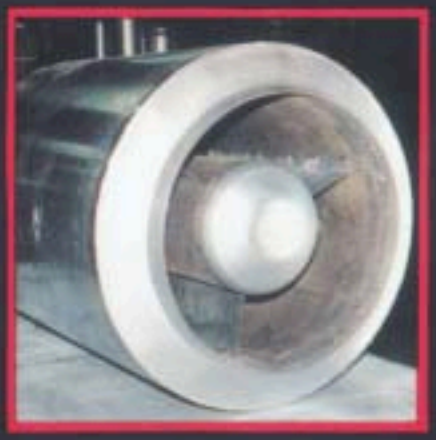

SPOT
SPIRAL PIPE OF TEXAS, INC.

QUALITY FROM START TO FINISH



SPOT

SPIRAL PIPE OF TEXAS, INC.

MAILING ADDRESS
P.O. BOX 161547
FT. WORTH, TX 76161

PLANT ADDRESS
600 N. HAYS
FT. WORTH, TX 76102

817-877-3543

Spiral Pipe of Texas, Inc.
Single Wall Round
Standard Gauge Chart

-2 " W.G.

Diameter	Spiral Pipe	Long Seam Pipe	Fittings
3" - 13"	28	26	26
14" - 17"	26	24	24
18" - 20"	24	22	22
21" - 23"	24	20	20
24" - 26"	22	20	20
27" - 30"	22	18	18
31" - 34"	20	18	18
35" - 48"	20	18	18
49" - 60"	18	16	16
61" - 72"	16	14	14

+2 " W.G.

Diameter	Spiral Pipe	Long Seam Pipe	Fittings
3" - 14"	28	26	26
15" - 26"	26	24	24
27" - 36"	24	22	22
37" - 50"	22	20	20
51" - 60"	20	18	18
61" - 84"	18	16	16

+10" W.G.

Diameter	Spiral Pipe	Long Seam Pipe	Fittings
3" - 10"	28	26	26
11" - 14"	26	24	24
15" - 26"	24	22	22
27" - 36"	22	20	20
37" - 50"	20	20	20
51" - 60"	18	18	18
61" - 84"	18	16	16

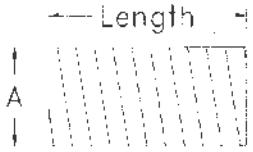
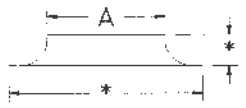
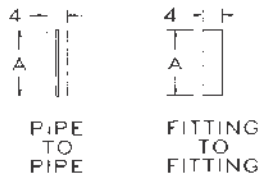
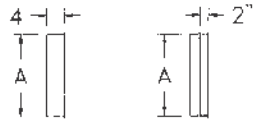
Spiral Pipe of Texas' Round Ductwork is available in the following materials:
Galvanized G60 and G90
Phosphatized ("Paint-Grip")
304L Stainless Steel
316L Stainless Steel
Polyvinyl Coated
Aluminum

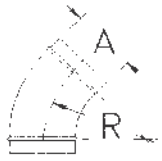
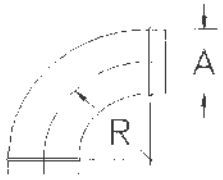
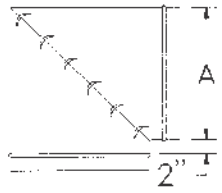
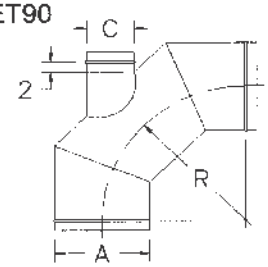
Special materials are available. Please contact your nearest representative for details.

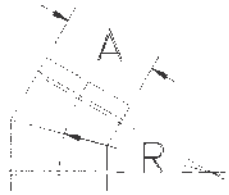
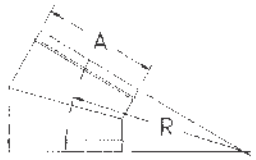
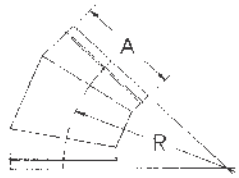
Spiral Pipe of Texas' products are manufactured in accordance with applicable SMACNA, ASHRAE and SPIDA standards.

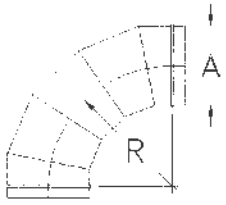
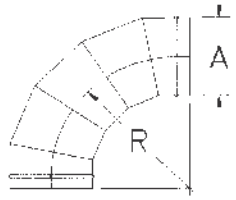
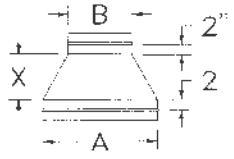
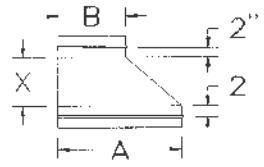
Spiral Pipe of Texas, Inc.

Single Wall Round Spiral Pipe and Fitting Standards

SP	B1	PP FF	EC EP
			
Spiral Pipe	Bellmouth	Couplings	Caps & Plugs

SE45	SE90	EV90	ET90
			
A = 3" Thru 10"	A = 3" Thru 10"	A = 3" Thru 60"	A = 3" Thru 60"
Stamped Elbows		Mitered Elbow	Elbow w/Tap

E1 Thru E36		E37 Thru E71	
			
A = 3" Thru 24"	A = Greater than 24"	A = 3" Thru 24"	A = Greater than 24"
2 Gore Elbows		3 Gore Elbows	

E72 Thru E90		R1	ER1
			
A = 3" Thru 24"	A = Greater than 24"		
5 Gore Elbows		Reducers	

Dimensions:

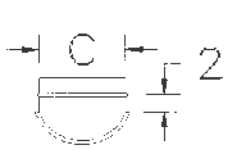
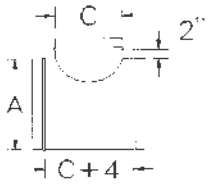
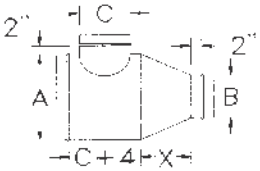
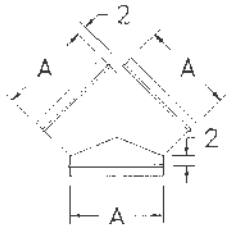
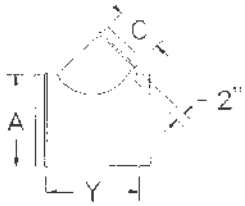
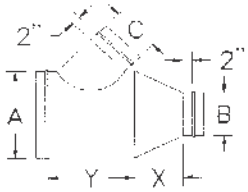
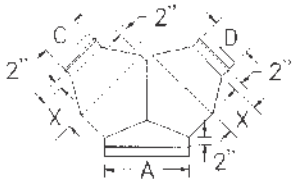
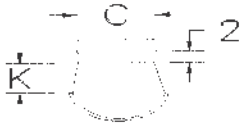
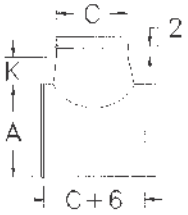
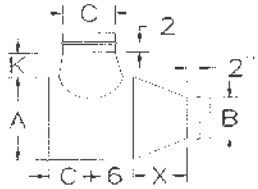
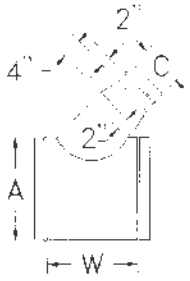
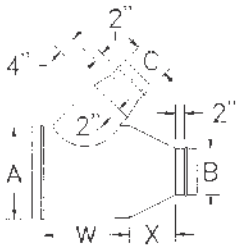
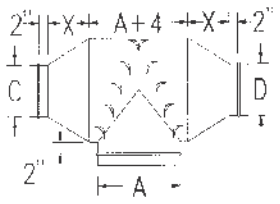
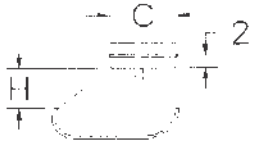
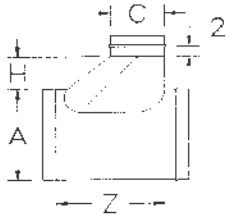
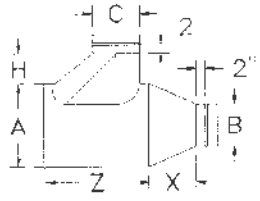
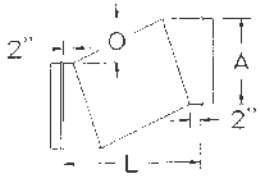
A = Inlet Size
B = Outlet Size
C = Branch Size
D = Branch Size
H = 3" if C = 3" to 8"
6" if C = 9" to 16"
9" if C = 17" to 24"
12" if C = 25" & Up

K = 5 1/4"
L = Offset Length
O = Offsetting Amount
R = 1.5 x A
S = 2
T = A/4+2
U = Ax2+2

V = (A/2x1.414)+((C+2)/2)+6
W = (C+2)x1.414+4
X = A - B (with 4" minimum)
Y = (1.414xC) + 4
Z = C+H+4
* = Consult Factory

Spiral Pipe of Texas, Inc.

Single Wall Round Spiral Pipe and Fitting Standards

LT 	T1 	T1R 	Y2 
Straight 90 Degree Tees			"Y" Fittings
LL 	L1 	L1R 	Y2R 
45 Degree Laterals			Reducing "Y" Fittings
LCT 	CT1 	CT1R 	BT 
Conical 90 Degree Tees			Bullhead Tee
LCL 	CL1 	CL1R 	BTR 
Conical 45 Degree Lateral Tees			Reducing Bullhead
LLL 	LL1 	LL1R 	SET 
Low Loss 90 Degree Tees			Offset

Spiral Pipe of Texas, Inc.
Single Wall Flat Oval
Standard Gauge Chart

Major Axis	Spiral Pipe	Long Seam Pipe	Fittings
to 24"	24	20	20
25" - 36"	22	20	20
37" - 48"	22	18	18
49" - 60"	20	18	18
61" - 70"	20	16	16
71" Up	18	16	16

See "Double Angle Exterior Reinforcement for Oval Duct" chart for contractor furnished and installed reinforcing/hangers.

Spiral Pipe of Texas' Oval Ductwork is available in the following materials:
Galvanized G60 and G90
Phosphatized ("Paint-Grip")
304L Stainless Steel
316L Stainless Steel
Polyvinyl Coated
Aluminum

Special materials are available. Please contact your nearest representative for details.

Flat Oval ducts are recommended for positive pressure applications only.

Spiral Pipe of Texas' products are manufactured in accordance with applicable SMACNA, ASHRAE and SPIDA standards.

Available Spiral Flat Oval Sizes

SIZE	
MINOR AXIS	MAJOR AXIS
3	12
3	14
3	16
3	17
3	19
3	20
3	22
3	23
3	25
3	27
3	28
3	30
3	31
3	33
3	34
3	36
3	38
3	39
3	42
3	45
3	49
3	52
3	55
3	58
3	61
3	64
3	67
4	12
4	13
4	15
4	17
4	18
4	20
4	21
4	23
4	24
4	26
4	28
4	29
4	31
4	32
4	34
4	35
4	37
4	39
4	42
4	45

SIZE	
MINOR AXIS	MAJOR AXIS
4	48
4	51
4	54
4	57
4	61
4	64
4	67
5	13
5	14
5	16
5	18
5	19
5	21
5	22
5	24
5	25
5	27
5	29
5	30
5	32
5	33
5	35
5	36
5	38
5	41
5	44
5	48
5	51
5	54
5	57
5	60
5	63
5	66
5	69
6	14
6	15
6	17
6	19
6	20
6	22
6	23
6	25
6	26
6	28
6	30
6	31

SIZE	
MINOR AXIS	MAJOR AXIS
6	33
6	34
6	36
6	37
6	41
6	44
6	47
6	50
6	53
6	56
6	59
6	63
6	66
6	69
6	72
6	75
6	78
6	81
6	85
8	14
8	16
8	18
8	19
8	21
8	22
8	24
8	25
8	27
8	29
8	30
8	32
8	33
8	35
8	37
8	39
8	42
8	46
8	49
8	52
8	55
8	58
8	61
8	65
8	68
8	71
8	74
8	77

SIZE	
MINOR AXIS	MAJOR AXIS
8	80
8	83
10	15
10	16
10	18
10	20
10	21
10	23
10	24
10	26
10	28
10	29
10	31
10	32
10	34
10	35
10	36
10	41
10	44
10	48
10	51
10	54
10	57
10	60
10	63
10	66
10	70
10	73
10	76
10	79
10	82
10	85
12	17
12	18
12	20
12	21
12	23
12	25
12	26
12	28
12	30
12	31
12	33
12	34
12	37
12	40

SIZE	
MINOR AXIS	MAJOR AXIS
12	43
12	47
12	50
12	53
12	56
12	59
12	62
12	65
12	69
12	72
12	75
12	78
12	81
12	84
14	17
14	19
14	20
14	22
14	23
14	25
14	27
14	28
14	30
14	32
14	33
14	36
14	39
14	42
14	45
14	49
14	52
14	55
14	58
14	61
14	64
14	67
14	71
14	74
14	77
14	80
14	83
14	86

Available Spiral Flat Oval Sizes

SIZE	
MINOR AXIS	MAJOR AXIS
16	19
16	21
16	22
16	24
16	25
16	27
16	29
16	30
16	32
16	35
16	38
16	41
16	44
16	47
16	51
16	54
16	57
16	60
16	63
16	66
16	69
16	73
16	76
16	79
16	82
16	85
18	21
18	23
18	24
18	26
18	27
18	29
18	31
18	34
18	37
18	40
18	43
18	46
18	49
18	53
18	56
18	59
18	62
18	65
18	68
18	71
18	75

SIZE	
MINOR AXIS	MAJOR AXIS
18	78
18	81
18	84
20	23
20	25
20	26
20	28
20	29
20	33
20	36
20	39
20	42
20	45
20	48
20	51
20	55
20	58
20	61
20	64
20	67
20	70
20	73
20	77
20	80
20	83
22	25
22	27
22	28
22	31
22	35
22	38
22	41
22	44
22	47
22	50
22	53
22	57
22	60
22	63
22	66
22	69
22	72
22	75
22	79
22	82
22	85

SIZE	
MINOR AXIS	MAJOR AXIS
24	27
24	30
24	33
24	37
24	40
24	43
24	46
24	49
24	52
24	55
24	59
24	62
24	65
24	68
24	71
24	74
24	77
24	81
24	84
26	29
26	32
26	35
26	39
26	42
26	45
26	48
26	51
26	54
26	57
26	61
26	64
26	67
26	70
26	73
26	76
26	79
26	83
26	86
28	31
28	34
28	37
28	41
28	44
28	47
28	50
28	53
28	56

SIZE	
MINOR AXIS	MAJOR AXIS
28	59
28	63
28	66
28	69
28	72
28	75
28	78
28	81
28	85
30	33
30	36
30	39
30	43
30	46
30	49
30	52
30	55
30	58
30	61
30	65
30	68
30	71
30	74
30	77
30	80
30	83
32	35
32	38
32	41
32	45
32	48
32	51
32	54
32	57
32	60
32	63
32	67
32	70
32	73
32	76
32	79
32	82
32	85

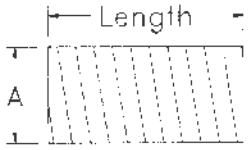
SIZE	
MINOR AXIS	MAJOR AXIS
34	38
34	40
34	43
34	47
34	50
34	53
34	56
34	59
34	62
34	65
34	69
34	72
34	75
34	78
34	81
34	84

Sizes not shown on above chart will be manufactured as longitudinal seam welded pipe.

Spiral Pipe of Texas, Inc.

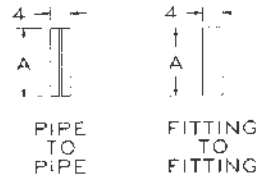
Single Wall Oval Spiral Pipe and Fitting Standards

SP — Spiral Pipe

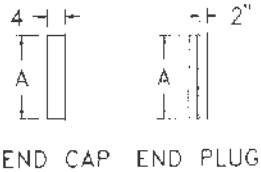


B1 — Bellmouth

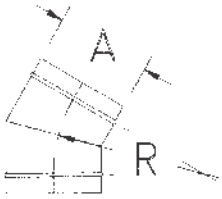
PP FF — Couplings



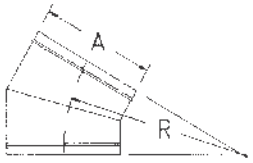
EC EP — Caps & Plugs



E1 Thru E36 — 2 Gore Elbows

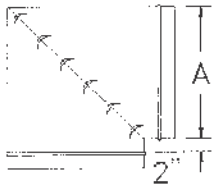


A = 3" Thru 24"



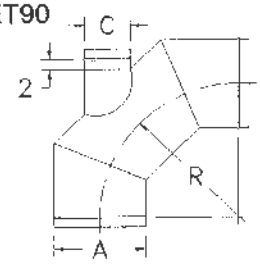
A = Greater than 24"

EV90 — Mitered Elbow



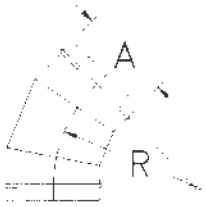
A = 3" Thru 60"

ET90 — Elbow w/Tap

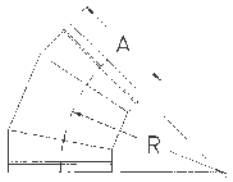


A = 3" Thru 60"

E37 Thru E71 — 3 Gore Elbows

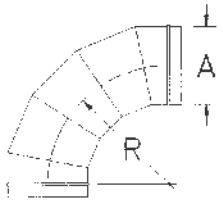


A = 3" Thru 24"

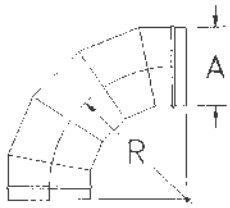


A = Greater than 24"

E72 Thru E90 — 5 Gore Elbows



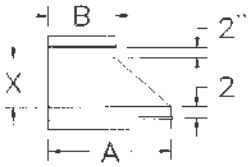
A = 3" Thru 24"



A = Greater than 24"

R1 — Reducers

ER1 — Reducers



Dimensions:

A = Inlet (Major x Minor or Minor x Major)
B = Outlet (Major x Minor or Minor x Major)
C = Branch (Major x Minor or Minor x Major)
D = Branch (Major x Minor or Minor x Major)
H = 3" if C = 3" to 8"
6" if C = 9" to 16"
9" if C = 17" to 24"
12" if C = 25" & Up

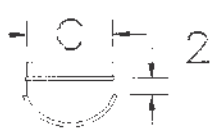
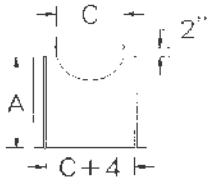
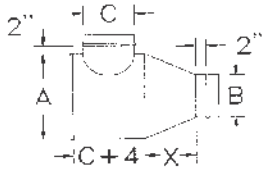
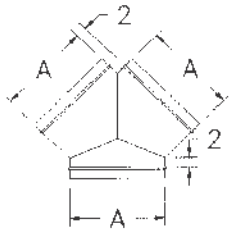
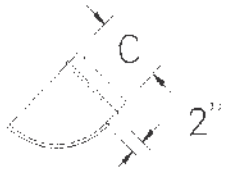
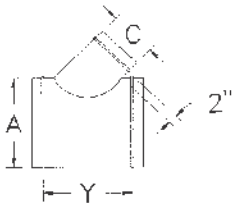
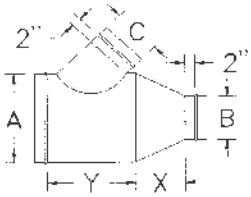
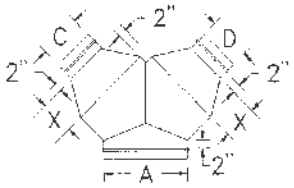
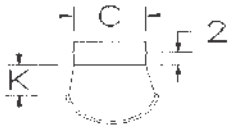
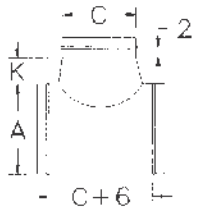
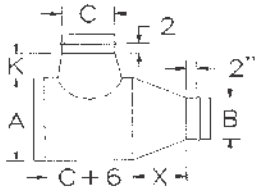
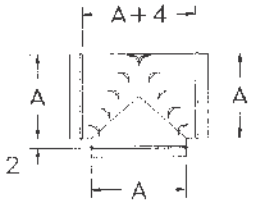
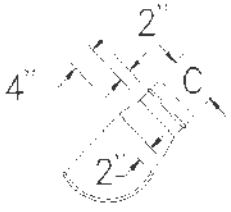
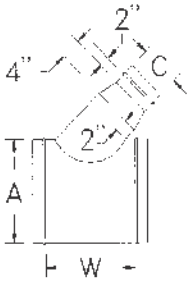
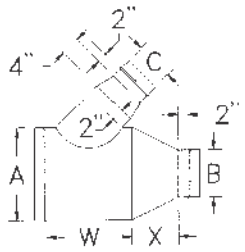
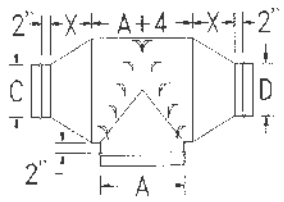
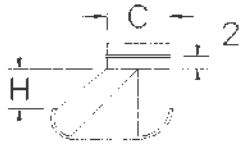
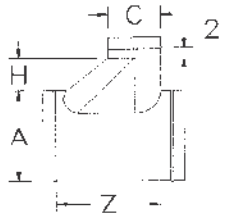
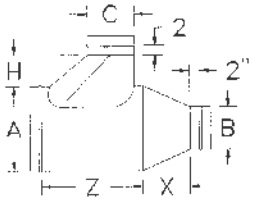
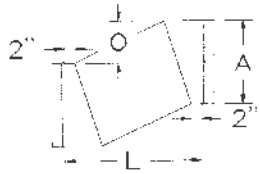
K = 5 1/4"
L = Offset Length
O = Offsetting Amount
R = 1.5 x A
S = 2
T = A/4+2
U = Ax2+2

V = (A/2x1.414)+((C+2)/2)+6
W = (C+2)x1.414+4
X = 12" if A - B = 18" or Less
24" if A - B = 19" or Greater
Y = (1.414 x C) + 4
Z = C+H+4
* = Consult Factory

**Dimemsion of Liner = O.D. - (2 x Insulation Thickness)
**End of Liner Extends 2" Past Ends of Fittings

Spiral Pipe of Texas, Inc.

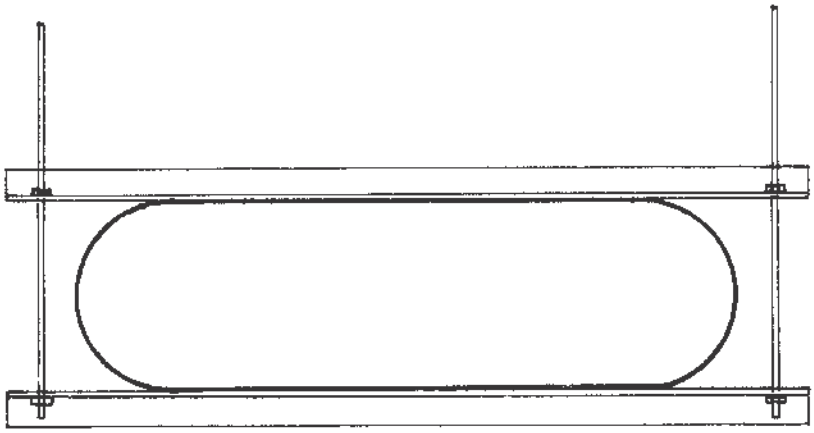
Single Wall Oval Spiral Pipe and Fitting Standards

LT 	T1 	T1R 	Y2 
Straoght 90 Degree Tees			"Y" Fitting
LL 	L1 	L1R 	Y2R 
45 Degree Laterals			Reducing "Y" Fittings
LCT 	CT1 	CT1R 	BT 
Conical 90 Degree Tees			Bullhead Tee
LCL 	CL1 	CL1R 	BTR 
Conical 45 Degree Lateral Tees			Reducing Bullhead
LLL 	LL1 	LL1R 	SET 
Low Loss 90 Degree Tees			Offset

SPIRAL PIPE
OF TEXAS, INC.

4-Ply Spiral Lockseam

DOUBLE ANGLE EXTERIOR REINFORCEMENT FOR OVAL DUCT



MAXIMUM WIDTH	LOW PRESSURE to 2" S. P.	MEDIUM PRESSURE to 6" S. P.	HIGH PRESSURE to 10" S. P.
0" to 24"			
24" to 28"			6' Centers (1-1/2 x 1-1/2 x 1/8)
28" to 36"		6' Centers (1-1/2 x 1-1/2 x 1/8)	4' Centers (1-1/2 x 1-1/2 x 1/8)
36" to 40"	6' Centers (1 x 1 x 1/8)	4' Centers (1-1/2 x 1-1/2 x 1/8)	3'6" Centers (2 x 2 x 1/8)
40" to 46"	5' Centers (1-1/2 x 1-1/2 x 1/8)	3'6" Centers (1-1/2 x 1-1/2 x 1/8)	3' Centers (2 x 2 x 1/8)
46" to 52"	4'6" Centers (1-1/2 x 1-1/2 x 1/8)	3' Centers (2 x 2 x 1/8)	2'6" Centers (2 x 2 x 3/16)
52" to 60"	4' Centers (1-1/2 x 1-1/2 x 1/8)	2'6" Centers (2 x 2 x 1/8)	2' Centers (2-1/2 x 2-1/2 x 3/16)
60" to 72"	3'6" Centers (2 x 2 x 1/8)	2'6" Centers (2 x 2 x 1/4)	2' Centers (3 x 3 x 3/16)

Spiral Pipe of Texas, Inc.
Double Wall Round
Standard Gauge Chart

Diameter	Spiral Pipe	Long Seam Pipe	Fittings
	Outer Pressure Shell (O.D.)		
5" - 10"	28	26	26
11" - 14"	26	24	24
15" - 26"	24	22	22
27" - 36"	22	20	20
37" - 50"	20	20	20
51" - 60"	18	18	18
61" - 84"	18	16	16
	Inner Liner (I.D.)		
3" - 36"	24	24	24
37" - 50"	24	22	22
51" - 60"	24	20	20
61" - 84"	20	20	20

One inch insulation layer to meet requirements set forth in NFPA pamphlet #90A (catalogue NFPA #255) as to flame spread and smoke developed ratings. K-value at 75 degree M.T. = .26 BTU.

Spiral Pipe of Texas' Round Ductwork is available in the following materials:
Galvanized G60 and G90
Phosphatized ("Paint-Grip")
304L Stainless Steel
316L Stainless Steel
Polyvinyl Coated
Aluminum

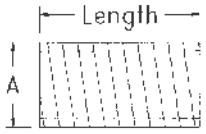
Special materials are available. Please contact your nearest representative for details.

Spiral Pipe of Texas' products are manufactured in accordance with applicable SMACNA, ASHRAE and SPIDA standards.

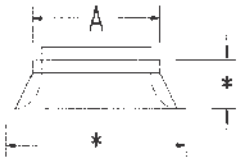
Spiral Pipe of Texas, Inc.

Double Wall Round Spiral Pipe and Fitting Standards

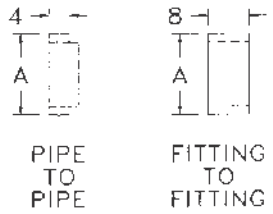
SP — Spiral Pipe



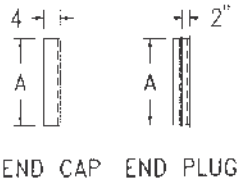
B1 — Bellmouth



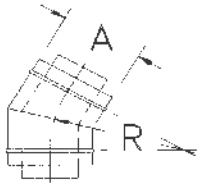
PP FF — Couplings



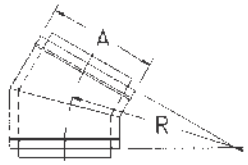
EC EP — Caps & Plugs



E1 Thru E36 — 2 Gore Elbows

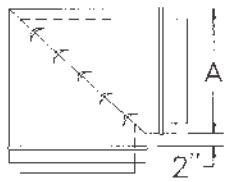


A = 3" Thru 24"



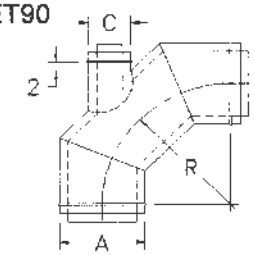
A = Greater than 24"

EV90 — Mitered Elbow



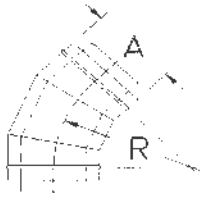
A = 3" Thru 60"

ET90 — Elbow w/Tap

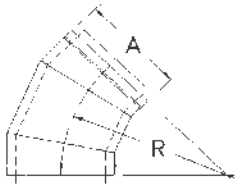


A = 3" Thru 60"

E37 Thru E71 — 3 Gore Elbows

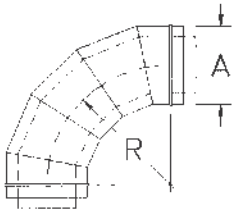


A = 3" Thru 24"

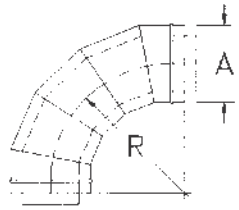


A = Greater than 24"

E72 Thru E90 — 5 Gore Elbows

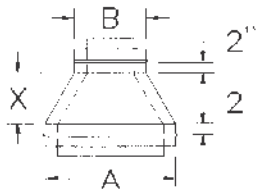


A = 3" Thru 24"

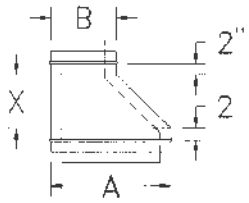


A = Greater than 24"

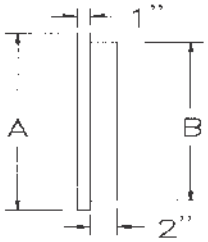
R1 — Reducers



ER1 — Reducers



SD — Stepdown



Dimensions:

A = Inlet Size
B = Outlet Size
C = Branch Size
D = Branch Size
H = 3" if C = 3" to 8"
6" if C = 9" to 16"
9" if C = 17" to 24"
12" if C = 25" & Up

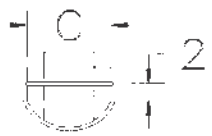
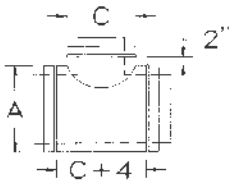
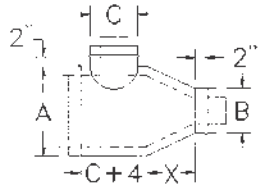
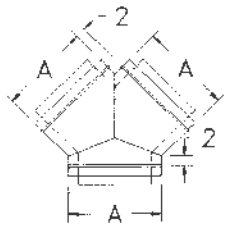
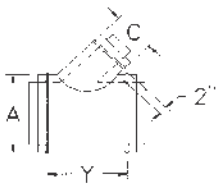
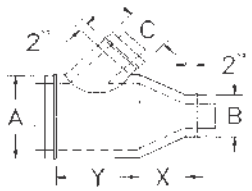
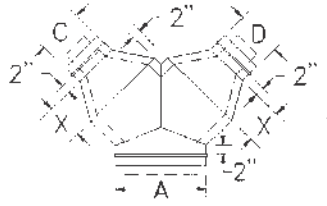
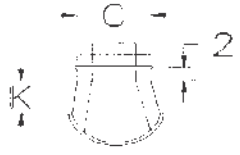
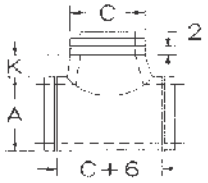
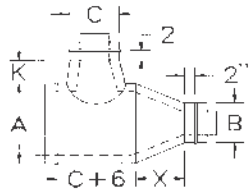
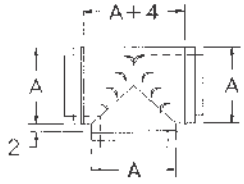
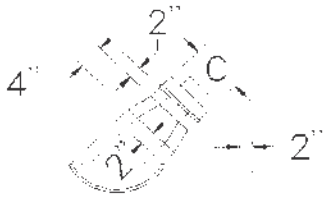
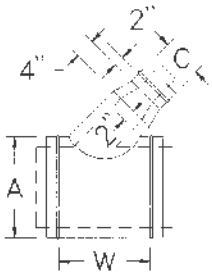
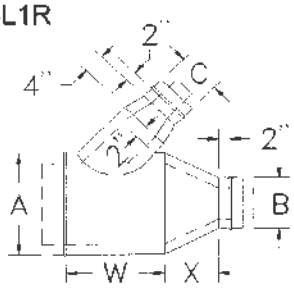
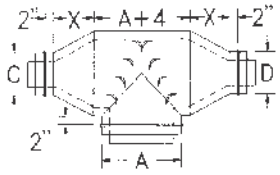
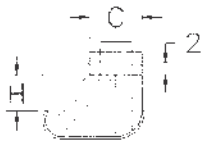
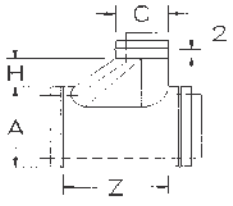
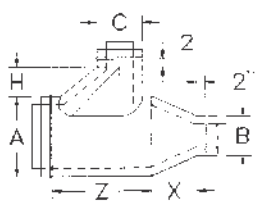
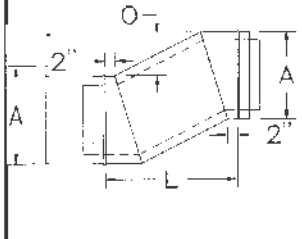
K = 5 1/4"
L = Offset Length
O = Offsetting Amount
R = 1.5 x A
S = 2
T = A/4+2
U = Ax2+2

V = (A/2x1.414)+((C+2)/2)+6
W = (C+2)x1.414+4
X = A - B (with 4" minimum)
Y = (1.414 x C) + 4
Z = C+H+4
* = Consult Factory

**Dimemsion of Liner = O.D. - (2 x Insulation Thickness)
**End of Liner Extends 2" Past Ends of Fittings

Spiral Pipe of Texas, Inc.

Double Wall Round Spiral Pipe and Fitting Standards

LT 	T1 	T1R 	Y2 
Straight 90 Degree Tees			"Y" Fitting
LL 	L1 	L1R 	Y2R 
45 Degree Lateral Tees			Reducing "Y" Fitting
LCT 	CT1 	CT1R 	BT 
Conical 90 Degree Tees			Bullhead Tee
LCL 	CL1 	CL1R 	BTR 
Conical 45 Degree Lateral Tees			Reducing Bullhead
LLL 	LL1 	LL1R 	SET 
Low Loss 90 Degree Tees			Offset

Spiral Pipe of Texas, Inc.
Double Wall Flat Oval
Standard Gauge Chart

Outer Pressure Shell (O.D.)

Major Axis	Spiral Pipe	Long Seam Pipe	Fittings
to 24"	24	20	20
25" - 36"	22	20	20
37" - 48"	22	18	18
49" - 60"	20	18	18
61" - 70"	20	16	16
71" Up	18	16	16

Inner Liner (I.D.)

Major Axis	Spiral Pipe	Long Seam Pipe	Fittings
to 24"	24	24	24
25" - 36"	24	24	24
37" - 48"	24	22	22
49" - 60"	24	22	22
61" - 70"	24	20	20
71" Up	22	20	20

One inch insulation layer to meet requirements set forth in NFPA pamphlet #90A (catalogue NFPA #255) as to flame spread and smoke developed ratings. K-value at 75 degree M.T. = .26 BTU.

See "Double Angle Exterior Reinforcement for Oval Duct" chart for contractor furnished and installed reinforcing/hangers.

Spiral Pipe of Texas' Oval Ductwork is available in the following materials:
Galvanized G60 and G90
Phosphatized ("Paint-Grip")
304L Stainless Steel
316L Stainless Steel
Polyvinyl Coated
Aluminum

Special materials are available. Please contact your nearest representative for details.

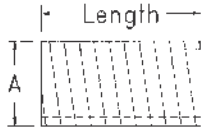
Flat Oval ducts are recommended for positive pressure applications only.

Spiral Pipe of Texas' products are manufactured in accordance with applicable SMACNA, ASHRAE and SPIDA standards.

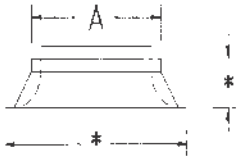
Spiral Pipe of Texas, Inc.

Double Wall Oval Spiral Pipe and Fitting Standards

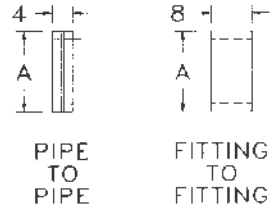
SP — Spiral Pipe



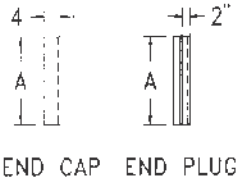
B1 — Bellmouth



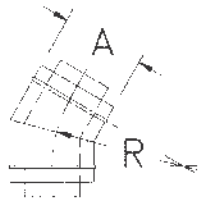
PP / FF — Couplings



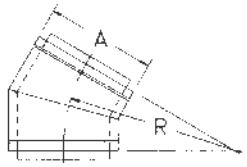
EC / EP — Caps & Plugs



E1 Thru E36 — 2 Gore Elbows

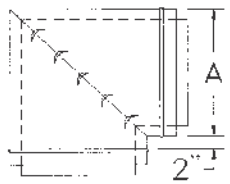


A = 3" Thru 24"



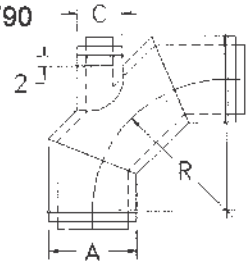
A = Greater than 24"

EV90 — Mitered Elbow



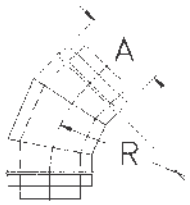
A = 3" Thru 60"

ET90 — Elbow w/Tap

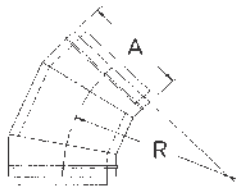


A = 3" Thru 60"

E37 Thru E71 — 3 Gore Elbows

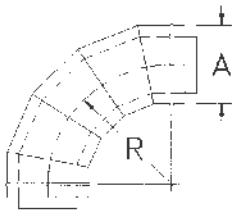


A = 3" Thru 24"

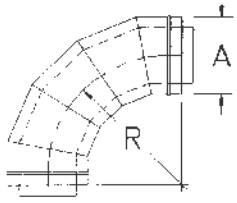


A = Greater than 24"

E72 Thru E90 — 5 Gore Elbows

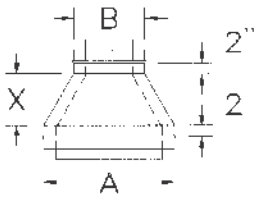


A = 3" Thru 24"

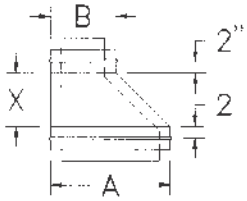


A = Greater than 24"

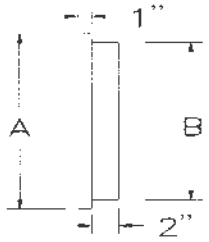
R1 — Reducers



ER1 — Reducers



SD — Stepdown



Dimensions:

A = Inlet (Major x Minor or Minor x Major)
B = Outlet (Major x Minor or Minor x Major)
C = Branch (Major x Minor or Minor x Major)
D = Branch (Major x Minor or Minor x Major)
H = 3" if C = 3" to 8"
6" if C = 9" to 16"
9" if C = 17" to 24"
12" if C = 25" & Up

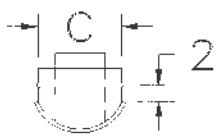
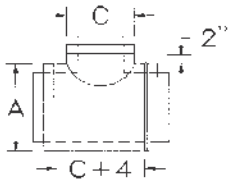
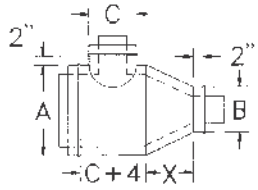
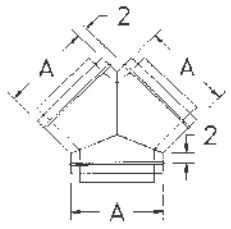
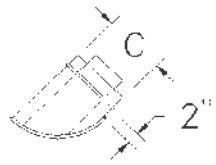
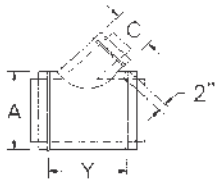
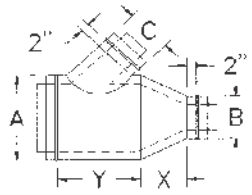
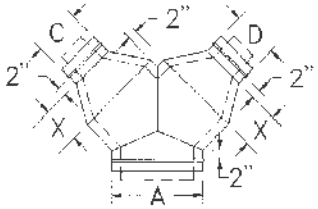
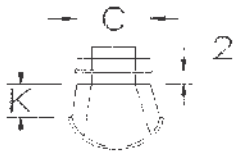
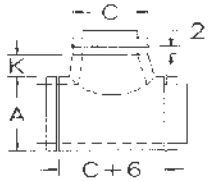
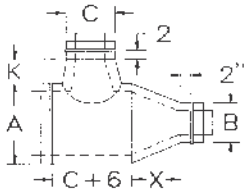
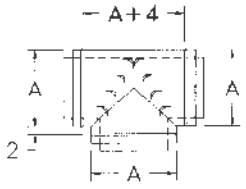
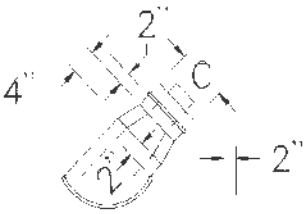
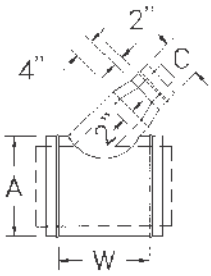
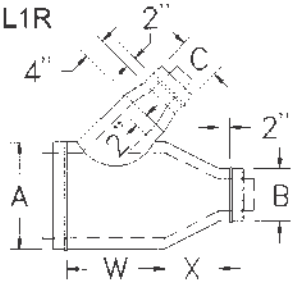
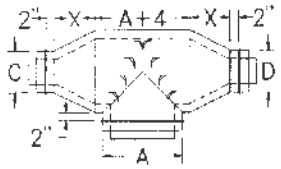
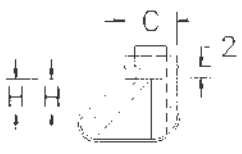
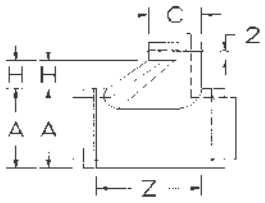
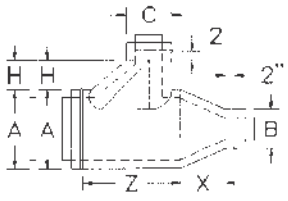
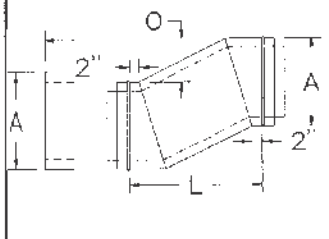
K = 5 1/4"
L = Offset Length
O = Offsetting Amount
R = 1.5 x A
S = 2
T = A/4+2
U = Ax2+2

V = (A/2x1.414)+((C+2)/2)+6
W = (C+2)x1.414+4
X = 12" if A - B = 18" or Less
24" if A - B = 19" or Greater
Y = (1.414 x C) + 4
Z = C+H+4
* = Consult Factory

**Dimemsion of Liner = O.D. - (2 x Insulation Thickness)
**End of Liner Extends 2" Past Ends of Fittings

Spiral Pipe of Texas, Inc.

Double Wall Oval Spiral Pipe and Fitting Standards

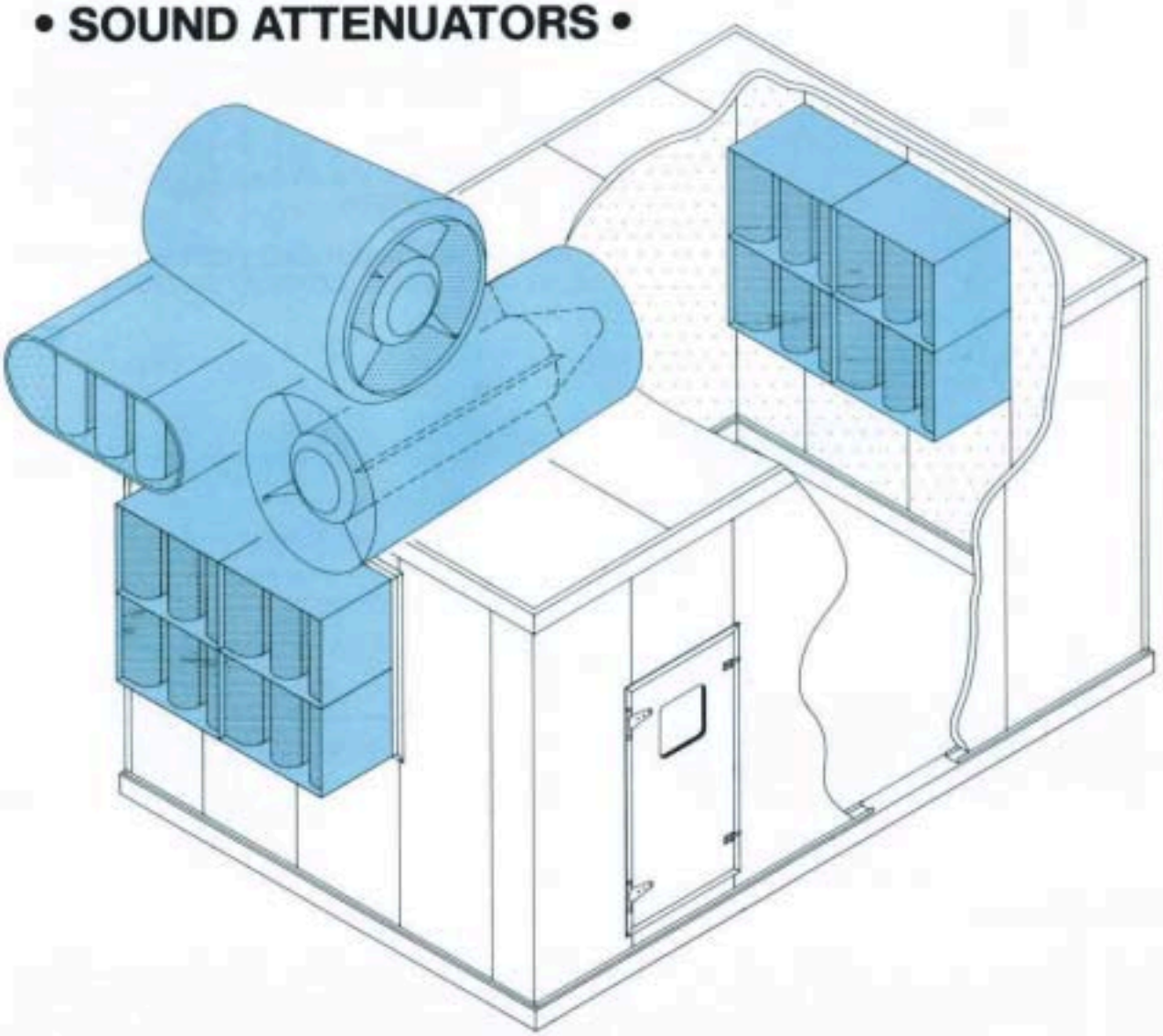
LT 	T1 	T1R 	Y2 
Straight 90 Degree Tees			"Y" Fitting
LL 	L1 	L1R 	Y2R 
45 Degree Lateral Tees			Reducing "Y" Fitting
LCT 	CT1 	CT1R 	BT 
Conical 90 Degree Tees			Bullhead Tee
LCL 	CL1 	CL1R 	BTR 
Conical 45 Degree Lateral Tees			Reducing Bullhead
LLL 	LL1 	LL1R 	SET 
Low Loss 90 Degree Tees			Offset

SPOT

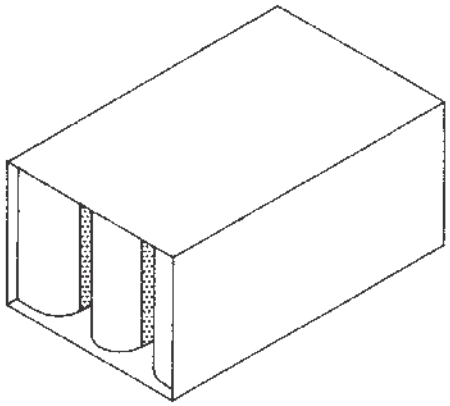
SPIRAL PIPE OF TEXAS, INC.

ACOUSTICAL PRODUCTS

• SOUND ATTENUATORS •



DESIGN AND CONSTRUCTION



RETANGULAR SILENCERS

SPOT SILENCERS FEATURE:

SMOOTH RADIUS SOLID INLET FOR BETTER AIR FLOW

STRAIGHT THRU AIR PASSAGE FOR MAXIMUM ATTENUATION

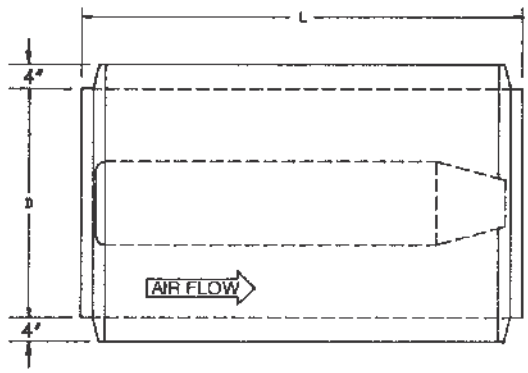
RADIUS EXIT FOR LESS TURBULANCE IN THE AIR STREAM

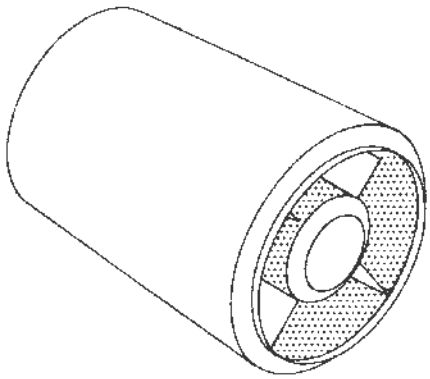
22ga. PRIME GALVANIZED (G90) SHELL, 22ga. GALVANIZED PERFORATED BAFFLES AND 4#/ cu. ft. ACOUSTICAL FILL FOR ALL STANDARD MODELS

DIFFERENT GUAGES AND METALS ARE ABAILABLE AS AN OPTION

SPECIAL SIZES AND END TREATMENTS ARE ALSO ABAILABLE - CONSULT FACTORY

ROUND SILENCERS



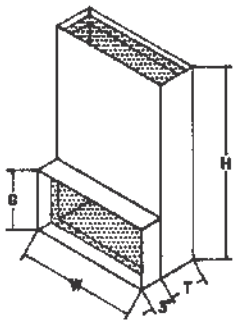


DESCRIPTION:

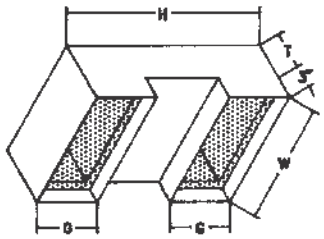
S.P.O.T. ROUND ATTENUATORS ARE DOUBLE WALL CONSTRUCTION WITH THE OUTER SHELL OF GALVANIZED SPIRAL PIPE 8" LARGER THAN THE INSIDE PERFORATED INNER LINER. THE CENTER ABSORBER IS DESIGNED WITH A SPUN METAL HEAD AND CONE SHAPED TAIL FOR MAXIMUM ATTENUATION AND MINIMUM PRESSURE DROP. THE ATTUNATOR IS FILLED WITH 4#/cu. ft. MINERAL FIBER INSULATION.

STANDARD MODELS ARE ABAILABLE IN 12" THRU 60" DIAMETERS. S.P.O.T. ROUND ATTENUATORS ARE SIZED TO FIT DUCTWORK WITHOUT TRANSITIONS. OTHER MATERIALS AND FLANGED ENDS ARE AVAILABLE AS AN OPTION. CONTACT FACTORY FOR MORE INFORMATION.

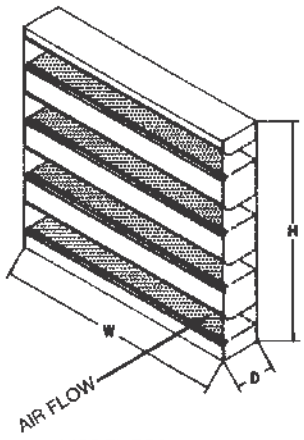
SPECIALITY SILENCERS



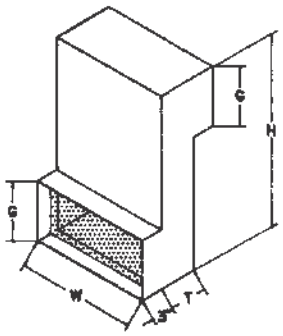
MODEL TGL



MODEL TGU



MODEL TGS



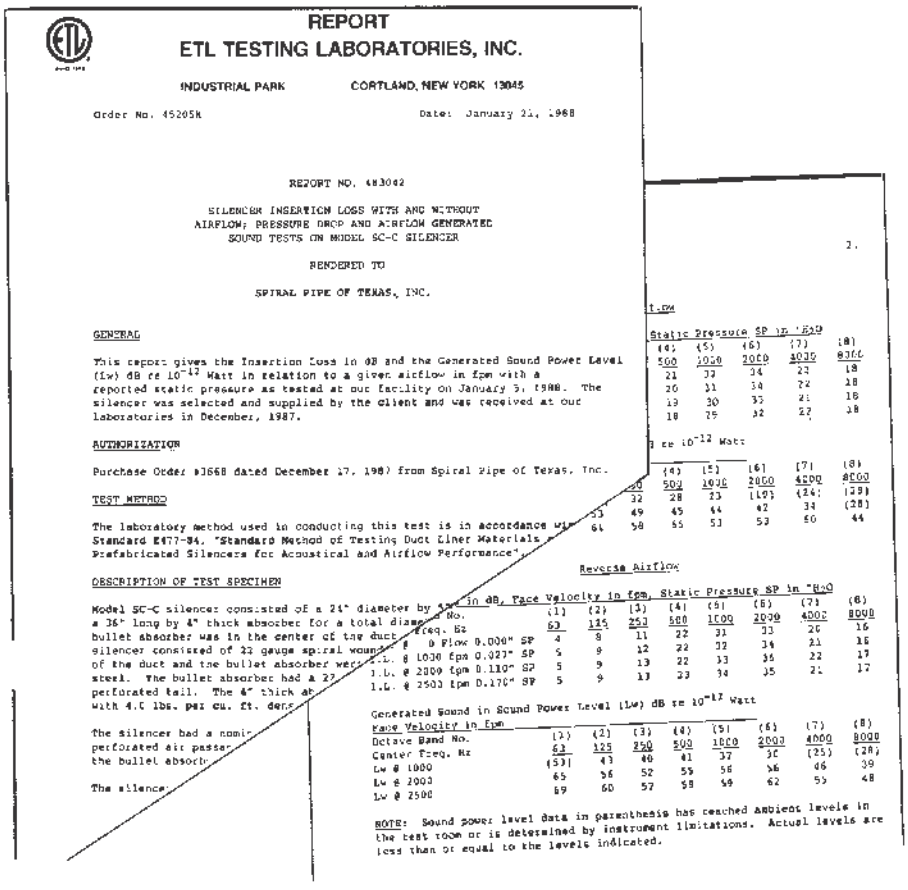
MODEL TGZ

TRANSFER & RETURN SILENCERS

CONSTRUCTED OF HIGH QUALITY GALVANIZED METAL AND 4#/cu.ft. ACOUSTICAL FILL

THESE SILENCERS PROVIDE LOW COST ATTENUATION AND ARE TYPICALLY USED FOR ROOM TO ROOM AIR TRANSFER WHILE PROVIDING PRIVACY, RETURN AIR AND EXHAUST APPLICATIONS.

PRODUCT TESTING



REPORT
ETL TESTING LABORATORIES, INC.

INDUSTRIAL PARK CORTLAND, NEW YORK 13045

Order No. 45205R Date: January 21, 1988

REPORT NO. 483042

SILENCER INSERTION LOSS WITH AND WITHOUT AIRFLOW; PRESSURE DROP AND AIRFLOW GENERATED SOUND TESTS ON MODEL SC-C SILENCER

RENDERED TO

SPIRAL PIPE OF TEXAS, INC.

GENERAL

This report gives the Insertion Loss in dB and the Generated Sound Power Level (Lw) dB re 10^{-12} Watt in relation to a given airflow in fpm with a reported static pressure as tested at our facility on January 5, 1988. The silencer was selected and supplied by the client and was received at our laboratories in December, 1987.

AUTHORIZATION

Purchase Order #3668 dated December 17, 1987 from Spiral Pipe of Texas, Inc.

TEST METHOD

The laboratory method used in conducting this test is in accordance with ASTM Standard E477-84, "Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance".

DESCRIPTION OF TEST SPECIMEN

Model SC-C silencer consisted of a 24" diameter by [illegible] in dB, Face Velocity in fpm, Static Pressure SP in "H2O

Octave Band No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Center Freq. Hz	63	125	250	500	1000	2000	4000	8000
0 Flow 0.000" SP	4	8	11	22	33	33	26	16
1030 fpm 0.027" SP	5	9	12	22	33	34	21	16
2000 fpm 0.110" SP	5	9	13	22	33	35	22	17
2503 fpm 0.170" SP	5	9	13	23	34	35	21	17

a 36" long by 4" thick absorber for a total diam[illegible] bullet absorber was in the center of the duct [illegible] silencer consisted of 22 gauge spiral wound [illegible] of the duct and the bullet absorber were [illegible] steel. The bullet absorber had a 27 [illegible] perforated tail. The 4" thick ab[illegible] with 4.0 lbs. per cu. ft. dens[illegible]

The silencer had a nomi[illegible] perforated air passa[illegible] the bullet absorb[illegible]

The silencer

Reverse Airflow

Octave Band No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Center Freq. Hz	63	125	250	500	1000	2000	4000	8000
0 Flow 0.000" SP	4	8	11	22	33	33	26	16
1030 fpm 0.027" SP	5	9	12	22	33	34	21	16
2000 fpm 0.110" SP	5	9	13	22	33	35	22	17
2503 fpm 0.170" SP	5	9	13	23	34	35	21	17

Generated Sound in Sound Power Level (Lw) dB re 10^{-12} Watt

Face Velocity in fpm

Octave Band No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Center Freq. Hz	63	125	250	500	1000	2000	4000	8000
Lw @ 1000	(53)	43	40	41	37	30	(25)	(28)
Lw @ 2000	65	56	52	55	56	56	46	39
Lw @ 2500	69	60	57	58	59	62	55	48

NOTE: Sound power level data in parenthesis has reached Ambient levels in the test room or is determined by instrument limitations. Actual levels are less than or equal to the levels indicated.

SPOT UTILIZES ONLY OUTSIDE INDEPENDANT TESTING LABORATORIES FOR PRODUCT EVALUATION AND REPORTING

FOR ACCURATE COMPARISONS OTHER MANFACTURER'S PRODUCTS MUST BE TESTED IN THE SAME LABORATORY UNDER THE SAME TEST CONDITIONS AND METHODS

SILENCER SELECTION GUIDE

1. CALCULATE NATURALLY ATTENUATED NOISE LEVEL

DETERMINE THE NOISE GENERATED BY THE SOURCE (FAN)

DETERMINE THE NATURAL ATTENUATION IN THE SYSTEM PROVIDED BY DUCTWORK, ELBOWS ROOM EFFECT, END LOSS, ETC. (SEE ASHRAE 1987 SYSTEMS AND APPLICATION, CHAPTER 52 AND SMACNA HVAC DUCT SYSTEM DESIGN 1990, 3rd EDITION, CHAPTER 11)

SUBTRACT THE NATURAL ATTENUATION FROM THE SOURCE LEVEL

2. COMPARE THE RESULTANT LEVEL WITH THE DESIGN GOAL NC LEVEL (SEE TYPICAL EXAMPLES BELOW)

3. THE DIFFERENCE IS THE REQUIRED ATTENUATION NEEDED FROM ATTENUATORS

4. REPEAT FOR THE RETURN SIDE

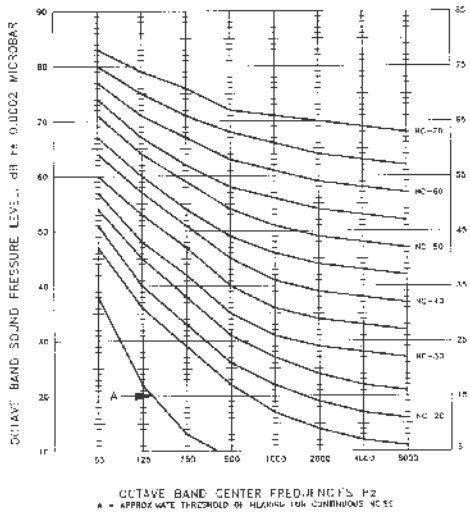
TYPICAL EXAMPLES:

Hospitals and Clinics	AVE.NC
Private	30
Operating rooms, wards	35
Laboratories, halls, lobbies, waiting rooms	40
Washrooms and toilets	45
Offices	
Board room	25
Conference rooms	30
Private offices, reception rooms	35
General open offfices, drafting rooms	40
Halls and corridors	45
Tabulation and computation	50
Auditoriums and Music Halls	
Concert and opera halls, sound studios	22
Legitimate theaters, multi-purpose halls	27
Movie theaters, TV audience studios semi outdoor amphitheaters, lecture halls	32
Lobbies	40
Houses of Worship and Schools	
Sanctuaries	25
Libraries, classrooms	35
Laboratories, recreation halls	40
Corridors, halls, kitchens	45

Public Buildings	
Public libraries, museums, court rooms	35
Post offices, banking areas, lobbies	45
Washrooms and toilets	45
Restaurants, Cafeterias, Lounges	
Restaurants, nightclubs	40
Cocktail lounges	45
Cafeterias	45
Stores, Retail	
Clothing and department stores	40
Department stores (main floor) small stores, supermarkets	45
Sport Activities Indoor	
Coliseums	35
Bowling alleys, gymnasiums	40
Swimming pools	50

Noise Criteria for Occupied Spaces

	Octave Band Numbers							
Noise Criteria	1	2	3	4	5	6	7	8
NC 20	51	41	33	26	22	19	17	16
NC 25	54	45	38	31	27	24	22	21
NC 30	57	48	41	35	31	29	28	27
NC 35	60	53	46	40	36	34	33	32
NC 40	64	57	51	45	41	39	38	37
NC 45	67	60	54	49	46	44	43	42
NC 50	71	64	59	54	51	49	48	47
NC 55	74	67	62	58	56	54	53	52
NC 60	77	71	67	63	61	59	58	57
NC 65	80	75	71	68	66	64	63	62
NC 70	83	79	75	72	71	70	69	68

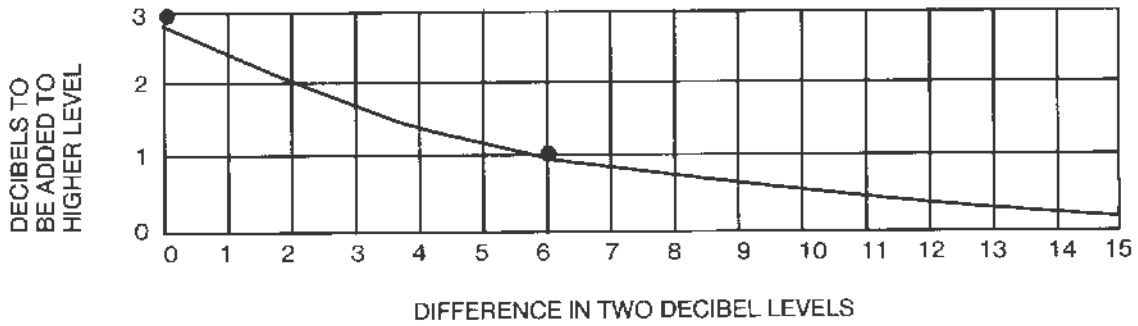


SUMMARY FORM

	OCTAVE BAND / CENTER FREQUENCY (Hz)						
	2 / 125	3 / 250	4 / 500	5 / 1000	6 / 2000	7 / 4000	8 / 8000
ACTUAL FAN PWL FROM MFG DATA							
NATURAL ATTENUATION FROM SYSTEM (DUCT, ELBOWS, ROOM EFFECT, ETC.)							
UNSILENCED NOISE LEVEL							
DESIGN GOAL (NC)							
INSERTION LOSS REQUIRED							
INSERTION LOSS FROM S.P.O.T. DATA SHEET FOR SELECTED SILENCER							
MODEL _____ FACE VEL. _____ ASP"H20 _____							
SELF GENERATED NOISE CHECK							
LEVEL FROM S.P.O.T. DATA SHEET							
AREA CORRECTION FACTOR							
*ACTUAL SELF GENERATED NOISE LEVEL							

IF *ACTUAL SELF GENERATED NOISE LEVEL IS MORE THAN 6dB BELOW THE SOURCE NOISE LEVEL AT THE SILENCER EXIT, THE EFFECT OF GENERATED NOISE MAY BE DISREGARDED.

IF APPLICABLE, ADD TO THE HIGHER LEVEL PER THE FOLLOWING DECIBEL ADDITION METHOD.



SAMPLE SPECIFICATION

GENERAL

FURNISH AND INSTALL PREFABRICATED SILENCERS IN THE AIR HANDLING SYSTEM OF THE SIZES AND PERFORMANCE SHOWN ON SCHEDULE AND/OR ON DRAWINGS. THEYSHALL BE THE PRODUCT OF A NATIONALLY KNOWN MANUFACTURER WHO HAS ENGAGED IN THE MANUFACTURE AND DISTRIBUTION OF THIS TYPE OF EQUIPMENT FOR AT LEAST 5 YEARS.

MANUFACTURER SHALL, UPON REQUEST, PROVIDE CERTIFIED TEST REPORTS FROM A NATIONALLY KNOWN QUALIFIED INDEPENDENT LABORATORY CORROBORATING HIS CATALOG PERFORMANCE TEST REPORTS SHALL BE BASED ON A 24" X 24" CROSS SECTIONAL RETANGULAR SILENCER OF TYPE AND MODEL REQUIRED FOR THIS PROJECT.

MATERIALS

OUTER CASINGS SHALL BE OF NOT LESS THAN 22 GAUGE GALVANIZED STEEL CONSTRUCTION. ALL EXTERNAL SEAMS SHALL BE LOCKFORMED AND FILLED WITH MASTIC OR CONTINUOUSLY WELDED, AND SHALL BE AIRTIGHT UP TO 8" WATER GAUGE PRESSURE DIFFERENTIAL. CASINGS SHOULD BE SUITABLY STIFFENED TO PREVENT PERMANENT DEFORMATION WHEN TESTED AT 8" PRESSURE DIFFERENTIAL. THEY SHALL NOT VIBRATE AUDIBLY DURING NORMAL OPERATION OF AIR HANDLING SYSTEM.

INTERIOR PARTITIONS SHALL BE OF NOT LESS THAN 24 GAUGE GALVANIZED STEEL PERFORATED AND NOT MORE THAN 23% OPEN AREA. ACOUSTICALLY ABSORPTIVE FILLER MATERIAL MADE FROM AN INORGANIC (MINERAL WOOL) COMPRESSED NOT LESS THAN 5% TO ELIMINATE VOIDS AND PREVENT SETTLING. MATERIAL SHALL BE VERMIN AND MOISTURE PROOF AND IMPART NO ODOR TO THE AIR.

INCOMBUSTIBLE FILLER MATERIAL SHALL EXHIBIT NOT MORE THAN THE FOLLOWING FIRE HAZARD CLASSIFICATION VALUES WHEN TESTED IN ACCORDANCE WITH STANDARD ASTM E-84.

FLAME SPREAD	*15*
SMOKE DEVELOPED	*0*

PERFORMANCE

SILENCER SHALL PROVIDE THE SCHEDULED MINIMUM ATTENUATION VALUES (dB) INSERTION LOSS FOR THE DESIGN AIR VELOCITIES. THE AIRFLOW PRESSURE DROP OF THE SILENCER SHALL NOT EXCEED THE VALUES INDICATED ON THE SCHEDULE. THE SOUND POWER LEVEL IN dB re 10^{-12} WATTS GENERATED BY AIRFLOW THROUGH THE SILENCER SHALL NOT EXCEED THE SCHEDULED VALUES. SILENCERS SHALL BE AS MANUFACTURED BY SPIRAL PIPE OF TEXAS, INC.

MINIMUM INSERTION LOSS (dB) SHALL BE AS FOLLOWS: / MAXIMUM ACCEPTABLE AIR FLOW GENERATED NOISE SHALL BE STATED IN SOUND POWER LEVEL (dB re 10^{-12} WATTS) AS FOLLOWS:

	OCTAVE BAND & CENTER FREQUENCY (Hz)						
	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
IL / GN							

INSTALLATION DETAILS

LARGE RETANGULAR SILENCERS ARE SUPPLIED IN MODULES OF MANY DIFFERENCE SIZES FOR CONVENIENCE IN SHIPPING, HANDLING, AND FIELD INSTALLATION.

THE MODULES SHOULD BE BANDED TOGETHER WITH AT LEAST TWO METAL STRAPS AROUND ENTIRE BANK AND THREE OR FOUR TACK WELDS ALONG THE LENGTH OF EACH ADJOINING SURFACE.

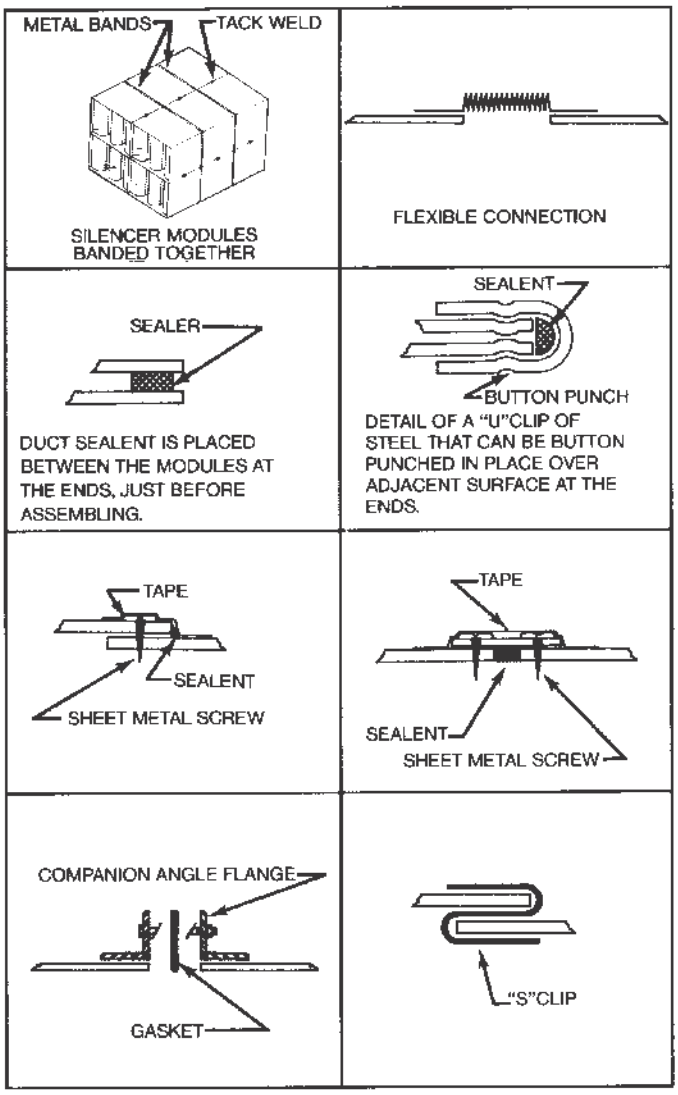
MODULES MUST BE PROPERLY SEALED TOGETHER AT EACH END TO PREVENT LEAKS. SEAL CAN BE ACCOMPLISHED AS PER DETAILS.

MODULES MAY BE BANDED OR FLANGED IN BANK SIZES AT FACTORY FOR AN ADDITIONAL CHARGE, CONTACT FACTORY.

ATTACHMENT TO DUCTWORK

SEE PAGES 1-35 (FIG. 1-4) OF THE FIRST EDITION (1985) S.M.A.C.N.A. DUCT MANUAL FOR OTHER ATTACHMENTS. (CHECK PRESSURE CLASS)

NOTE:
ALL SILENCERS ARE PROVIDED WITH 1½" STRAIGHT EXTENSIONS UNOBSTRUCTED AT BOTH ENDS FOR ATTACHMENTS TO ADJACENT DUCTWORK.



WARRANTY

SPOT, INC. WARRANTS PRODUCTS OF ITS' MANUFACTURE TO BE OF FIRST CLASS QUALITY MATERIALS AND WORKMANSHIP AND TO PERFORM IN ACCORDANCE WITH PUBLISHED RATINGS WHEN PROPERLY INSTALLED AND OPERATED UNDER NORMAL CONDITIONS. OUR OBLIGATION IS LIMITED TO MAKING GOOD AT OUR FACTORY ANY PART, PARTS, OR COMPLETE ASSEMBLIES WHICH SHALL, WITHIN ONE YEAR AFTER SHIPMENT TO THE ORIGINAL PURCHASER, BE RETURNED WITH TRANSPORTATION CHARGES PREPAID, AND WHICH SHALL, TO OUR SATISFACTION, BE PROVEN DEFECTIVE. WARRANTY IS BASED ON OUR PRODUCTS BEING RETURNED FOR REPAIR OR REPLACEMENT. CORRECTION OF SUCH DEFECTS SHALL BE BY REPAIR OR REPLACEMENT OF DEFECTIVE UNIT OR UNITS AT SPOT'S OPTION AND SHALL NOT BE LIABLE FOR LOSS, DAMAGE, OR EXPENSES DIRECTLY OR INDIRECTLY ARISING FROM THE INSTALLATION AND/OR USE OF OUR PRODUCTS OR FROM ANY OTHER CAUSE.

SPOT ASSUMES NO LIABILITY FOR EXPENSES OR REPAIRS MADE OUTSIDE ITS' FACTORY EXCEPT BY PRIOR WRITTEN CONSENT. NO LIABILITY OF ANY KIND SHALL ATTACH SPOT UNTIL SAID PRODUCTS HAVE BEEN PAID FOR IN FULL. THIS WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED AND NO PERSON OR REPRESENTATIVE IS AUTHORIZED TO GIVE ANY OTHER WARRANTIES, NOR TO ASSUME ANY OTHER LIABILITY IN CONNECTION WITH SPOT PRODUCTS. NO WARRANTY IS MADE ON MOTORS OR ACCESSORIES, AS THEY ARE SEPARATELY WARRANTED BY THEIR RESPECTIVE MANUFACTURERS. CATALOG DEPICTS GENERAL APPEARANCE AND DESIGN AT TIME OF PUBLICATION. SPOT RESERVES THE RIGHT TO CHANGE DESIGN, CONSTRUCTION AND/OR MATERIALS AT ANY TIME WITHOUT NOTICE IN THE BEST INTEREST OF THE USER AND SPOT.

TYPICAL APPLICATIONS FOR ATTENUATORS

HVAC SYSTEMS

BUILT-UP AIR HANDLING UNITS

EXHAUST FANS

VENT SYSTEMS

ENGINE GENERATOR SILENCERS

OTHER SPOT PRODUCTS

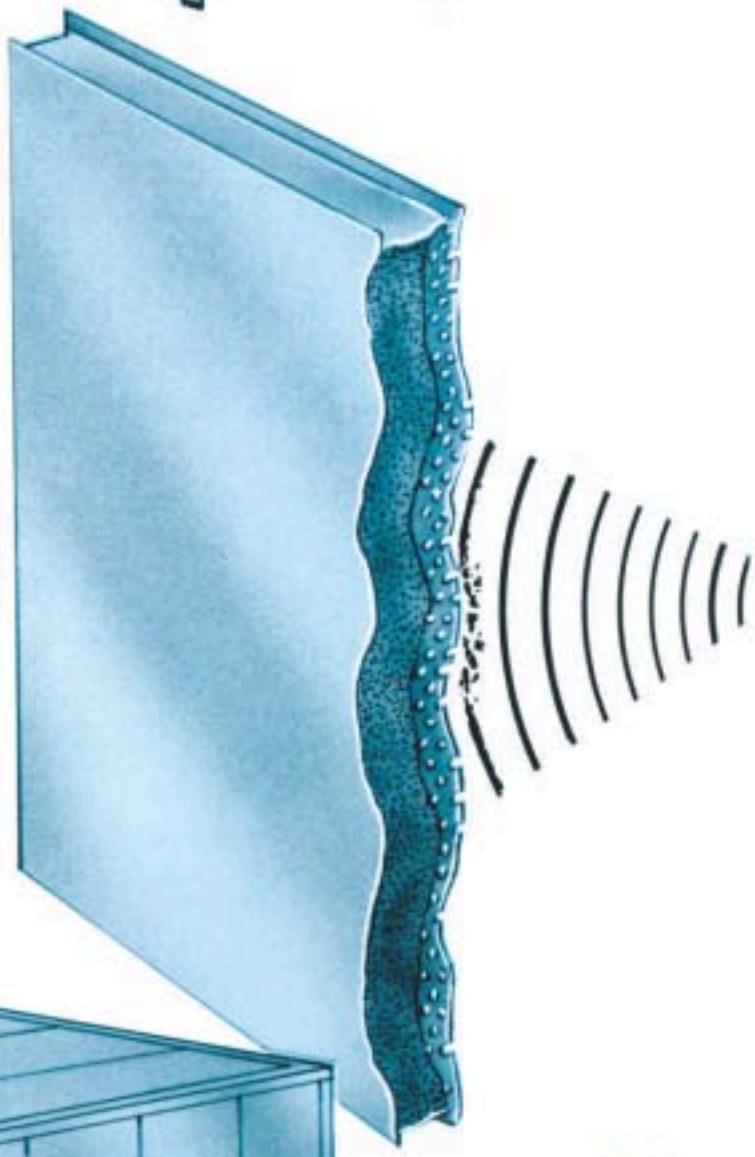
ACOUSTICAL/THERMAL PANELS
DOUBLE WALL ROUND AND OVAL SPIRAL PIPE AND FITTINGS
SINGLE WALL ROUND AND OVAL SPIRAL PIPE AND FITTINGS
INDUSTRIAL AND SPECIALTY SHEET METAL PRODUCTS

SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102
PHONE (817) 877-3543 *FAX (817) 332-2933*

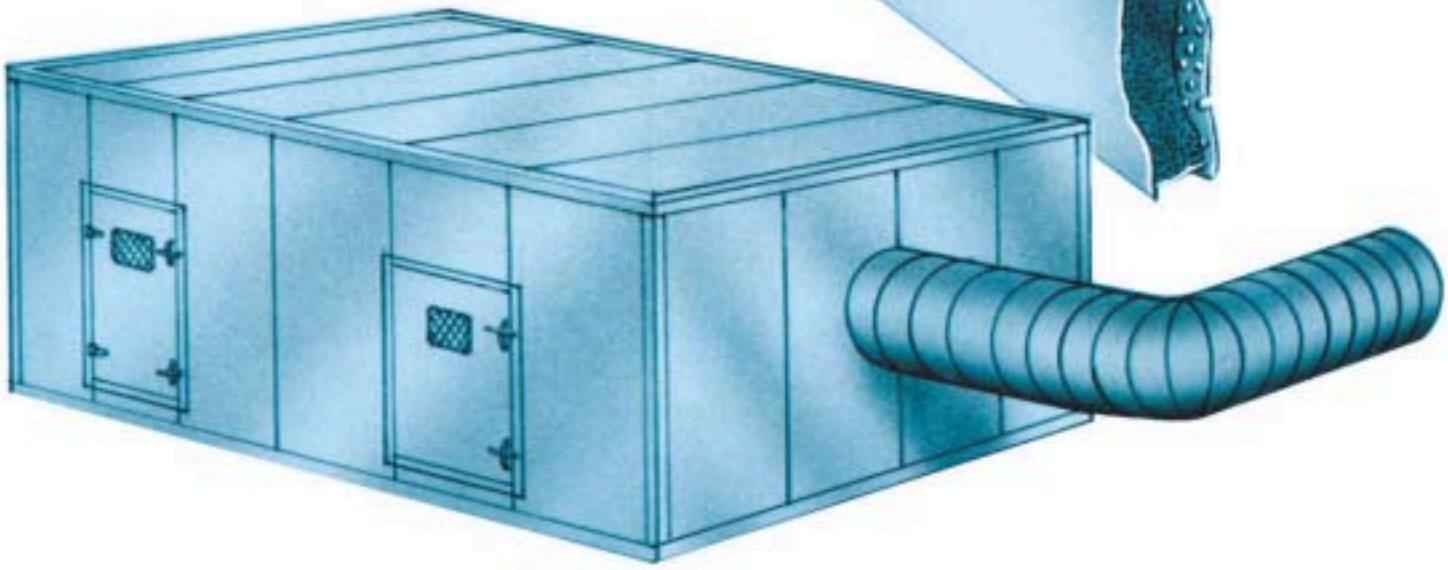
SPOT

SPIRAL PIPE OF TEXAS, INC.

ACOUSTICAL/THERMAL
PANELS

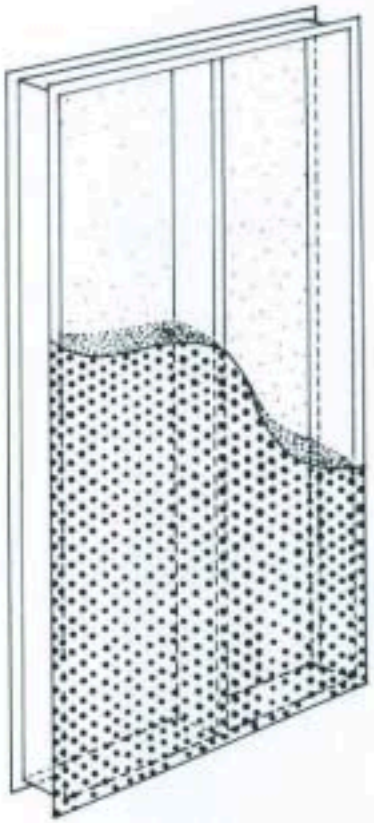


They won't break this SOUND BARRIER!



ACOUSTICAL/THERMAL PANELS

- **2" AND 4" PANELS STANDARD**
- **TONGUE AND GROOVE DESIGN**
- **AIR TIGHT CONSTRUCTION TO 10" W.G. DIFFERENTIAL PRESSURE**
- **SELF SUPPORTING TO 12' SPAN**
- **EASILY ERECTED**
- **ACOUSTICAL TESTS BY INDEPENDENT LABORATORY**



STANDARD PANEL CONSTRUCTION

18 ga. galvanized outer sheet spot welded to channels

Inorganic acoustical fill material

18 ga. galvanized reinforcing channels

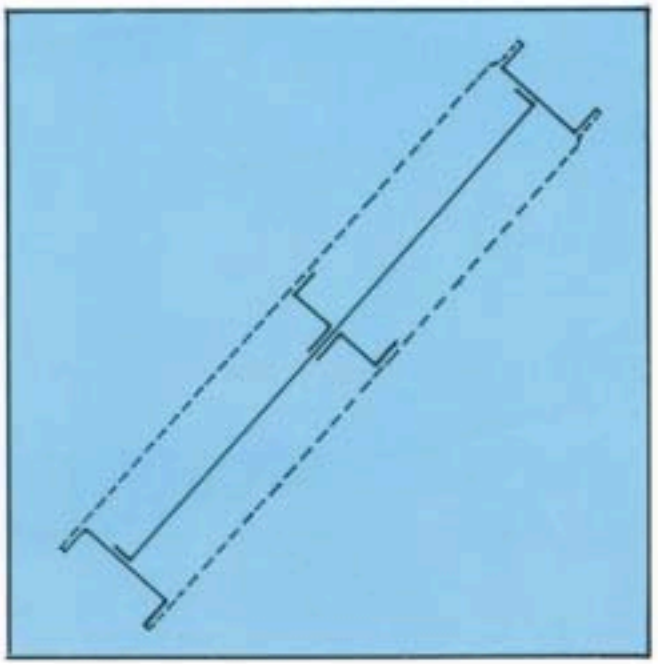
22 ga. galvanized perforated or solid inner sheet spot welded & riveted to channels

SEPTUM PANEL CONSTRUCTION

22 ga. galvanized perforated on both sides

18 ga. galvanized solid center sheet

18 ga. galvanized channels and reinforcing



ACOUSTICAL PERFORMANCE

TRANSMISSION LOSS IN dB

PREFERRED OCTAVE BANDS HERTZ (HZ)	125	250	500	1,000	2,000	4,000	STC*
4" PANEL	20	32	41	51	60	61	42

* In accordance w/ASTME90-85 and ASTME413-73

The transmission loss is an important factor in that it represents the amount of sound that the enclosure is capable of containing while the sound absorption provides attenuation as well as preventing the reverberant build up of sound. If used in a pressurized air system, up to 25% of the panels can have a solid liner as required to prevent air by-pass of filters, coils, etc. with negligible effect on the acoustical performance of the enclosure.

SOUND ABSORPTION COEFFICIENTS

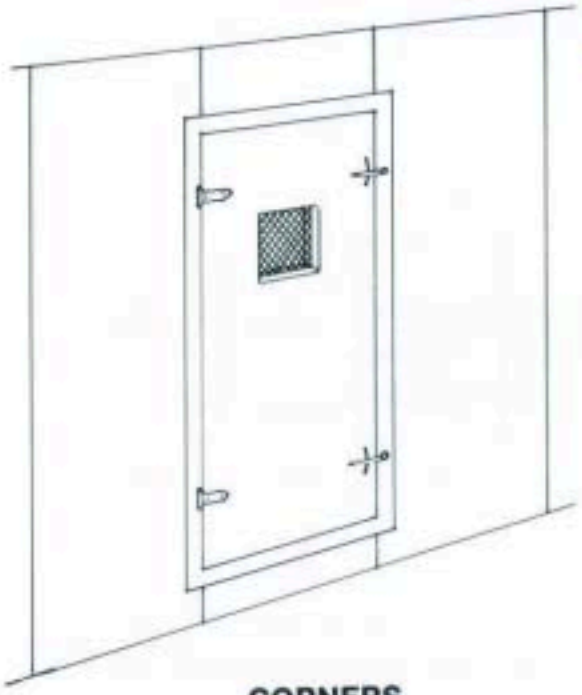
PREFERRED OCTAVE BANDS HERTZ (HZ)	125	250	500	1,000	2,000	4,000	NRC
4" PANEL	.86	1.15	1.06	1.07	1.04	1.0	1.1

* In accordance w/ASTMC423-84a

DATA FROM A NATIONALLY RECOGNIZED INDEPENDENT TESTING LABORATORY. CERTIFIED TEST AVAILABLE ON REQUEST.

THERMAL

4" PANELS HAVE A HEAT TRANSFER, U. FACTOR OF .0625 BTU/HR/SQ. FT./DEGREE F.

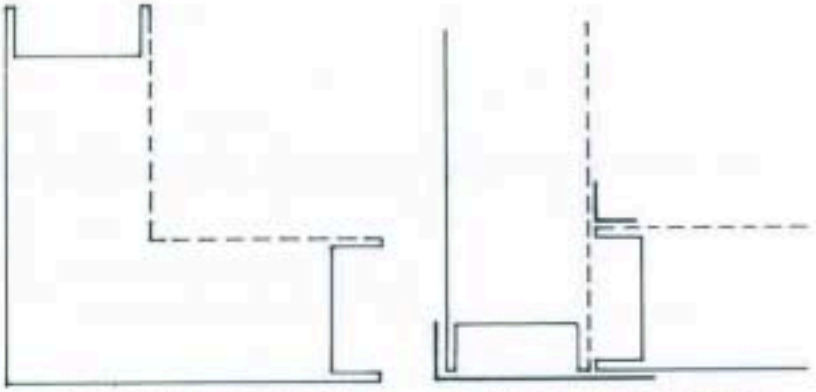


DOORS

The standard access door is 4" thick, 24" wide x 60" high, insulated and furnished with hinges and latches. Doors are available with optional double glazed wire reinforced glass in airtight rubber gasket material. Doors are fully insulated and constructed to be acoustically compatable with the panel system.

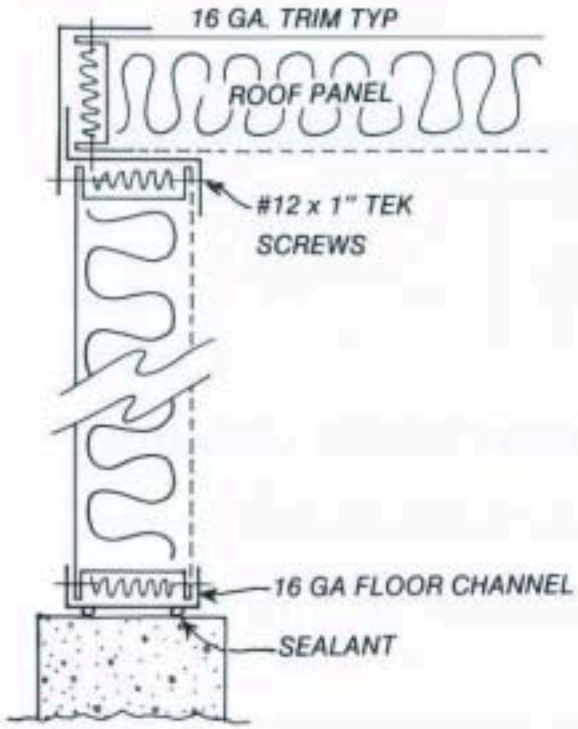
CORNERS

Factory built preformed corner panels increase the structural rigidity of pressure plenums and make up corners allow ease of enclosure completion.



PREFORMED CORNER

MAKE UP CORNER

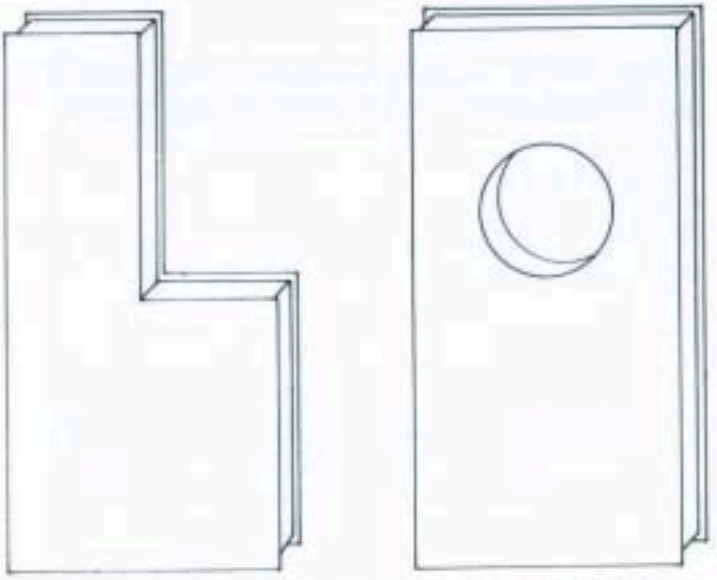


TYPICAL WALL DETAIL

TONGUE AND GROOVE JOINT

STRUCTURAL

Structural beams and columns may be required for certain applicatons and are available as an option.



NON STANDARD AND CUTOUT PANELS

GUIDE SPECIFICATIONS

GENERAL

Furnish & install prefabricated acoustical/thermal modular panels as manufactured by Spiral Pipe of Texas and as shown on the plans.

CONSTRUCTION

Panels shall be 4" thick with 18 ga. galvanized (G.90 coating) solid outer shell and 22 ga. galvanized perforated (minimum 23% open) inner sheet. Interior reinforcing channel and frame shall be 18 ga. galvanized with 1¼" minimum legs. Spaced 24" on center.

Acoustical/thermal fill shall be 4"-4 lb. per cu. ft. mineral fiber packed under compression to prevent voids and shall be inert, non combustible and non corrosive.

The face sheet shall be spot welded and riveted to the channel frame. The spot welds shall be staggered on 3" centers.

ACCESS DOORS

Doors are to be 4" thick with 18 ga. galvanized solid both inside and out with 24" x 60" clear opening. Each door shall have 2 hinges and 2 latches with inside release. Hinges are factory installed and latches are to be installed in the field. Doors to open against air pressure.

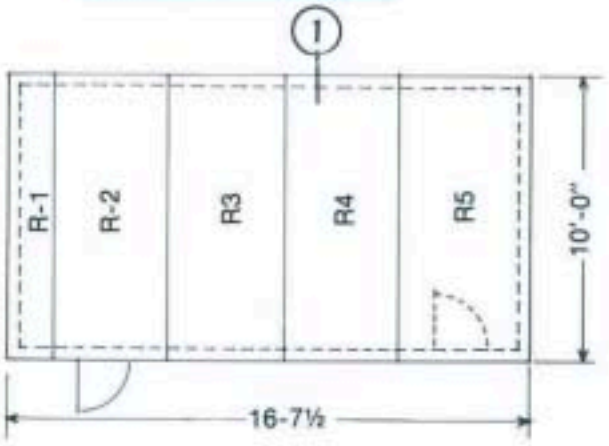
Windows shall be included in doors where shown or specified and shall consist of 2 panes installed in rubber glazing gaskets separated by an air space containing a desiccant material.

TRIM

All trim peices shall be 16 ga. galvanized and furnished in 10' lengths for field cutting as required.

★ In an on-going effort to improve our products Spiral Pipe of Texas reserves the right to revise the design and specifications of its products as technology advances.

EASY ASSEMBLY



KEY PLAN

1. Review drawings prepared specifically for project. Panels are individually numbered and keyed to the drawing. General details are keyed to the drawings and specific details are drawn when required.

2. Lay out outside dimensions of the enclosure and anchor floor channels with expansion shield anchors. Apply continuous bead of sealer at outside edge and fill with strip insulation.

3. Set corner panel and plumb along its edge.

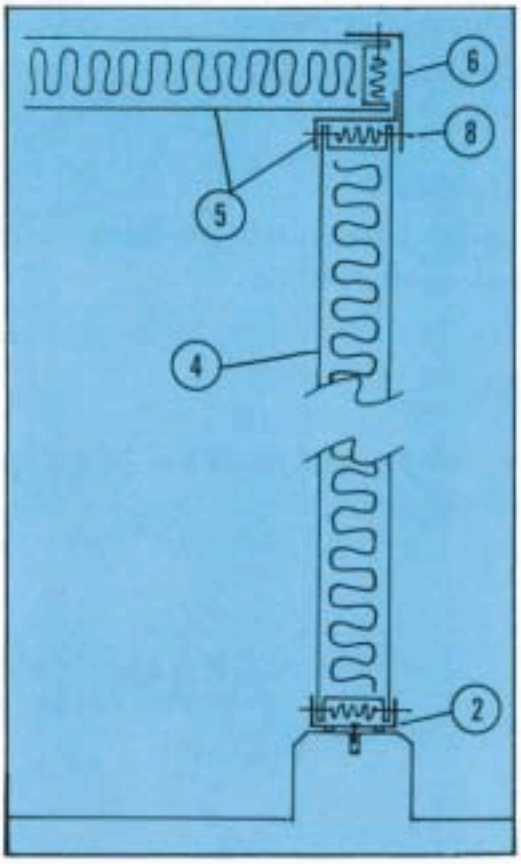
4. Apply sealant along outside edge of female channel, insulate, and tip next panel into place (male and female channels telescope tightly into place) and install 1 tek screw inside and out.

5. Place insulation strip along top and install wall cap z. Install roof panels per drawing.

6. Install trim per details.

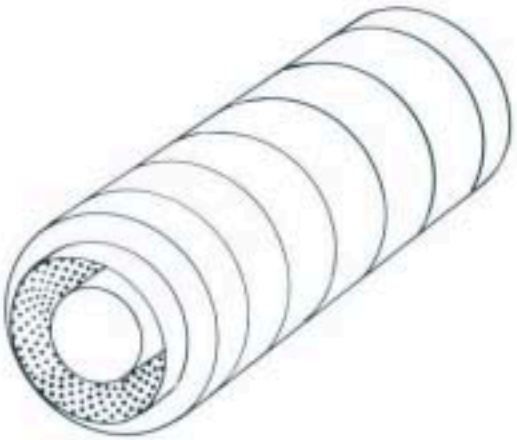
7. Install access doors.

8. Complete installation by installing sheet metal screws as recommended by manufacturer.



SOUND ATTENUATORS

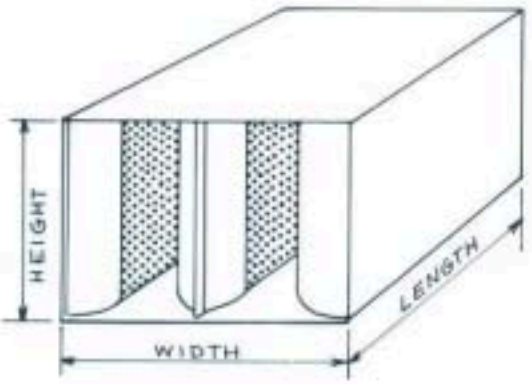
ROUND AND OVAL



SPOT manufactures a complete line of round, oval and rectangular sound attenuators for the HVAC Industry and other special noise control applications.

RECTANGULAR

Rectangular attenuators are available in low, medium and standard pressure drop models in 3', 5' and 7' standard lengths. Special models and materials are available.



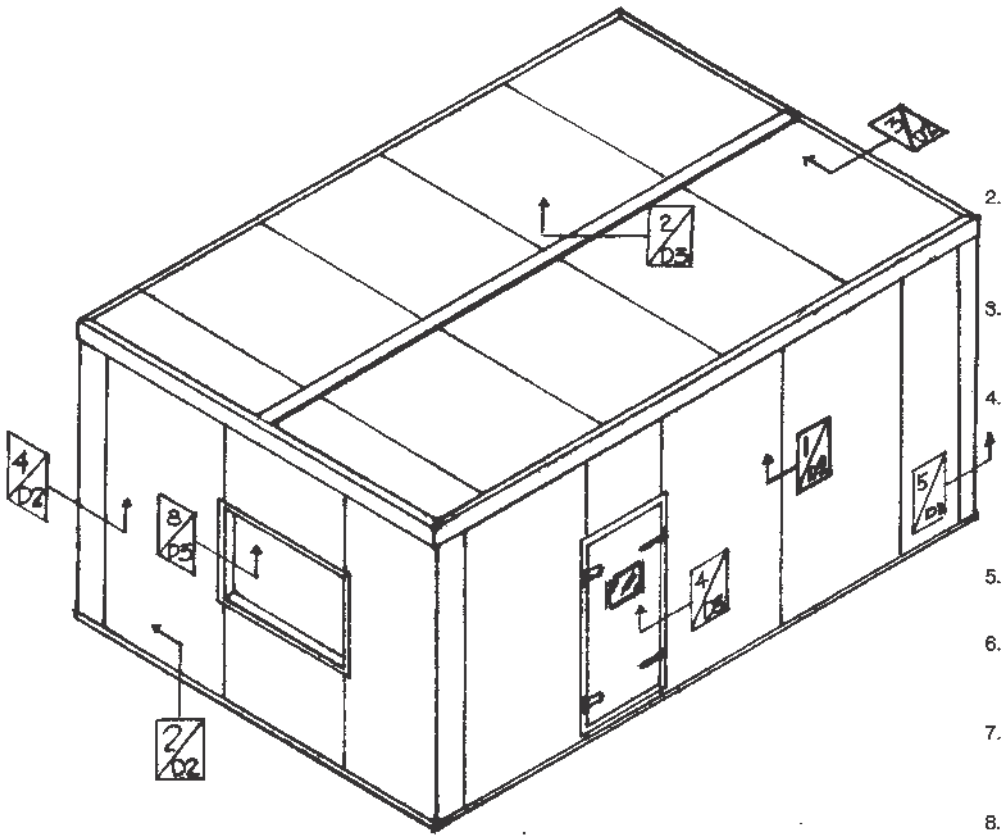
SPIRAL PIPE AND FITTINGS

Round and oval, single and double wall, spiral pipe, fittings, and other duct products for high and low velocity systems. All products are designed to meet SMACNA and ASHRAE standards.

TYPICAL APPLICATIONS FOR PANELS

- BUILT-UP AIR HANDLING ENCLOSURES
- EQUIPMENT PENTHOUSES
- MACHINERY ENCLOSURES
- ENGINE GENERATOR ENCLOSURES
- ACOUSTICAL BARRIER WALLS
- OVEN ENCLOSURES
- SHOP OFFICES

SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102
817-877-3543 FAX 817-332-2933



1. REVIEW DRAWINGS PREPARED SPECIFICALLY FOR PROJECT FOR PRE-INSTALLATION. PANELS ARE INDIVIDUALLY NUMBERED AND KEYED TO THE DRAWING (NUMBERS IN A SEQUENCE MANUFACTURER PROPOSES FOR BEST ERECTION - CHECK FIELD CONDITIONS IN LEW OF THIS SEQUENCE). GENERAL DETAILS ARE KEYED TO THE DRAWINGS. SPECIFIC DETAILS ARE DRAWN WHEN REQUIRED. VISUAL INSPECTION OF ALL PARTS IS RECOMMENDED FOR PROPER ASSEMBLY.
2. LAYOUT OUTSIDE DIMENSIONS OF THE PANELS ON FLOOR OR CURB, AND APPLY GASKET OR SEALANT AS PER SPECIFICATIONS OR DETAILS AND ANCHOR FLOOR CHANNELS WITH EXPANSION SHIELD ANCHORS.
3. AFTER FLOOR CHANNEL IS IN PLACE FILL WITH STRIP INSULATION, SET CORNER PANEL AND PLUMB ALONG IT'S EDGE.
4. APPLY SEALANT ALONG OUTSIDE EDGE OF FEMALE CHANNEL, INSULATE, AND TIP NEXT PANEL INTO PLACE. (2 LENGTHS OF PIPE LAID ACROSS TOP EDGE OF FLOOR CHANNEL WILL HELP POSITION AND ROLL PANELS INTO PLACE). AFTER MALE AND FEMALE CHANNELS TELESCOPE TIGHTLY INTO PLACE, INSTALL (1) TEK SCREW INSIDE AND OUT. CHECK PANELS FOR PLUMB.
5. PLACE INSULATION STRIP ALONG TOP OF VERTICAL PANELS AND INSTALL WALL CAP 'Z'.
6. INSTALL ROOF PANELS PER DRAWING. SEAL, INSULATE AND FASTEN INTO PLACE. PUT CEILING CORNER ANGLES IN POSITION, SEAL AND COMPLETE ERECTION.
7. INSTALL ALL TRIM PER DETAILS (ALL OPENINGS IN PANELS FOR EQUIPMENT, DUCT, ETC. ARE TO BE TRIMMED AND SEALED UNLESS NOTED.
8. INSTALL ACCESS DOORS.
9. COMPLETE INSTALLATION BY INSTALLING SHEET METAL SCREWS AS RECOMMENDED BY MANUFACTURER.

SPIRAL PIPE OF TEXAS INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

REVISIONS

TITLE: ASSEMBLY DETAILS
ACOUSTICAL PANELS

ISSUE DATE BY | DESCRIPTION OF ISSUE | DWN. CHK | ISSUE

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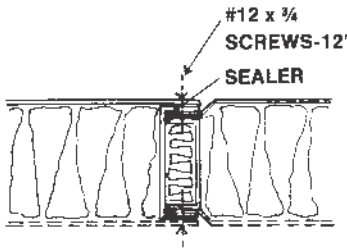
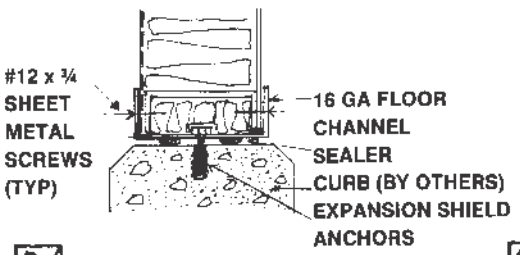
LOCATION
FOR
NAME
LOCATION

APPD. BY
DATE

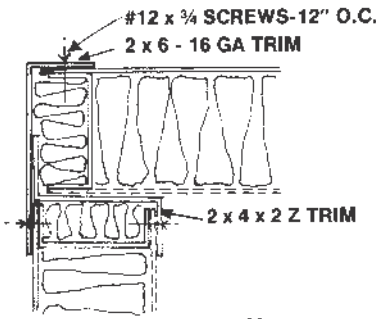
JOB NO. | DWG. NO.



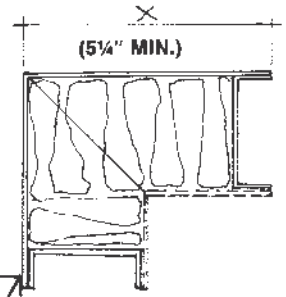
1/D2 TYPICAL PANEL JOINT



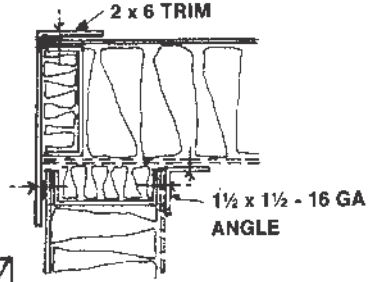
2/D2 WALL-FLOOR DETAIL



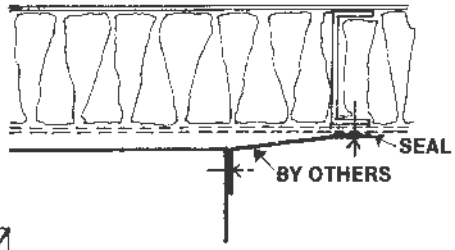
3/D2 WALL-ROOF DETAIL



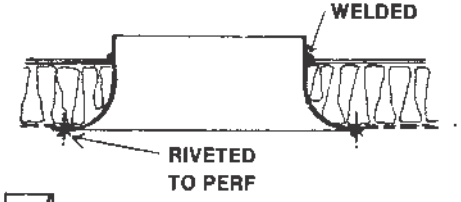
4/D2 PRE FORMED CORNER



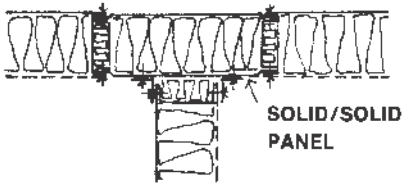
5/D2 MAKE UP CORNER



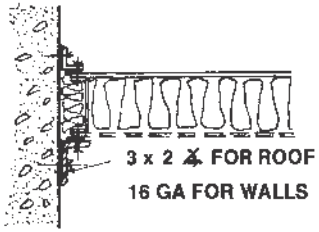
6/D2 EQUIPMENT BLANK OFF



7/D2 BELLMOUTH FITTING



8/D2 INTERIOR WALL



9/D2 PANEL TO BUILDING

SPIRAL PIPE OF TEXAS INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

REVISIONS

TITLE: ASSEMBLY DETAILS
ACOUSTICAL PANELS

ISSUE DATE BY | DESCRIPTION OF ISSUE | DWN CHK | ISS JE

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NAME
LOCATION

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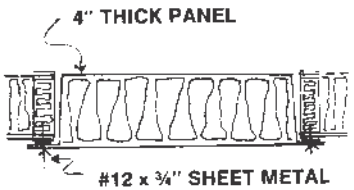
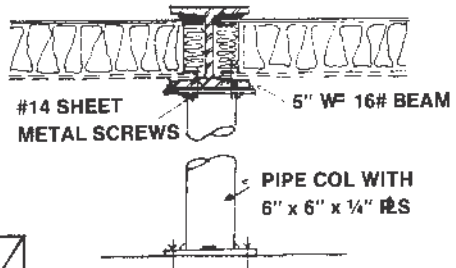
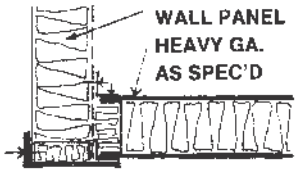


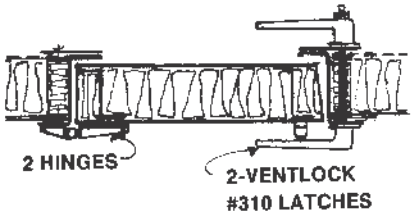
1/D3 REMOVABLE PANEL



2/D3 STRUCTURAL DETAIL

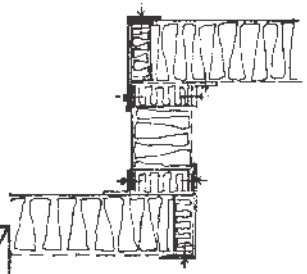


3/D3 FLOOR PANEL



4/D3 ACCESS DOOR

5/D3 INACCESSABLE TRIM



6/D3 90° OFFSET (WALL or ROOF)

7/D3 H—JOINER DETAIL

8/D3

9/D3

SPIRAL PIPE OF TEXAS INC.
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TITLE: ASSEMBLY DETAILS

REVISIONS

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DATE

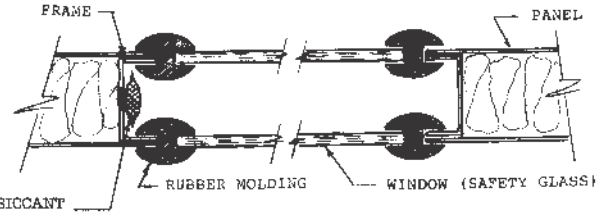
SUGGESTED INSTALLATION

STEP ONE: INSTALL PANELS TO MAKE DOOR OPENING IN WALL.

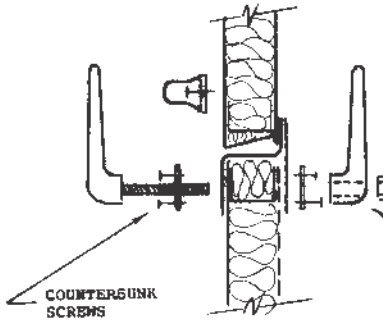
STEP TWO: INSTALL DOOR ASSEMBLY AND BACK PLATE IN DOOR OPENING AS SHOWN BELOW WITH #12 SELF TAPPING SCREWS 12" O.C. AROUND PERIMETER OF DOOR. (FOR DOORS SWINGING OUT HINGES WILL BE ON OUTSIDE OF UNIT, FOR DOORS SWINGING IN HINGES WILL BE ON INSIDE OF UNIT).

STEP THREE: DRILL DOOR LATCH MOUNTING HOLES THROUGH FRAME, PANEL AND BACK PLATE AS INDICATED.

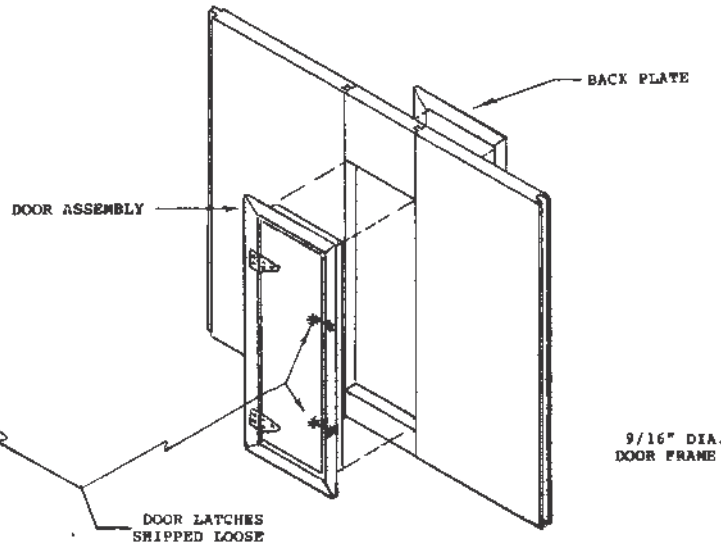
STEP FOUR: INSTALL LATCHES AND PULLS TO DOOR.



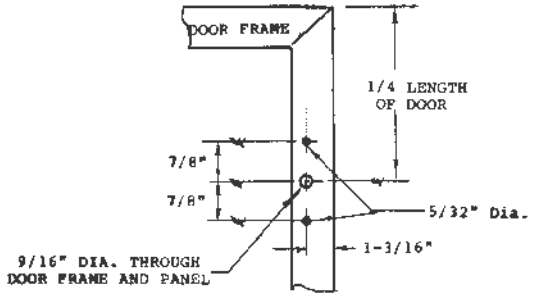
OPTIONAL WINDOW DETAIL



DOOR LATCH ASSEMBLY



DOOR INSTALLATION



DOOR LATCH MOUNTING HOLES

SPIRAL PIPE OF TEXAS INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

TITLE: ASSEMBLY DETAILS ACCESS DOOR

REVISIONS

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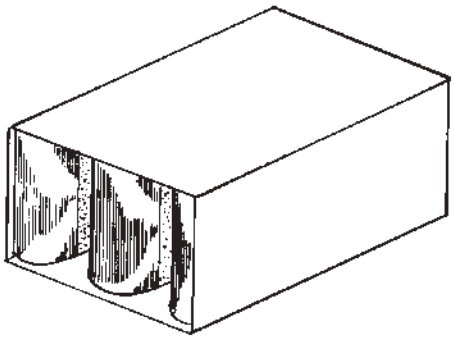
RECTANGULAR SOUND ATTENUATORS

S.P.O.T.



SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

ENGINEERING DATA

DYNAMIC INSERTION LOSS

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	NET INSERTION LOSS IN DECIBELS						
SA-3	−1500	8	22	28	38	39	26	14
	−1000	10	22	32	42	39	30	17
	0	8	18	30	42	40	31	19
	+1000	6	15	28	42	42	32	19
	+1500	6	14	25	32	34	30	17
SA-5	−1500	15	33	46	47	41	35	26
	−1000	13	30	45	53	50	47	26
	0	12	26	42	53	58	49	27
	+1000	11	23	40	52	55	49	29
	+1500	9	21	40	50	50	44	29
SA-7	−1500	16	36	45	48	42	34	31
	−1000	15	36	48	57	54	52	34
	0	15	35	46	54	53	52	34
	+1000	15	34	45	55	55	52	35
	+1500	10	33	44	47	48	41	35

ACOUSTIC AND AERODYNAMIC DATA ARE BASED ON COMPARATIVE TEST RESULTS OBTAINED IN AN INDEPENDENT TESTING LABORATORY.

DESCRIPTION

SPOT SOUND ATTENUATORS ARE CONSTRUCTED OF 22 GA GALVANIZED SHELLS WITH 22 GA GALVANIZED PERFORATED BAFFLES AND 4#/FT^3 MINERAL FIBER FILL. A FULL COMPLEMENT OF SIZES 6" to 48" x 6" TO 48" IS AVAILABLE. CONTACT THE FACTORY FOR OPTIONAL MATERIALS AND CONSTRUCTIONS.

ORDERING INFORMATION

INCLUDE MODEL NUMBER AND DIMENSIONS IN THE FOLLOWING ORDER

	W	H	L	MODEL
EXAMPLE	24	24	60	SA-5

AIR FLOW PERFORMANCE DATA

MODEL	STATIC PRESSURE LOSS (INCHES W.G.)						
SA-3		.07	.12	.18	.24	.38	.49
SA-5		.07	.13	.20	.27	.42	.55
SA-7		.10	.18	.27	.36	.56	.73
FACE VELOCITY F.P.M.		365	490	610	705	875	1000

TO OBTAIN APPLICABLE STATIC PRESSURE LOSS WITH ACTUAL C.F.M. KNOWN:

$$\text{FACE VELOCITY} = \frac{\text{C.F.M.}}{\text{AREA (sq. ft.)}}$$

$$Pd = \left(\frac{\text{FACE VELOCITY}}{\text{TABLE VELOCITY}}\right)^2 x$$

TABLE PRESSURE DROP

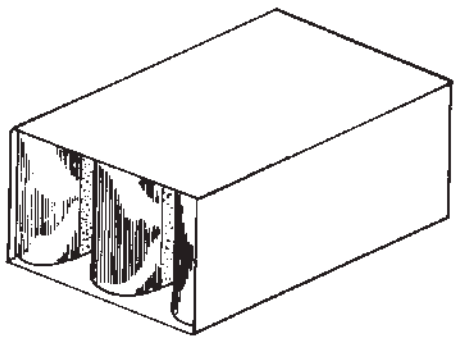
SELF NOISE SOUND POWER RATINGS (P.W.L.) (db re 10^{-12} WATTS)

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	SELF NOISE SOUND POWER LEVELS IN DECIBELS						
SA-3 SA-5 SA-7	−1500	56	51	53	56	65	66	55
	−1000	46	42	44	50	55	49	40
	+1000	51	44	43	46	48	45	39
	+1500	64	55	54	53	57	58	54

FACE AREA ADJUSTMENTS	Area (sq ft)	2	4	8	16	32
	Adjustment	−3	0	+3	+6	+9

RECTANGULAR SOUND ATTENUATORS

S.P.O.T.



SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

ENGINEERING DATA

DYNAMIC INSERTION LOSS

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	NET INSERTION LOSS IN DECIBELS						
MA-3	−1500	9	17	23	32	39	20	13
	−1000	7	15	21	36	40	21	13
	0	6	14	20	35	42	24	16
	+1000	6	13	19	34	42	25	16
	+1500	6	13	18	34	42	25	17
MA-5	−1500	12	25	43	54	49	31	17
	−1000	11	24	42	55	55	32	19
	0	9	21	39	56	57	34	19
	+1000	9	20	38	55	57	35	21
	+1500	9	20	37	54	53	36	21
MA-7	−1500	15	30	36	46	48	32	18
	−1000	15	28	47	57	56	36	20
	0	14	26	46	57	58	38	22
	+1000	14	25	46	58	58	41	23
	+1500	12	25	43	57	56	42	25

ACOUSTIC AND AERODYNAMIC DATA ARE BASED ON COMPARATIVE TEST RESULTS OBTAINED IN AN INDEPENDENT TESTING LABORATORY.

DESCRIPTION

SPOT SOUND ATTENUATORS ARE CONSTRUCTED OF 22 GA GALVANIZED SHELLS WITH 22 GA GALVANIZED PERFORATED BAFFLES AND 4#/FT^3 MINERAL FIBER FILL. A FULL COMPLEMENT OF SIZES 6" to 48" x 6" TO 48" IS AVAILABLE. CONTACT THE FACTORY FOR OPTIONAL MATERIALS AND CONSTRUCTIONS.

ORDERING INFORMATION

INCLUDE MODEL NUMBER AND DIMENSIONS IN THE FOLLOWING ORDER

	W	H	L	MODEL
EXAMPLE	24	24	60	SA-5

AIR FLOW PERFORMANCE DATA

MODEL	STATIC PRESSURE LOSS (INCHES W.G.)						
MA-3		.05	.07	.11	.15	.24	.33
MA-5		.07	.10	.15	.20	.32	.44
MA-7		.11	.15	.23	.31	.49	.69
FACE VELOCITY F.P.M.		585	705	860	1000	1255	1490

TO OBTAIN APPLICABLE STATIC PRESSURE LOSS WITH ACTUAL C.F.M. KNOWN:

$$\text{FACE VELOCITY} = \frac{\text{C.F.M.}}{\text{AREA (sq. ft.)}}$$

$$Pd = \left(\frac{\text{FACE VELOCITY}}{\text{TABLE VELOCITY}}\right)^2 \times$$

TABLE PRESSURE DROP

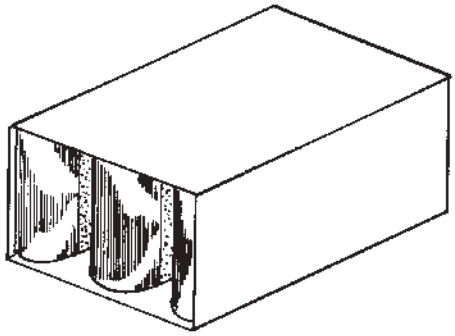
SELF NOISE SOUND POWER RATINGS (P.W.L.) (db re 10^{-12} WATTS)

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	SELF NOISE SOUND POWER LEVELS IN DECIBELS						
	−2000	58	55	57	57	64	64	56
	−1000	51	43	44	46	46	36	29
	+1000	43	37	34	37	35	25	28
	+2000	56	50	49	47	54	54	49

FACE AREA ADJUSTMENTS	Area (sq ft)	2	4	8	16	32
	Adjustment	−3	0	+3	+6	+9

RECTANGULAR SOUND ATTENUATORS

S.P.O.T.



SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

ENGINEERING DATA

DYNAMIC INSERTION LOSS

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	NET INSERTION LOSS IN DECIBELS						
LA-3	−1500	5	11	23	41	26	14	7
	−1000	5	10	22	41	26	14	8
	0	4	9	22	41	26	15	10
	+1000	4	9	22	40	26	16	10
	+1500	4	8	20	38	26	17	9
LA-5	−1500	7	15	31	47	40	18	10
	−1000	9	16	33	50	43	21	13
	0	6	13	30	47	40	21	11
	+1000	6	12	29	46	41	22	13
	+1500	6	12	27	44	41	23	13
LA-7	−1500	13	20	34	52	48	25	14
	−1000	13	19	37	51	51	28	14
	0	12	18	37	53	50	30	15
	+1000	12	17	35	52	49	28	15
	+1500	12	17	34	50	49	29	17

ACOUSTIC AND AERODYNAMIC DATA ARE BASED ON COMPARATIVE TEST RESULTS OBTAINED IN AN INDEPENDENT TESTING LABORATORY.

DESCRIPTION

SPOT SOUND ATTENUATORS ARE CONSTRUCTED OF 22 GA GALVANIZED SHELLS WITH 22 GA GALVANIZED PERFORATED BAFFLES AND 4#/FT^3 MINERAL FIBER FILL. A FULL COMPLEMENT OF SIZES 6" to 48" x 6" TO 48" IS AVAILABLE. CONTACT THE FACTORY FOR OPTIONAL MATERIALS AND CONSTRUCTIONS.

ORDERING INFORMATION

INCLUDE MODEL NUMBER AND DIMENSIONS IN THE FOLLOWING ORDER

	W	H	L	MODEL
EXAMPLE	24	24	60	SA-5

AIR FLOW PERFORMANCE DATA

MODEL	STATIC PRESSURE LOSS (INCHES W.G.)						
LA-3		.02	.03	.07	.09	.14	.20
LA-5		.03	.04	.08	.11	.17	.25
LA-7		.04	.06	.11	.15	.24	.34
FACE VELOCITY F.P.M.		490	610	860	1000	1255	1500

TO OBTAIN APPLICABLE STATIC PRESSURE LOSS WITH ACTUAL C.F.M. KNOWN:

$$\text{FACE VELOCITY} = \frac{\text{C.F.M.}}{\text{AREA (sq. ft.)}}$$

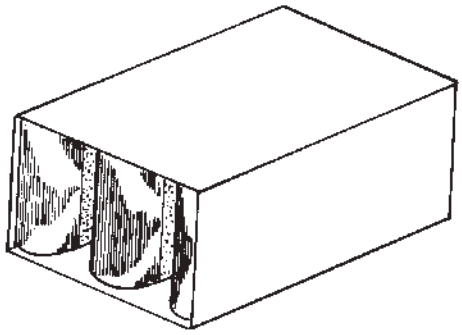
$$Pd = \left(\frac{\text{FACE VELOCITY}}{\text{TABLE VELOCITY}}\right)^2 \times$$

TABLE PRESSURE DROP

SELF NOISE SOUND POWER RATINGS (P.W.L.) (db re 10^{-12} WATTS)

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	SELF NOISE SOUND POWER LEVELS IN DECIBELS						
	−2000	59	56	55	57	61	47	47
	−1000	45	41	44	44	39	28	28
	+1000	45	36	35	37	32	26	28
	+2000	57	52	49	49	54	52	45

FACE AREA ADJUSTMENTS	Area (sq ft)	2	4	8	16	32
	Adjustment	−3	0	+3	+6	+9



SUBMITTAL / SOUND ATTENUATOR

S.P.O.T.
SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

PROJECT _____ **LOCATION** _____

ARCHITECT _____ **FILE No.** _____

ENGINEER _____ **CERTIFIED BY** _____

CONTRACTOR _____ **DATE** _____

PAGE _____ **OF** _____

ACOUSTICAL PERFORMANCE

MODEL	F.P.M.	OCTAVE BANDS	2	3	4	5	6	7	8
		CENTER FREQ.	125	250	500	1000	2000	4000	8000
		DYNAMIC INSERTION LOSS (db)							

MATERIAL SPECIFICATIONS:

OUTER CASING: 22 GA MINIMUM GALVANIZED (G-90) STEEL

INTERIOR BAFFLES: 24 GA MINIMUM GALVANIZED PERFORATED STEEL

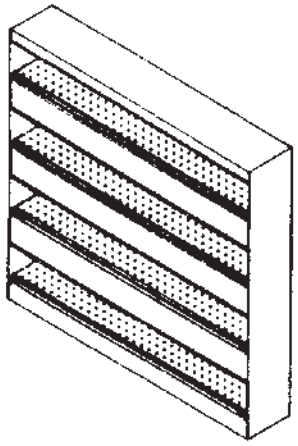
ACOUSTIC FILLING: 4 lb/cu. ft. INORGANIC MINERAL WOOL TYPE
ACOUSTICAL FILL (PACKED UNDER 5% MIN. COMPRESSION)

FIRE RATED CHARACTERISTICS:
FLAME SPREAD----------15
FUEL CONTRIBUTED----------0
SMOKE DEVELOPED----------0
(IN ACCORDANCE WITH A.S.T.M. - 84)

ATTENUATORS SHALL WITHSTAND A DIFFERENTIAL AIR PRESSURE OF 8" W.G. WITHOUT STRUCTURAL FAILURE.

SCHEDULE

MARK	QUAN.	WIDTH	HEIGHT	LENGTH	MODEL	C.F.M.	F.P.M.	P.D.	MODULES	



S.P.O.T.

SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

SUBMITTAL

MODEL B - VENT ATTENUATOR

PROJECT	LOCATION
ARCHITECT	FILE NO.
ENGINEER	CERTIFIED
CONTRACTOR	DATE
	PAGE OF

NOISE REDUCTION

MODEL	CENTER FREQ.	63	125	250	500	1000	2000	4000	8000
B	TRANSMISSION LOSS (TL) dB	5	4	5	6	9	13	14	13
	DYNAMIC INSERTION LOSS @750 FPM	2	2	3	6	10	15	15	13

MATERIAL SPECIFICATIONS

OUTER CASINGS	20 GAUGE MINIMUM GALVANIZED (G-90) STEEL
INTERIOR BAFFLES	22 GAUGE MINIMUM GALVANIZED PERFORATED STEEL
ACOUSTIC FILL	4 LB. PER CU.FT. INORGANIC MINERAL WOOL TYPE ACOUSTICAL FILL (PACKED UNDER 5% COMPRESSION)

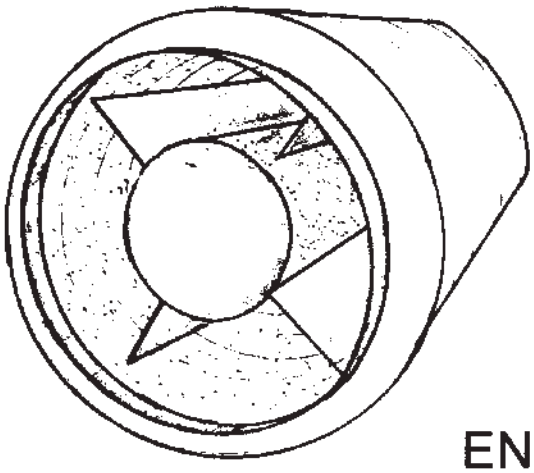
FIRE RATED CHARACTERISTICS: (IN ACCORDANCE WITH A.S.T.M. E84)

FLAME SPREAD	15
FUEL CONTRIBUTED	0
SMOKE DEVELOPED	0

ATTENUATORS SHALL WITHSTAND A DIFFERENTIAL AIR PRESSURE OF 8" W.G. WITHOUT STRUCTURAL FAILURE.

AIR FLOW PERFORMANCE DATA

STATIC PRESSURE DROP IN. W.G.	0.05	0.15	0.30	0.60	0.75	1.00
FACE VELOCITY FPM	200	350	500	700	800	900



ROUND SOUND ATTENUATORS

S.P.O.T.

SPIRAL PIPE OF TEXAS, INC.
600 N. HAYS
FORT WORTH, TEXAS 76102

ENGINEERING DATA

DYNAMIC INSERTION LOSS

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	NET INSERTION LOSS IN DECIBELS						
SC-C	−2000	9	13	22	33	35	22	17
	−1000	9	12	22	32	34	21	16
	0	7	11	21	32	34	22	18
	+1000	7	11	20	31	34	22	18
	+2000	7	10	19	30	33	21	18

DESCRIPTION:
SPOT ROUND ATTENUATORS ARE DOUBLE WALL CONSTRUCTION WITH THE OUTER SHELL OF GALVANIZED SPIRAL PIPE 8" LARGER THAN THE INSIDE PERFORATED LINER. THE CENTER ABSORBER IS DESIGNED WITH A SPUN METAL HEAD AND CONE SHAPED TAIL FOR MAXIMUM ATTENUATION AND OPTIMUM PRESSURE DROP. THE ATTENUATOR IS FILLED WITH 4#/FT^3 MINERAL FIBER INSULATION.

STANDARD MODELS ARE AVAILABLE IN 12" THRU 60" DIAMETERS. SPOT ROUND ATTENUATORS ARE SIZED TO FIT DUCTWORK WITHOUT OTHER TRANSITIONS. OTHER MATERIALS AND FLANGED ENDS ARE AVAILABLE AS AN OPTION. CONTACT FACTORY FOR MORE INFORMATION.

ORDERING INFORMATION
GIVE MODEL NO. AND INSIDE DIAMETER (IN INCHES). STANDARD LENGTH IS 2 X DIAMETER UNLESS OTHERWISE STATED. OVERALL LENGTH OF THE UNIT IS 4" LONGER WHICH IS A 2" SLIP CONNECTION AT EACH END. IF FLANGED ENDS ARE ADDED AS AN OPTION, THE OVERALL MAKE UP IS 2 X D + 4".

AIR FLOW PERFORMANCE DATA

MODEL	STATIC PRESSURE LOSS (INCHES W.G.)						
SC-C		.027	.04	.11	.17	.245	.33
FACE VELOCITY F.P.M.		1000	1500	2000	2500	3000	3500

TO OBTAIN APPLICABLE STATIC PRESSURE LOSS WITH ACTUAL C.F.M. KNOWN:

$$\text{FACE VELOCITY} = \frac{\text{C.F.M.}}{\text{AREA (sq. ft.)}}$$

$$Pd = \left(\frac{\text{FACE VELOCITY}}{\text{TABLE VELOCITY}}\right)^2 \times$$

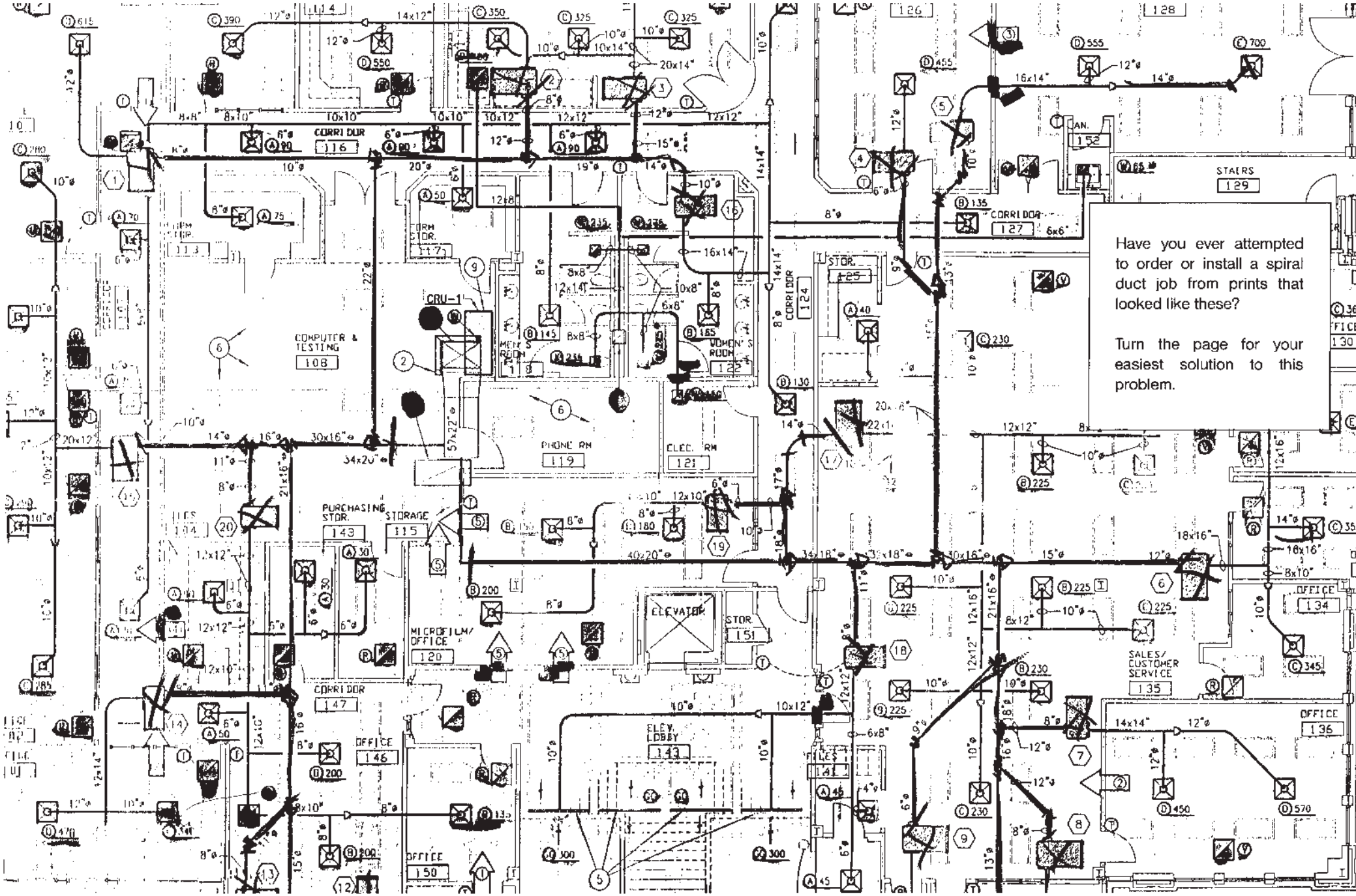
TABLE PRESSURE DROP

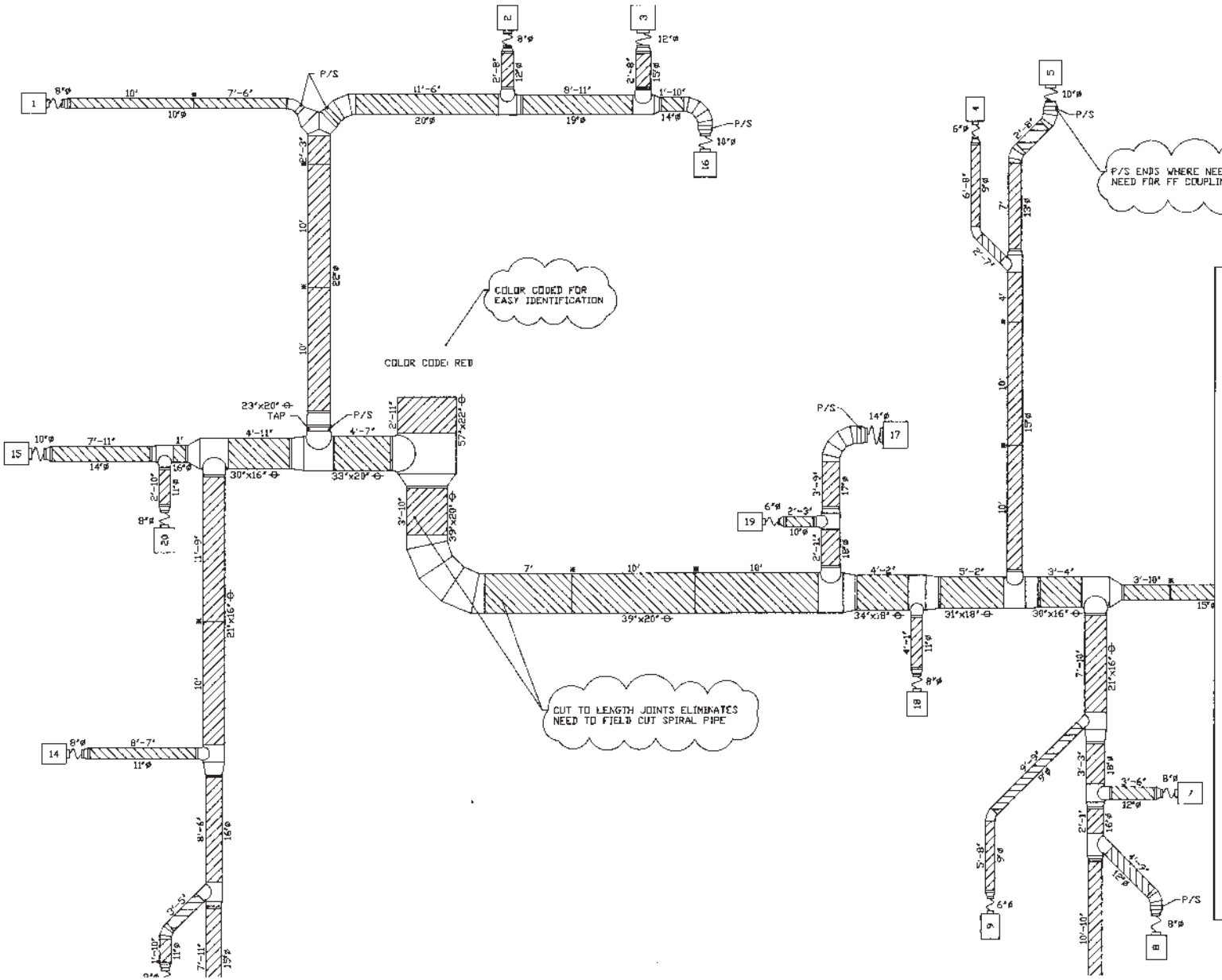
SELF NOISE SOUND POWER RATINGS (P.W.L.)
(db re 10^{-12} WATTS)

SILENCER MODEL No.	OCTAVE BANDS	2	3	4	5	6	7	8
	CENTER FREQ.	125	250	500	1000	2000	4000	8000
	FACE VELOCITY F.P.M.	SELF NOISE SOUND POWER LEVELS IN DECIBELS						
SC-C	−2500	60	57	59	59	62	55	48
	−2000	56	52	55	56	56	46	39
	+2000	53	49	45	44	42	34	30
	+3000	61	58	55	53	53	50	44

FACE AREA ADJUSTMENTS	Diameter	12"	18"	24"	36"	48"	60"
	Adjustment (db)	−6	−3	0	+3	+6	+8

ACOUSTIC AND AERODYNAMIC DATA ARE BASED ON COMPARATIVE TEST RESULTS OBTAINED IN AN INDEPENDENT TESTING LABORATORY.


Have you ever attempted to order or install a spiral duct job from prints that looked like these?
Turn the page for your easiest solution to this problem.
CORRIDOR 116
COMPUTER & TESTING 108
CRU-1
MEN'S ROOM 122
WOMEN'S ROOM 122
CORRIDOR 124
STOR. 125
CORRIDOR 127
STAIRS 129
PHONE RM 119
ELEC. RM 121
PURCHASING STOR. 143
STORAGE 115
MICROFILM/ OFFICE 120
ELEVATOR
STOR 151
CORRIDOR 147
OFFICE 146
OFFICE 150
ELEV. LOBBY 143
SALES/ CUSTOMER SERVICE 135
OFFICE 134
OFFICE 136



Spiral Pipe of Texas' computer generated assembly drawings. As a leader in the Spiral Pipe Industry, Spiral Pipe of Texas was one of the first to furnish CAD drawings to the installing contractor. With SPOT'S customized CAD program ugly "stick" drawings or drawings not to scale are a thing of the past. Whats more, there is never a charge for these drawings. They are standard on all our jobs. Be quick to "SPOT" these advantages.

Less Drafting Time

Duct That Fits

No Field Cutting of Pipe

Simplified Layouts

Less Joints

Lower Field Labor Costs

SPOT
America's Sheet Metal Source

Introducing the *WonderFlange*

The Strongest And Safest Way to Connect Your Round Duct

WonderFlanges Are Available In:

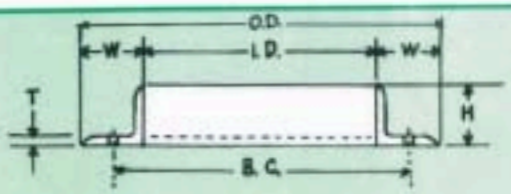
- -Hot Roll Steel
- -Aluminum
- -Single Wall
- -Two Inch Double Wall
- -Stainless Steel
- -Hot Dipped Galvanized
- -One Inch Double Wall
- -Oval

Single Wall Application

Double Wall Application

SPIRAL PIPE OF TEXAS, INC.

ANGLE RING SPECIFICATIONS



ALL STANDARD RINGS ARE PUNCHED

Order Size		Inside Diameter I.D.	Outside Diameter O.D.	Width W	Height H	Thickness T	Bolt Holes Centers B.C.	Hole Size	Number of Holes	Approx. Weight Lbs.	
3"		3 1/16"	5 1/16"	1"	7/8"	10 GA	4 5/16"	9/32"	6	.70	12 PIECES/BUNDLE
4"		4 1/16"	6 1/16"	1"	15/16"	10 GA	5 5/16"	9/32"	6	.85	
5"		5 1/16"	7 1/16"	1"	1"	10 GA	6 5/16"	9/32"	6	1.18	
6"		6 3/32"	8 1/8"	1"	1"	10 GA	7 5/16"	9/32"	6	1.38	
7"		7 1/8"	9 1/8"	1"	1"	1/8"	8 7/16"	3/8"	6	1.73	
8"		8 1/8"	10 5/8"	1"	1"	1/8"	9 7/16"	3/8"	6	1.90	
9"		9 1/8"	11 5/8"	1 1/4"	1 1/4"	1/8"	10 5/8"	7/16"	6	2.55	
10"		10 1/8"	12 9/16"	1 1/4"	1 1/4"	1/8"	11 13/16"	7/16"	6	3.05	
11"		11 1/8"	13 9/16"	1 1/4"	1 1/4"	1/8"	12 3/4"	7/16"	6	3.25	
12"		12 1/8"	15 1/16"	1 1/2"	1 1/2"	1/8"	14"	7/16"	6	3.88	
13"		13 1/8"	16 1/16"	1 1/2"	1 1/2"	1/8"	15"	7/16"	8	4.25	24 PIECES/BUNDLE
14"		14 1/8"	17 1/16"	1 1/2"	1 1/2"	1/8"	16"	7/16"	8	4.75	
15"		15 1/8"	18 1/16"	1 1/2"	1 1/2"	3/16"	17"	7/16"	8	7.25	
16"		16 1/8"	19 3/16"	1 1/2"	1 1/2"	3/16"	18"	7/16"	8	8.00	
17"		17 1/8"	20 3/16"	1 1/2"	1 1/2"	3/16"	19"	7/16"	8	8.25	
18"		18 1/8"	22 3/16"	1 1/2"	1 1/2"	3/16"	20"	7/16"	8	8.50	
19"		19 1/8"	22 3/16"	1 1/2"	1 1/2"	3/16"	20 3/4"	7/16"	12	8.75	
20"		20 1/8"	23 3/16"	1 1/2"	1 1/2"	3/16"	21 3/4"	7/16"	12	9.50	
21"		21 1/8"	24 3/16"	1 1/2"	1 1/2"	3/16"	22 3/4"	7/16"	12	10.25	
22"		22 1/8"	25 3/16"	1 1/2"	1 1/2"	3/16"	23 3/4"	7/16"	12	10.75	
23"		23 1/8"	26 3/16"	1 1/2"	1 1/2"	3/16"	24 7/8"	7/16"	12	11.25	
24"		24 1/8"	27 3/16"	1 1/2"	1 1/2"	3/16"	25 7/8"	7/16"	12	11.50	
25"		25 1/8"	28 3/16"	1 1/2"	1 1/2"	3/16"	26 7/8"	7/16"	16	12.00	
26"		26 1/8"	30 1/8"	2"	2"	3/16"	28 3/8"	7/16"	16	16.75	12 PIECES/BUNDLE
27"		27 1/8"	31 1/8"	2"	2"	3/16"	29 3/8"	7/16"	16	17.38	
28"		28 1/8"	32 1/8"	2"	2"	3/16"	30 3/8"	7/16"	16	18.00	
29"		29 1/8"	33 1/8"	2"	2"	3/16"	31 3/8"	7/16"	16	18.75	
30"		30 1/8"	34 1/8"	2"	2"	3/16"	32 3/8"	7/16"	16	19.50	
31"		31 1/8"	35 1/8"	2"	2"	3/16"	33 3/8"	7/16"	16	20.38	
32"		32 1/8"	36 1/8"	2"	2"	3/16"	34 3/8"	7/16"	16	20.75	
33"		33 1/8"	37 1/8"	2"	2"	3/16"	35 3/8"	7/16"	16	21.25	
34"		34 1/8"	38 1/8"	2"	2"	3/16"	36 3/8"	7/16"	16	22.00	
35"		35 1/8"	39 1/8"	2"	2"	3/16"	37 3/8"	7/16"	16	22.50	
36"		36 1/8"	40 1/8"	2"	2"	3/16"	38 3/8"	7/16"	16	23.00	
37"		37 1/8"	41 1/8"	2"	2"	3/16"	39 3/8"	7/16"	24	23.75	6 PIECES/BUNDLE
38"		38 1/8"	42 1/8"	2"	2"	3/16"	40 3/8"	7/16"	24	24.50	
39"		39 1/8"	43 1/8"	2"	2"	3/16"	41 3/8"	7/16"	24	25.00	
40"		40 1/8"	44 1/8"	2"	2"	3/16"	42 3/8"	7/16"	24	25.75	
41"		41 1/8"	45 1/8"	2"	2"	3/16"	43 3/8"	7/16"	24	26.13	
42"		42 1/8"	46 1/8"	2"	2"	3/16"	44 3/8"	7/16"	24	26.50	
43"		43 1/8"	47 1/8"	2"	2"	3/16"	45 3/8"	7/16"	24	27.38	
44"		44 1/8"	48 1/8"	2"	2"	3/16"	46 3/8"	7/16"	24	28.00	
45"		45 1/8"	49 1/8"	2"	2"	3/16"	47 3/8"	7/16"	24	28.63	
46"		46 1/8"	50 1/8"	2"	2"	3/16"	48 3/8"	7/16"	24	29.00	
47"		47 1/8"	51 1/8"	2"	2"	3/16"	49 3/8"	7/16"	24	29.88	
48"		48 1/8"	52 1/8"	2"	2"	3/16"	50 3/8"	7/16"	24	30.75	
49"		49 1/8"	53 1/8"	2"	2"	3/16"	51 3/8"	7/16"	24	31.50	
50"		50 1/8"	54 1/8"		2"	3/16"	52 3/8"	7/16"	24	32.00	

INCLUDE WITH YOUR ORDER*:
SIZE I.D.
WITH OR WITHOUT HOLES

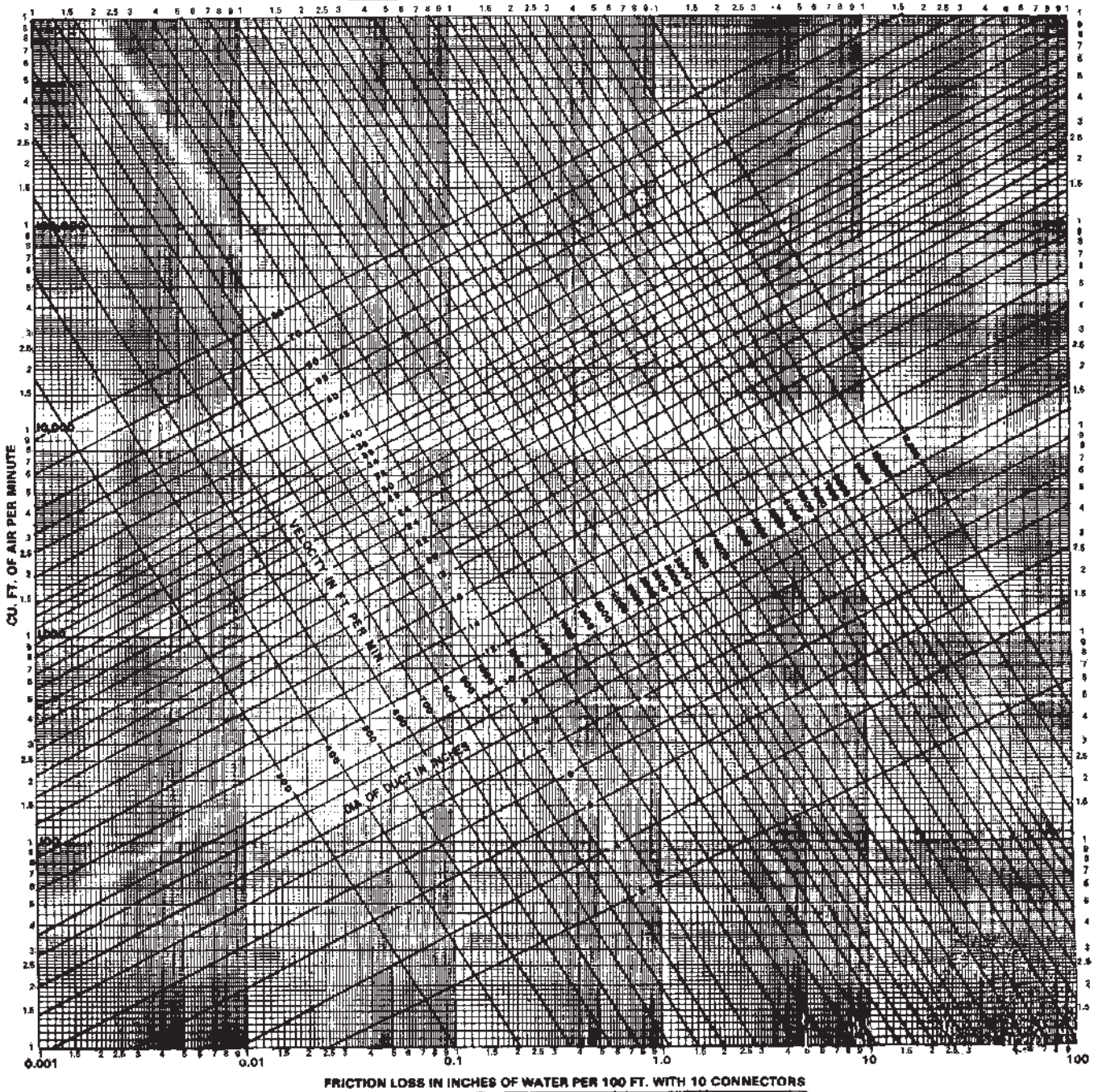
MINIMUM ORDER $25.00
ALL SHIPMENTS FOB FACTORY

*ANY DEVIATIONS FROM ABOVE STOCK LIST, CONSULT FACTORY

SPIRAL PIPE OF TEXAS, INC.

4-Ply Spiral Lockseam

FRICTION LOSS FOR ROUND SPIRAL PIPE



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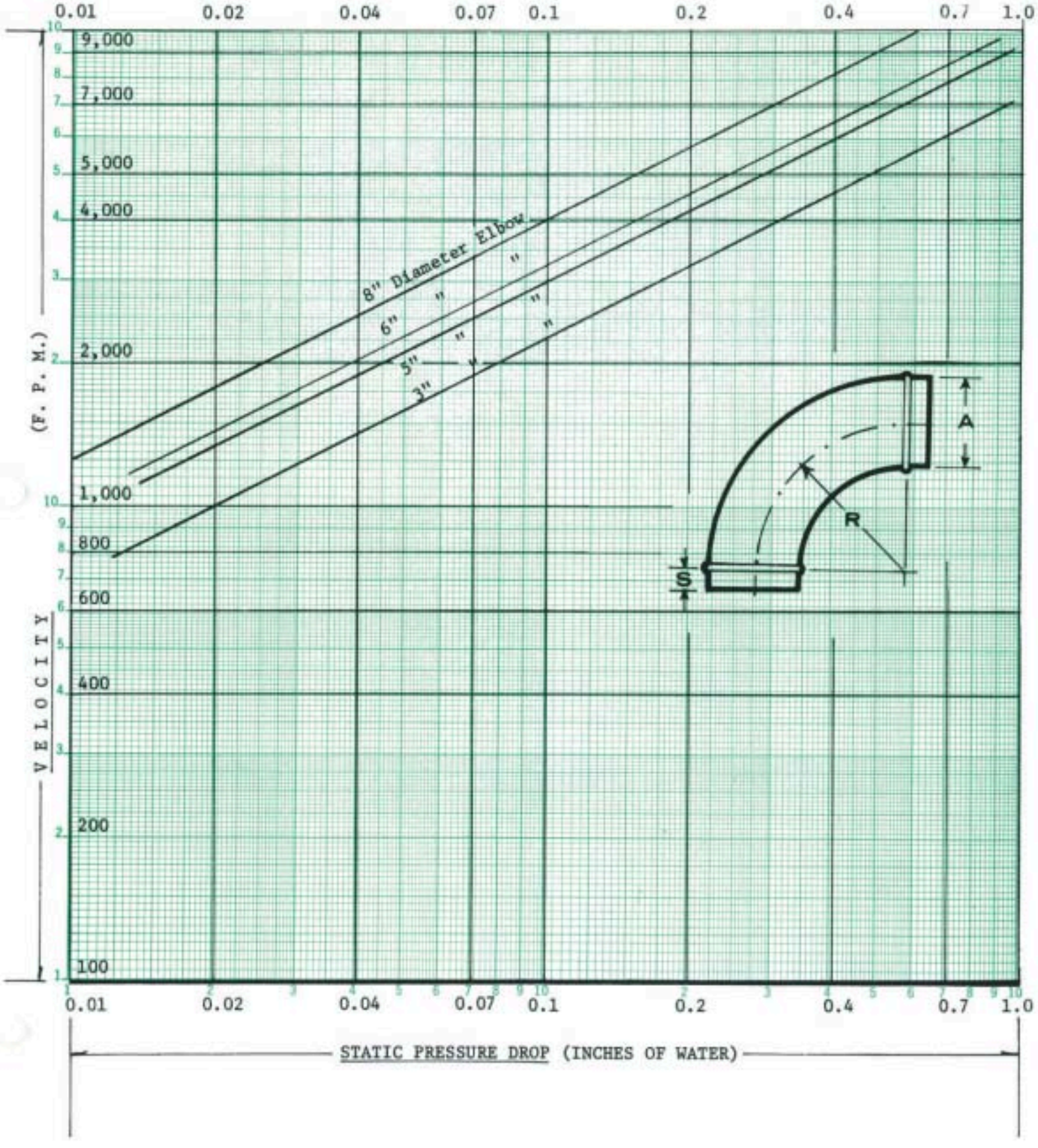
SPIRAL PIPE OF TEXAS, INC.

STATIC PRESSURE LOSS

90° Stamped Elbow

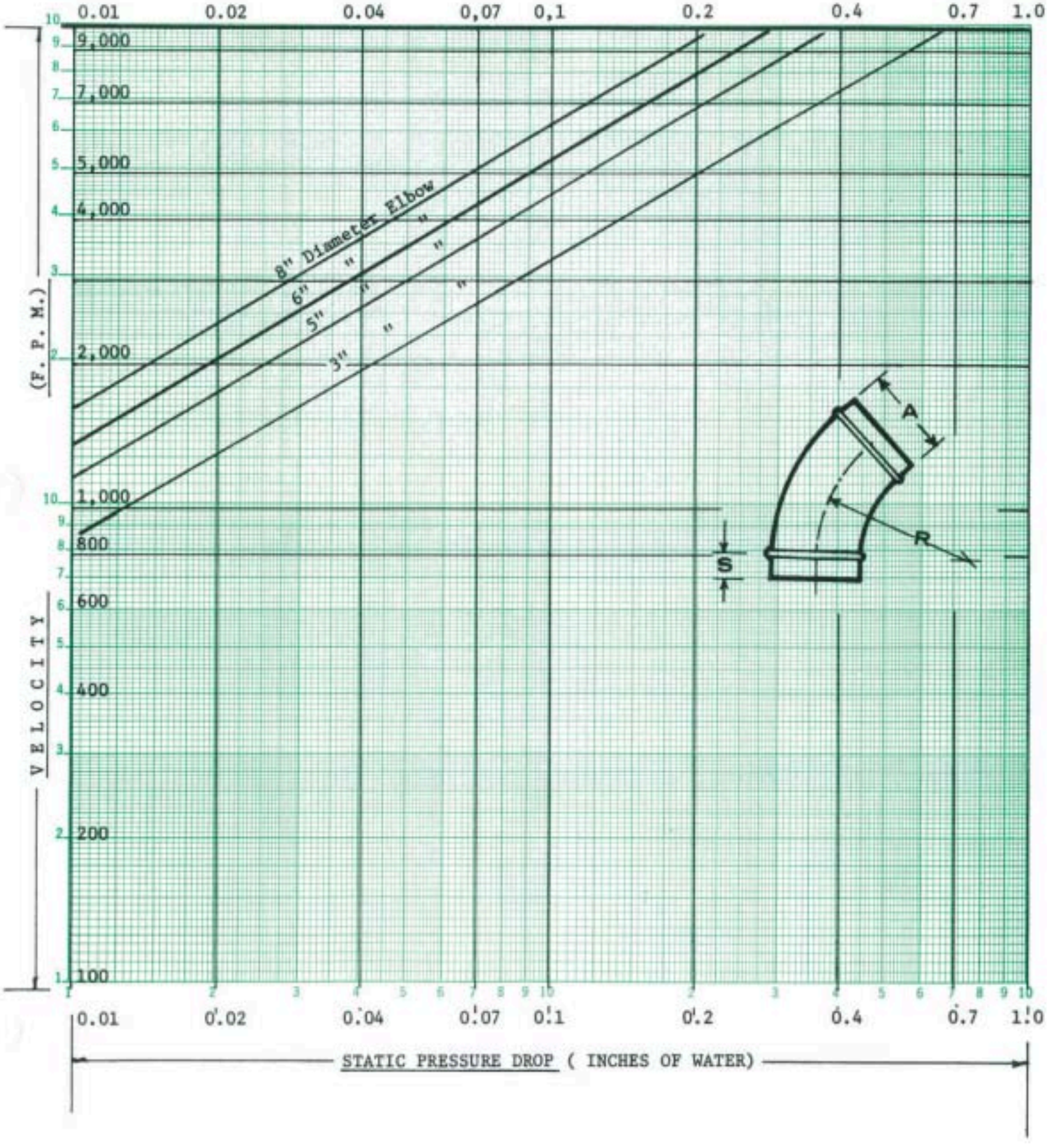


Logarithmic, 2 x 2 Cycles

SPIRAL PIPE OF TEXAS, INC.

STATIC PRESSURE LOSS

45° Stamped Elbow

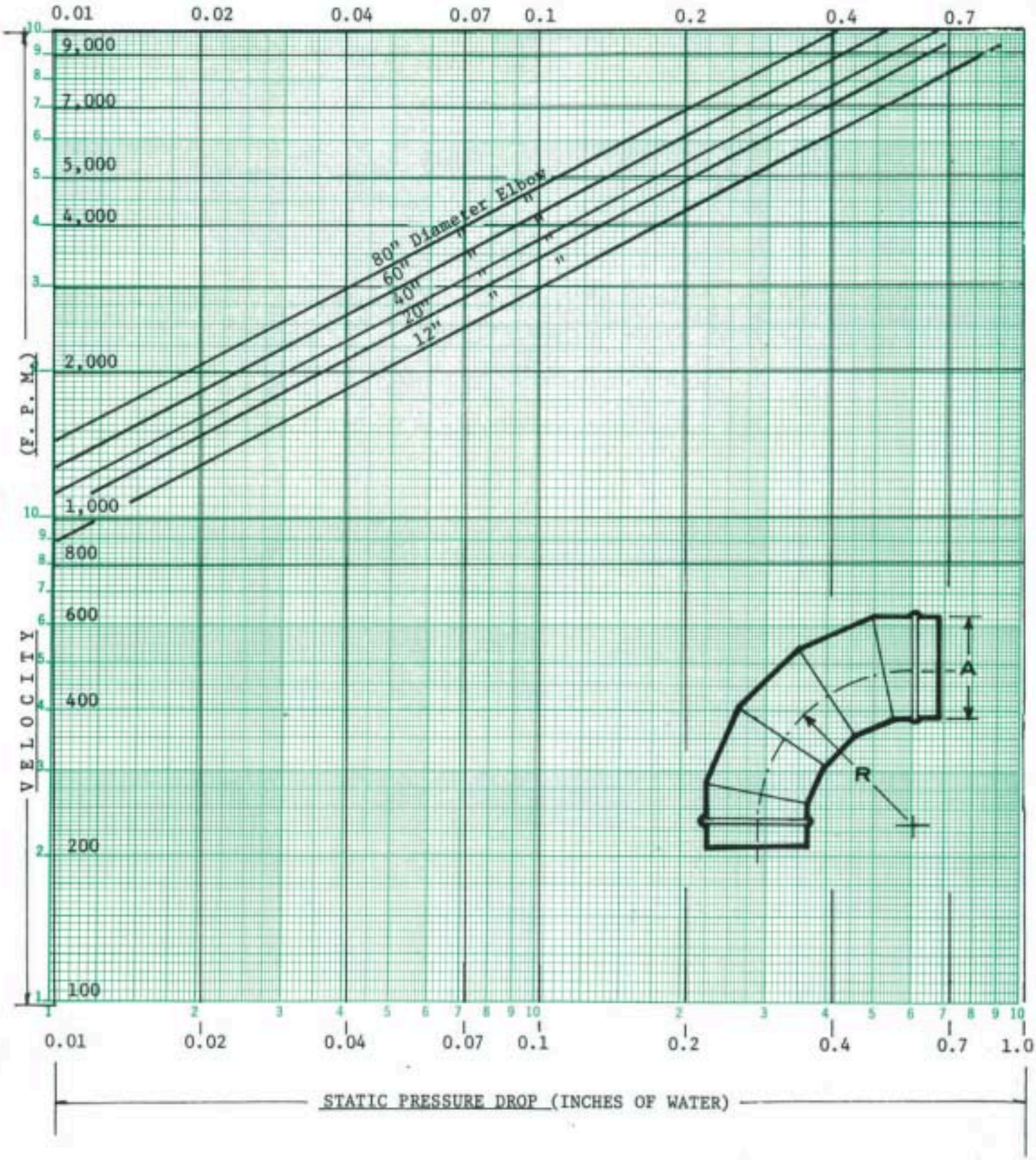


Logarithmic, 3 x 2 Cycles

SPIRAL PIPE OF TEXAS, INC.

STATIC PRESSURE LOSS

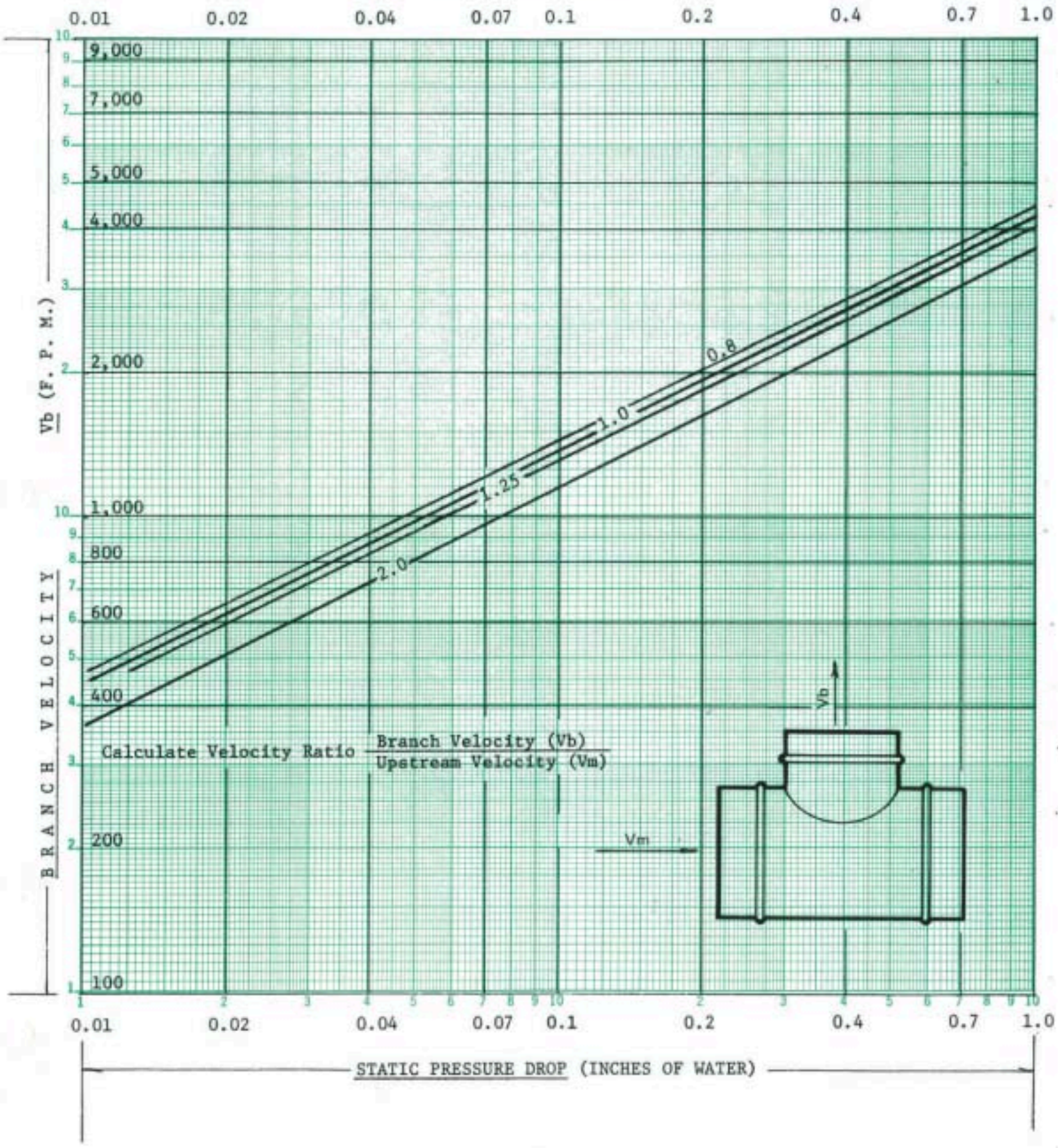
5-Piece 90° Elbow



Logarithmic, 2 x 2 Cycles

SPIRAL PIPE OF TEXAS, INC.

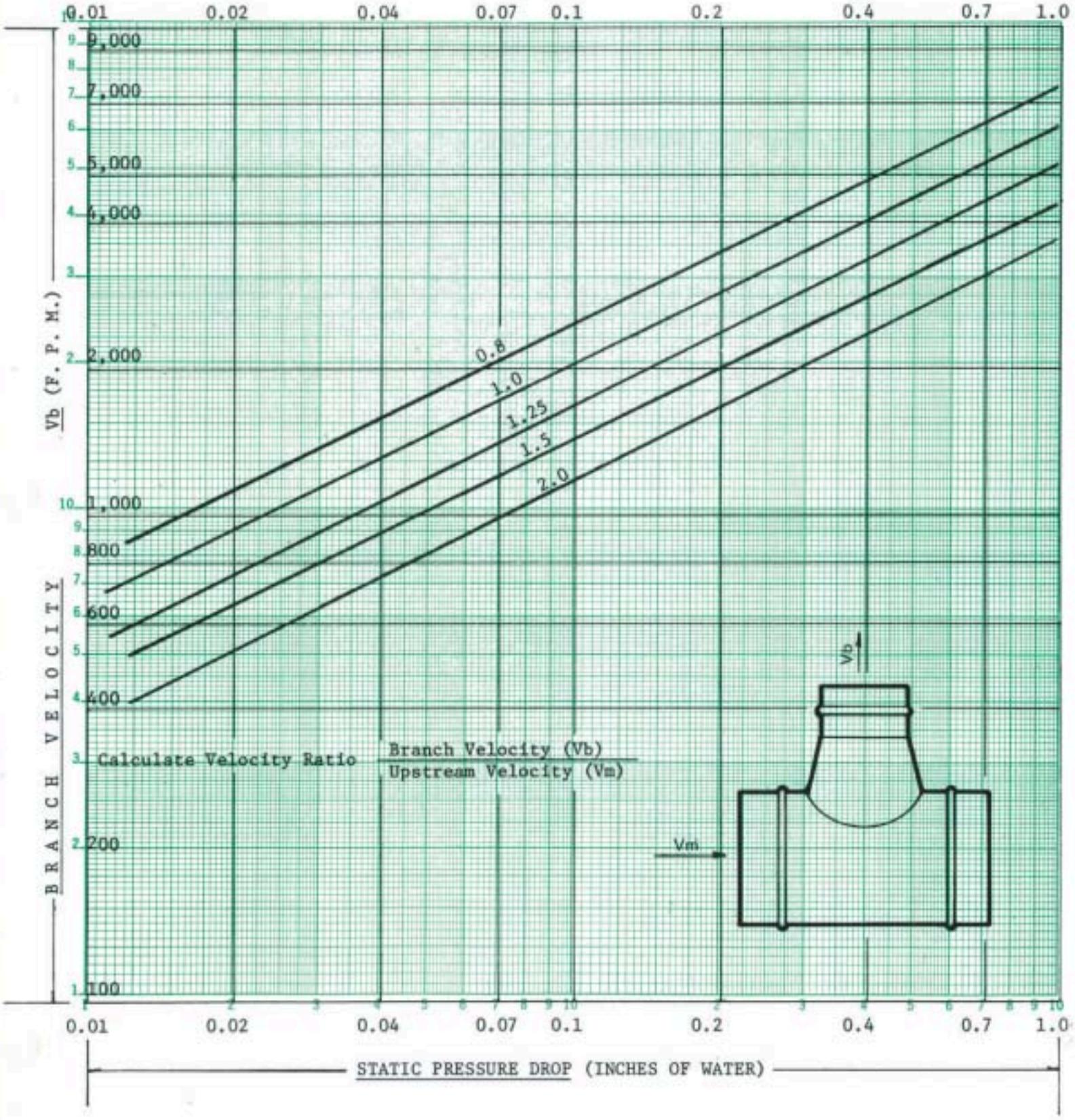
STATIC PRESSURE LOSS
Branch Take-off
90° Straight Tee (Type T-1)



Logarithmic, 2 x 2 Cycles

SPIRAL PIPE OF TEXAS, INC.

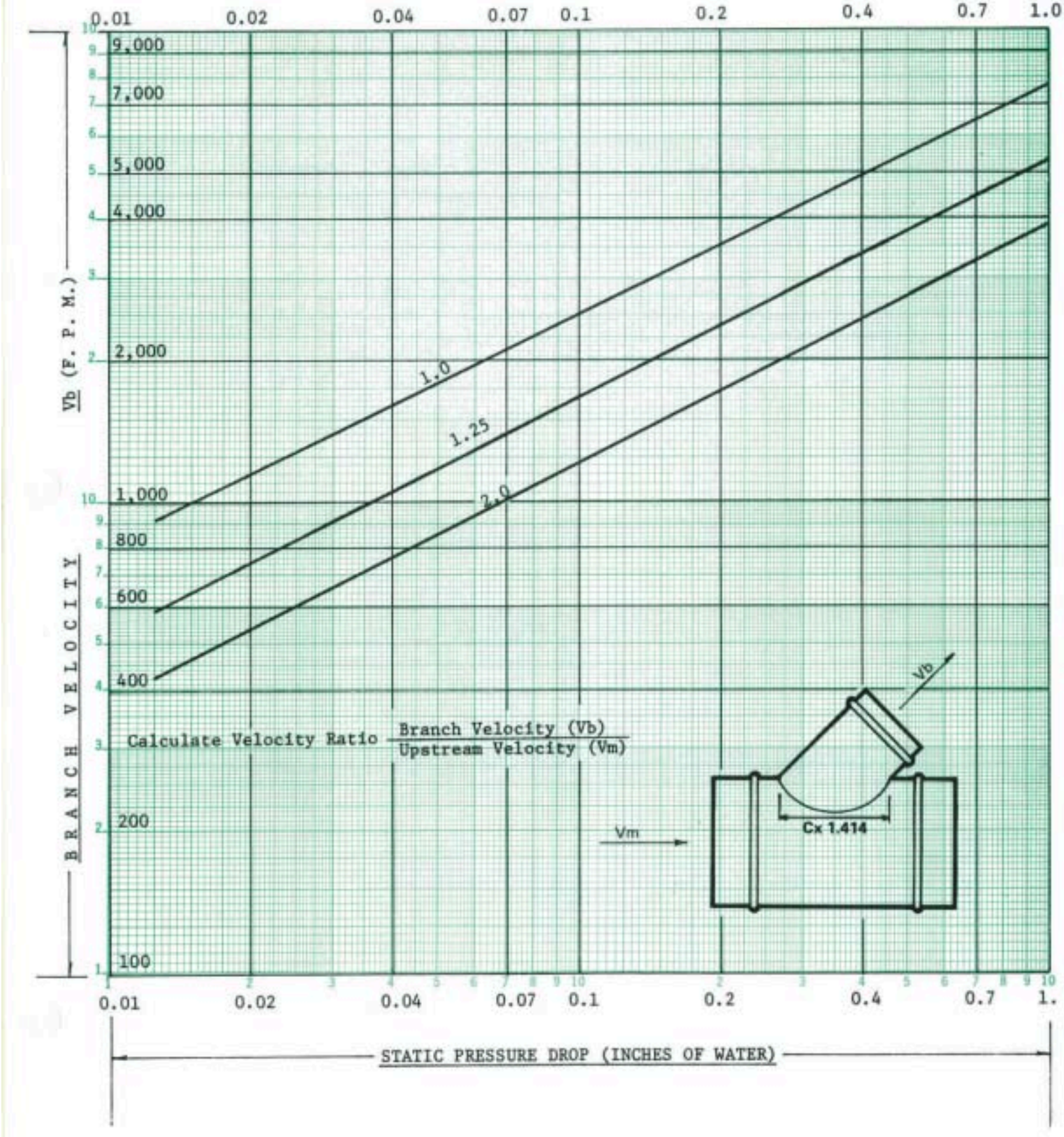
STATIC PRESSURE LOSS
Branch Take-off
90° Conical Tee (Type CT-1)



Logarithmic, 2 x 2 Cycles

SPIRAL PIPE OF TEXAS, INC.

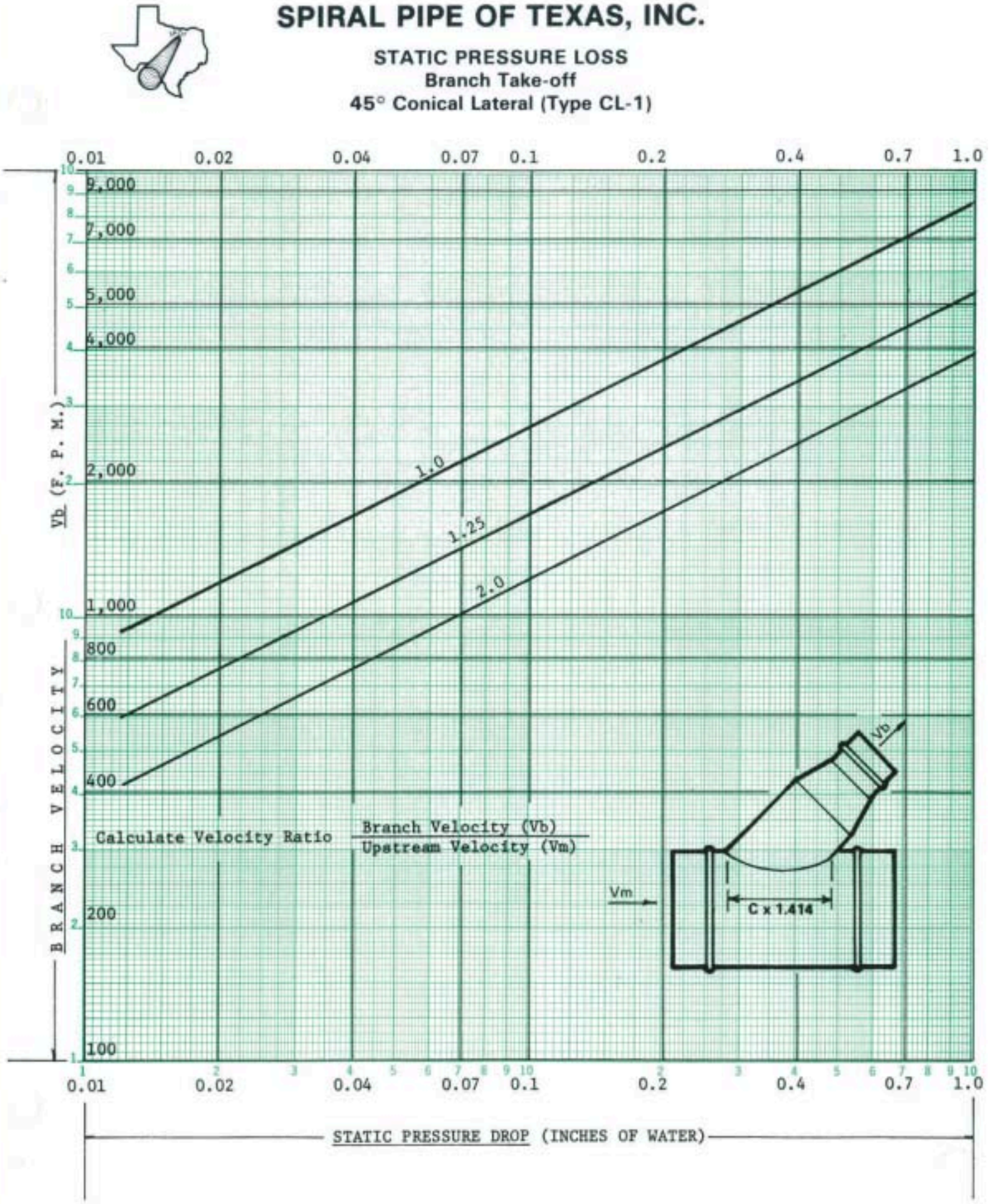
STATIC PRESSURE LOSS
Branch Take-off
45° Straight Lateral (Type L-1)



Logarithmic, 2 x 2 Cycles

SPIRAL PIPE OF TEXAS, INC.

STATIC PRESSURE LOSS
Branch Take-off
45° Conical Lateral (Type CL-1)



Logarithmic, 2 x 2 Cycles