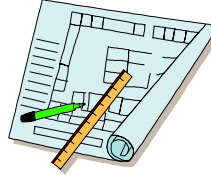


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Last updated: August 26, 2002

Dual wall round duct will be constructed of perforated or solid inner liner, a 1-inch (unless otherwise specified) layer of fiberglass insulation, and an outer pressure shell. Duct will be spiral lockseam construction provided in standard 10 foot lengths. It will be fabricated from galvanized steel meeting ASTM-A527 standards, and in accordance with the following guidelines :

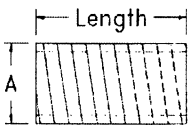
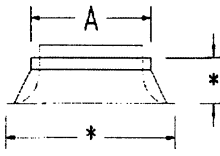
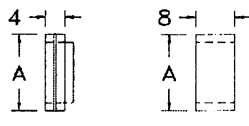
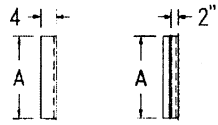
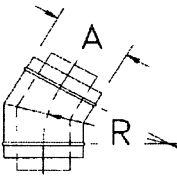
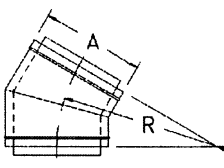
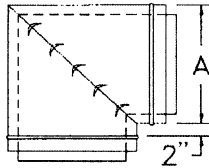
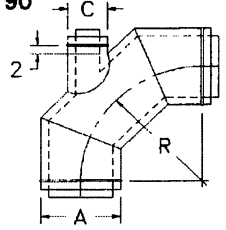
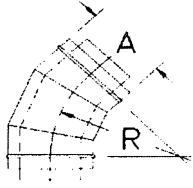
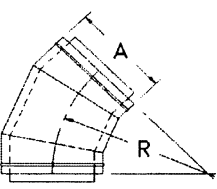
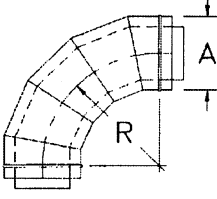
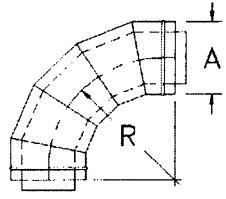
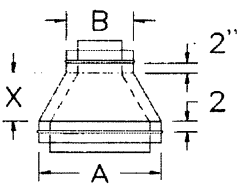
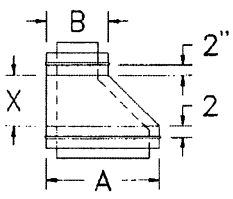
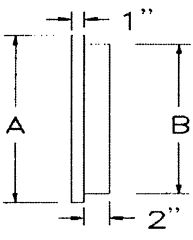
Inner Diameter (inches)	Outer Shell Min. Gauge (2-10+ inches WG)	Inner Gauge	Fitting Gauge
3-8	26	26	24
9-12	26	26	24
13-24	24	22	22
25-34	22	22	20
36-48	20	22	20
49-60	18	22	18
62-82	18	22	16

For 1-inch insulation, the outer shell will be 2 inches larger than the inner liner nominal dimension. When a perforated liner is specified, perforations will be 3/32 inch in diameter on 3/16" staggered centers, with an overall open area of 23 percent. Insulated duct will have a maximum thermal conductivity (k) factor of .27 Btu per hour per square foot per degree Fahrenheit per inch thickness at 75 degree Fahrenheit mean ambient temperature. **All inner wall for fittings will be solid material, not perforated. (unless otherwise specified).**

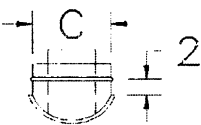
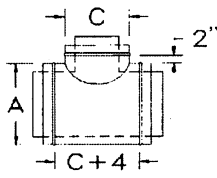
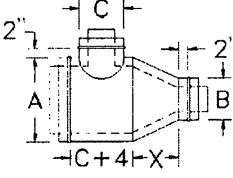
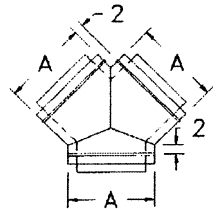
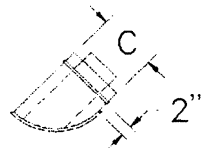
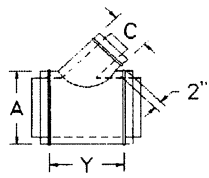
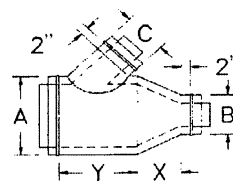
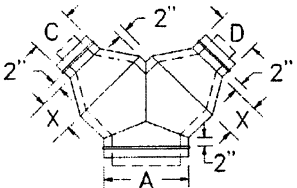
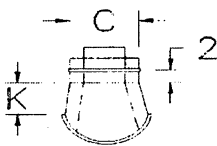
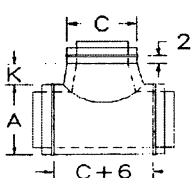
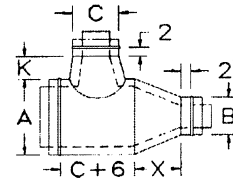
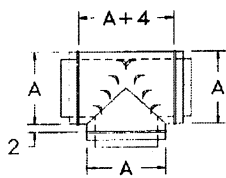
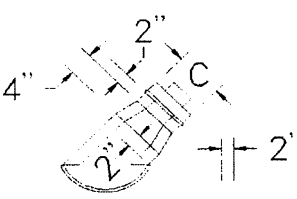
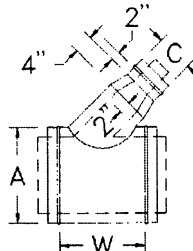
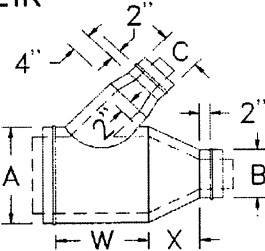
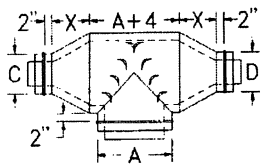
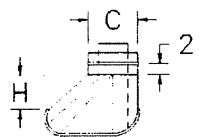
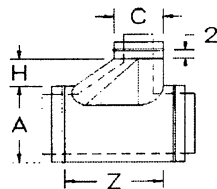
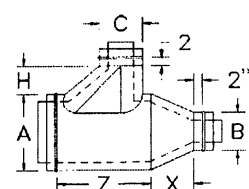
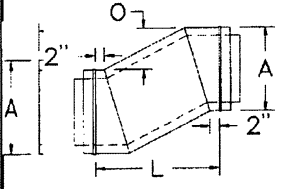
Internal liner will be tack welded only. All exterior seams will be welded solid. In exposed applications, if specified, all external metal will be Galvanealed (paintable).

As standard, all joints will be slip connection. Only straight duct will have perforated inner liner, all fittings will have a solid inner wall. The perforated liner on the pipe will be the same length as the external metal wall. On the fittings, the inner liner will be three inches longer than the outer metal wall. All fittings will be made to slip inside the round pipe. For pipe to pipe connections, inner couplings are required. The inner wall coupling will be solid metal, not perforated. If other joints are required, please contact our office. For information on Accuflange, Spiralmate or Angle rings, please visit our website at www.wmhbrady.com.

Double Wall Round Spiral Pipe and Fitting Standards

SP	B1	PP	FF EC	EP																											
																															
Spiral Pipe	Bellmouth	Couplings	Caps & Plugs																												
E1 Thru E36		EV90	ET90																												
																															
A = 3" Thru 24"	A = Greater than 24"	A = 3" Thru 60"	A = 3" Thru 60"																												
2 Gore Elbows		Mitered Elbow	Elbow w/Tap																												
E37 Thru E71		E72 Thru E90																													
																															
A = 3" Thru 24"	A = Greater than 24"	A = 3" Thru 24"	A = Greater than 24"																												
3 Gore Elbows		5 Gore Elbows																													
R1	ER1	SD																													
																															
Reducers		Stepdown																													
<p>Dimensions:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">A = Inlet Size</td> <td style="width: 33%;">K = 5 1/4"</td> <td style="width: 33%;">V = (A/2x1.414)+((C+2)/2)+6</td> </tr> <tr> <td>B = Outlet Size</td> <td>L = Offset Length</td> <td>W = (C+2)x1.414+4</td> </tr> <tr> <td>C = Branch Size</td> <td>O = Offsetting Amount</td> <td>X = A - B (with 4" minimum)</td> </tr> <tr> <td>D = Branch Size</td> <td>R = 1.5 x A</td> <td>Y = (1.414 x C) + 4</td> </tr> <tr> <td>H = 3" if C = 3" to 8"</td> <td>S = 2</td> <td>Z = C+H+4</td> </tr> <tr> <td>6" if C = 9" to 16"</td> <td>T = A/4+2</td> <td>* = Consult Factory</td> </tr> <tr> <td>9" if C = 17" to 24"</td> <td>U = Ax2+2</td> <td></td> </tr> <tr> <td>12" if C = 25" & Up</td> <td>**Dimension of Liner = O.D. - (2 x Insulation Thickness)</td> <td></td> </tr> <tr> <td></td> <td>**End of Liner Extends 2" Past Ends of Fittings</td> <td></td> </tr> </table>					A = Inlet Size	K = 5 1/4"	V = (A/2x1.414)+((C+2)/2)+6	B = Outlet Size	L = Offset Length	W = (C+2)x1.414+4	C = Branch Size	O = Offsetting Amount	X = A - B (with 4" minimum)	D = Branch Size	R = 1.5 x A	Y = (1.414 x C) + 4	H = 3" if C = 3" to 8"	S = 2	Z = C+H+4	6" if C = 9" to 16"	T = A/4+2	* = Consult Factory	9" if C = 17" to 24"	U = Ax2+2		12" if C = 25" & Up	**Dimension of Liner = O.D. - (2 x Insulation Thickness)			**End of Liner Extends 2" Past Ends of Fittings	
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Double Wall Round Spiral Pipe and Fitting Standards

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