

# SpiralAir™

## High-flow Air Atomizing

### DESIGN FEATURES

- A two-fluid nozzle using any gas as the atomizing fluid
- Three-stage atomization for highest performance
- Designed for high reliability in extremely hostile environments
- Efficient design reduces compressed air consumption
- U.S. Patent #5,240,183

### SPRAY CHARACTERISTICS

- Spray patterns:** Full Cone and Flat Fan  
**Spray angles:** 20° to 90°  
 (Other angles available by special order)  
**Flow rates:** 2.0 to 80 l/min



1 1/2" SA (Set-up #) - A - 00



Narrow Round 20°



Wide Round 90°

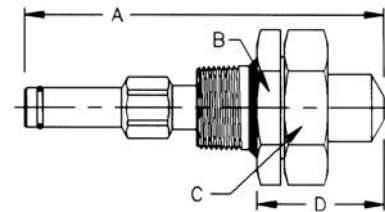


Flat Fan 60°

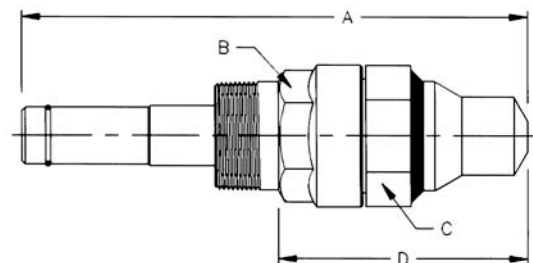
Dimensions are approximate. Check with BETE for critical dimension applications.

### SpiralAir Spray Set-up, Spiral Tip and Dimensions

Pipe Size	Spray Set-up No.	Spiral Tip No.	Spray Angle	Spray Type	Approx. Free Pass. Dia. (mm)	Pipe Size	Dimensions (mm)				Wt. (Kg)
							A	B	C	D	
1"	SA 101	14	20°	Narrow Round	4.83	1	148	50.8	50.8	50.8	0.64
	SA 308		90°	Wide Round	2.74						
	SA 310	60°	Round	2.74							
	SA 402	90°	Flat Fan	4.22							
	SA 404	60°	Flat Fan	4.22							
	SA 103	20	20°	Narrow Round	7.14						
SA 307	90°		Wide Round	3.48							
SA 309	60°		Round	3.48							
SA 401	90°		Flat Fan	5.21							
1 1/2"	SA 2100	28	20°	Narrow Round	9.27	1 1/2	229	50.8	55.6	113	1.5
			SA 2300	90°	Wide Round						
	SA 2301		60°	Round	5.41						



1 SA (Set-up #) - A -00



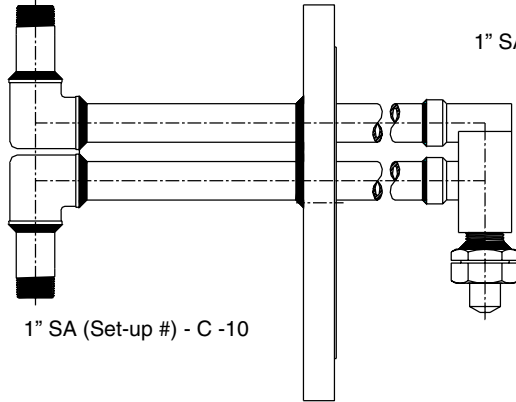
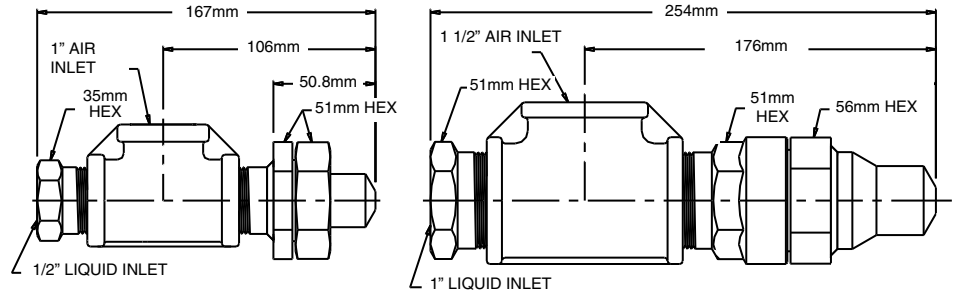
1 1/2" SA (Set-up #) - A -00

Standard Materials: 316 Stainless Steel OR Cobalt Alloy 6 wear components.

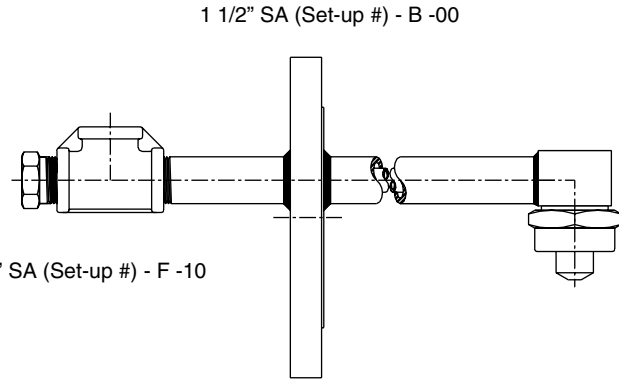
Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

The SpiralAir can be configured to fit any installation requirement. The examples shown are just a few of the custom assemblies available. For more information, contact BETE Applications Engineering.

A guide with additional engineering data about the SpiralAir series is available on request.

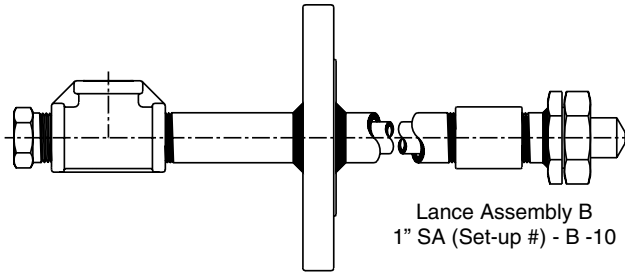


1" SA (Set-up #) - B - 00



1 1/2" SA (Set-up #) - B - 00

1" SA (Set-up #) - F - 10



Lance Assembly B  
1" SA (Set-up #) - B - 10

Since very small variations in liquid pressure produce large variations in liquid flow, BETE recommends using a metering pump or other flow metering device to control the liquid flow.

### SpiralAir Set-Up Flow Rates

Narrow, Wide and Flat Fan Patterns 1" and 1 1/2" BSP or NPT

BSP NPT	Spiral Tip Rating	1.0 Bar Air			2.0 Bar Air			3.0 Bar Air			4.0 Bar Air			5.0 Bar Air			6.0 Bar Air			7.0 Bar Air		
		liquid (l/min)	liquid (bar)	air (Nm <sup>3</sup> /h)	liquid (l/min)	liquid (bar)	air (Nm <sup>3</sup> /h)	liquid (l/min)	liquid (bar)	air (Nm <sup>3</sup> /h)	liquid (l/min)	liquid (bar)	air (Nm <sup>3</sup> /h)	liquid (l/min)	liquid (bar)	air (Nm <sup>3</sup> /h)	liquid (l/min)	liquid (bar)	air (Nm <sup>3</sup> /h)	liquid (l/min)	liquid (bar)	air (Nm <sup>3</sup> /h)
1"	14	2	0.9	25.0	2	1.9	45.0	2	2.8	60.2	2	3.7	86.3	2	4.6	105	2	5.7	137	2	6.4	149
		3	0.9	20.2	3	1.9	39.0	3	2.8	56.8	3	3.8	79.8	3	4.7	97.9	3	5.7	135	3	6.5	146
		4	1.0	17.3	4	2.0	29.1	4	2.9	50.8	4	3.8	73.0	4	4.8	88.9	4	5.9	123	4	6.5	134
		5	2.0	26.8	5	2.0	26.8	5	3.0	43.8	5	3.9	64.8	5	4.8	82.6	5	5.9	110	5	6.6	117
		6	2.1	24.4	6	2.1	24.4	6	3.0	41.2	6	3.9	57.9	6	4.9	78.3	6	6.1	100	6	6.7	112
		7	2.1	21.9	7	2.1	21.9	7	3.0	38.5	7	4.0	53.2	7	5.0	69.9	7	6.2	94.9	7	6.8	107
		8			8	3.1	35.4	8	4.1	49.9	8	5.1	64.1	8	6.2	88.9	8	6.9	100			
	20	4	0.2	34.9	4	1.5	64.4	4	2.4	91.7	4	3.2	117	4	4.0	140	4	4.8	161	4	5.6	180
		8	0.8	24.3	8	1.7	45.9	8	2.6	68.1	8	3.5	91.0	8	4.4	114	8	5.2	139	8	6.0	163
		11	1.9	35.8	11	1.9	35.8	11	2.9	56.3	11	3.8	78.0	11	4.6	101	11	5.3	125	11	6.0	151
		15	2.1	26.8	15	2.1	26.8	15	3.0	45.8	15	3.9	65.2	15	4.8	85.2	15	5.6	105	15	6.4	126
		19	2.2	23.6	19	2.2	23.6	19	3.1	39.0	19	4.1	55.9	19	5.0	74.4	19	5.8	94.3	19	6.7	116
23		2.4	21.8	23	2.4	21.8	23	3.3	36.7	23	4.2	51.6	23	5.1	67.2	23	5.9	82.8	23	6.8	98.7	
26				26	3.5	31.8	26	4.4	46.9	26	5.2	61.6	26	6.1	76.1	26	6.9	90.2				
1 1/2"	28							40	3.1	76.3	40	4.0	107	40	5.0	142	40	6.0	183	40	7.0	229
								45	3.2	69.0	45	4.2	97.4	45	5.2	130	45	6.2	167	45	7.3	208
								50	3.3	61.8	50	4.2	88.4	50	5.2	118	50	6.3	152	50	7.3	189
								55	3.4	55.5	55	4.3	80.7	55	5.3	109	55	6.3	141	55	7.4	175
								60	3.5	49.1	60	4.4	73.2	60	5.4	100	60	6.4	130	60	7.5	162
								65	3.6	43.1	65	4.6	66.3	65	5.6	92.3	65	6.6	121	65	7.6	152
								70	3.8	37.5	70	4.8	60.2	70	5.8	85.8	70	6.8	114	70	7.9	145
								75	4.0	32.1	75	5.0	54.6	75	6.1	80.2	75	7.1	109	75	8.2	141
								80	4.2	27.1	80	5.2	49.8	80	6.2	76.0	80	7.2	106	80	8.2	139

Standard Materials: 316 Stainless Steel OR Cobalt Alloy 6 wear components.

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.