E + 8"



REDUCING CROSS

**SPECIFY**

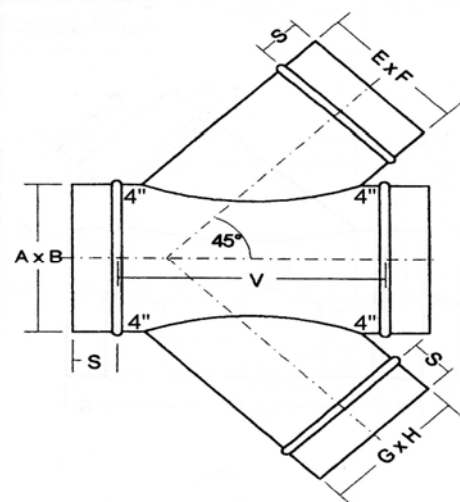
- Dia. A X B / Dia. C X D / Dia. E X F / Dia. G X H
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = E + 8"
- L = (A-C) 2



CONICAL CROSS

**SPECIFY**

- Diameter A X B / Diameter E X F / Diameter G X H
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = E + 8"

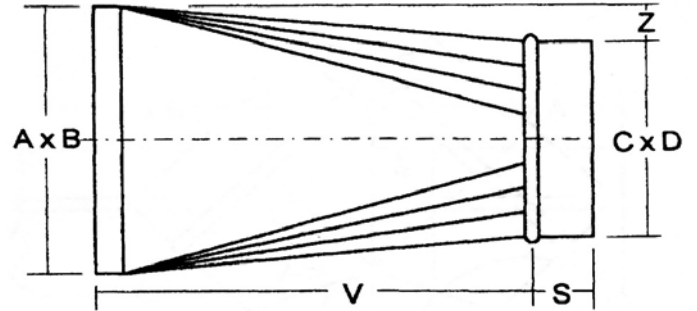
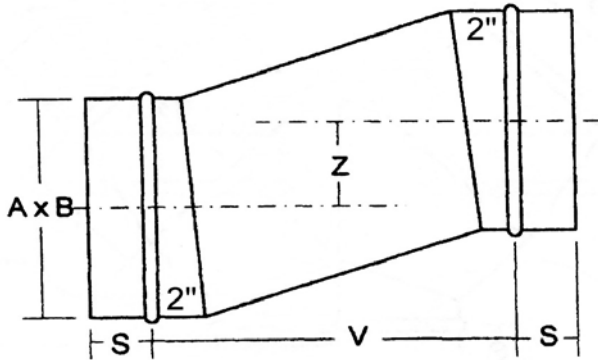


LATERAL CROSS

**SPECIFY**

- Diameter A X B / Diameter E X F / Diameter G X H
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = E + 8"

**OVAL FITTINGS**



( Concentric Construction is Standard )

**OFFSET**

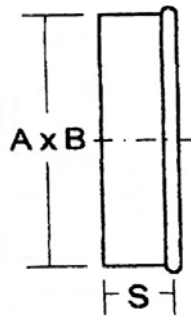
**SPECIFY**

- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = Z x 2
- Z = Specify Dimension

**OVAL TO RECTANGULAR or ROUND**

**SPECIFY**

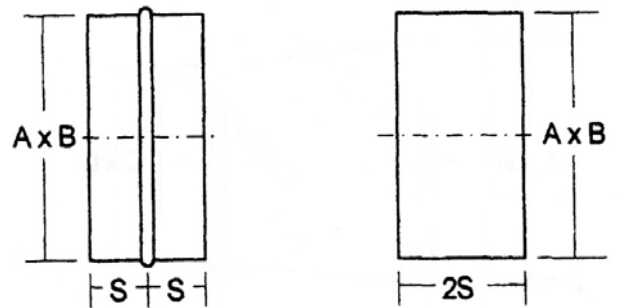
- Diameter A X B / Diameter C X D
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- V = Specify Length
- Z = Specify Dimension
- Rectangular Connection Type ( if applicable )



**END CAP**

**SPECIFY**

- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection

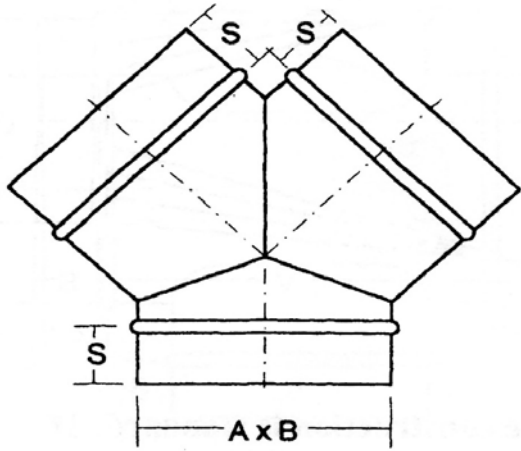


**COUPLING**

**SPECIFY**

- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- 2S = 4"

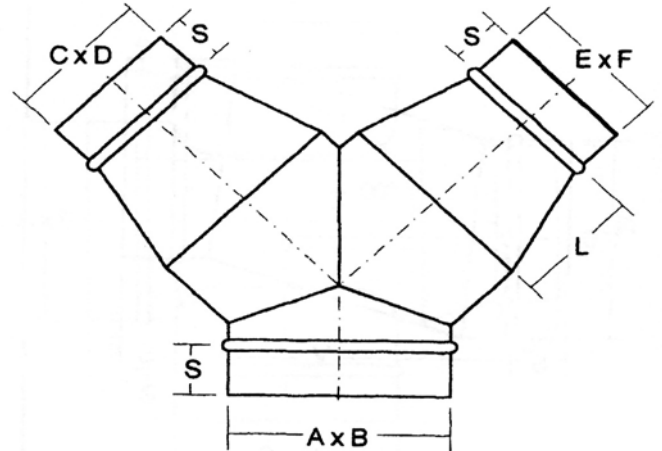
OVAL FITTINGS



WYE BRANCH

**SPECIFY**

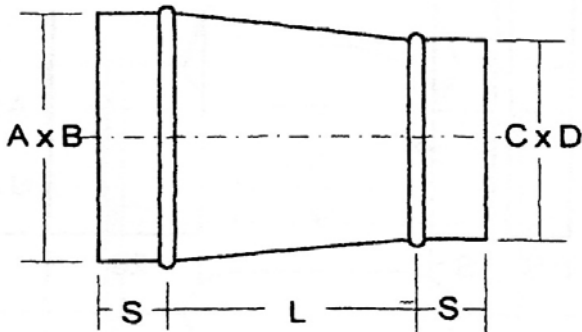
- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection



REDUCING WYE BRANCH

**SPECIFY**

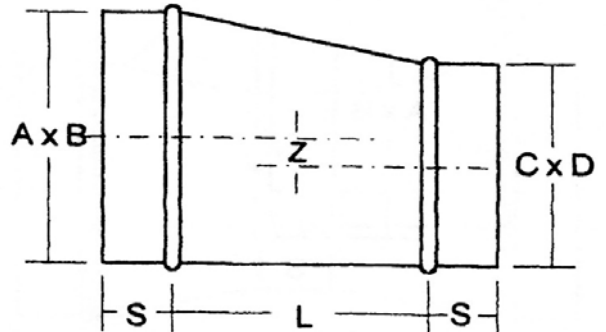
- Diameter A X B / Diameter C X D / E X F
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- L = (C-E) 2



CONCENTRIC REDUCER

**SPECIFY**

- Diameter A X B / C X D
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- L = (A-C) 2

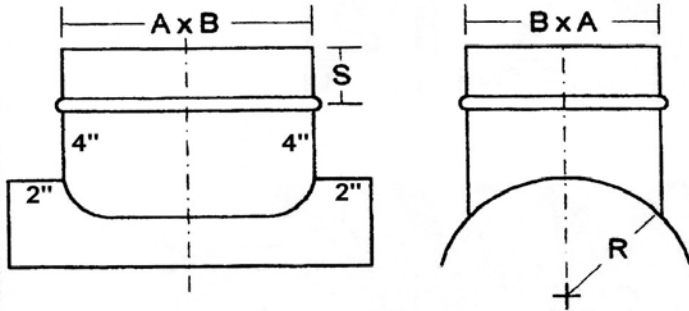


ECCENTRIC REDUCER

**SPECIFY**

- Diameter A X B / C X D
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- L = (A-C) 2

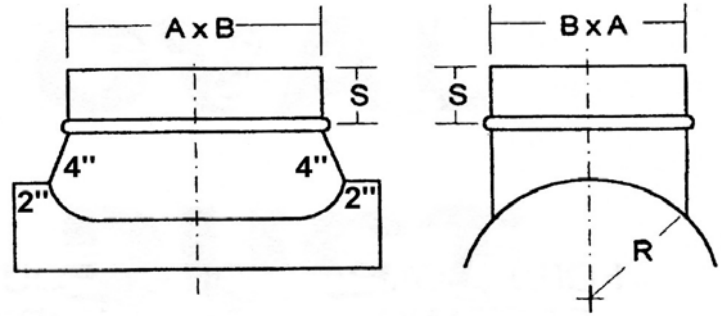
OVAL FITTINGS



SADDLE TAP

**SPECIFY**

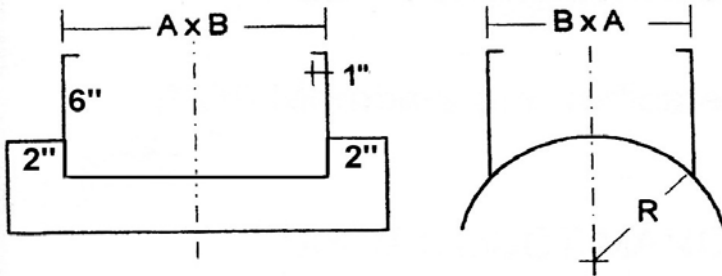
- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection



CONICAL SADDLE TAP

**SPECIFY**

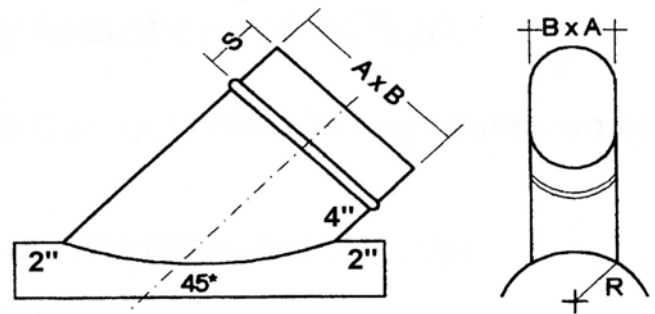
- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- R = 1.5 x CLR



GRILLE BOX TAP

**SPECIFY**

- Diameter A X B
- Material Type
- Gauge or Static Pressure
- R = 1.5 x CLR



LATERAL SADDLE TAP

**SPECIFY**

- Diameter A X B
- Material Type
- Gauge or Static Pressure
- S = 2" Small End Connection
- R = 1.5 x CLR