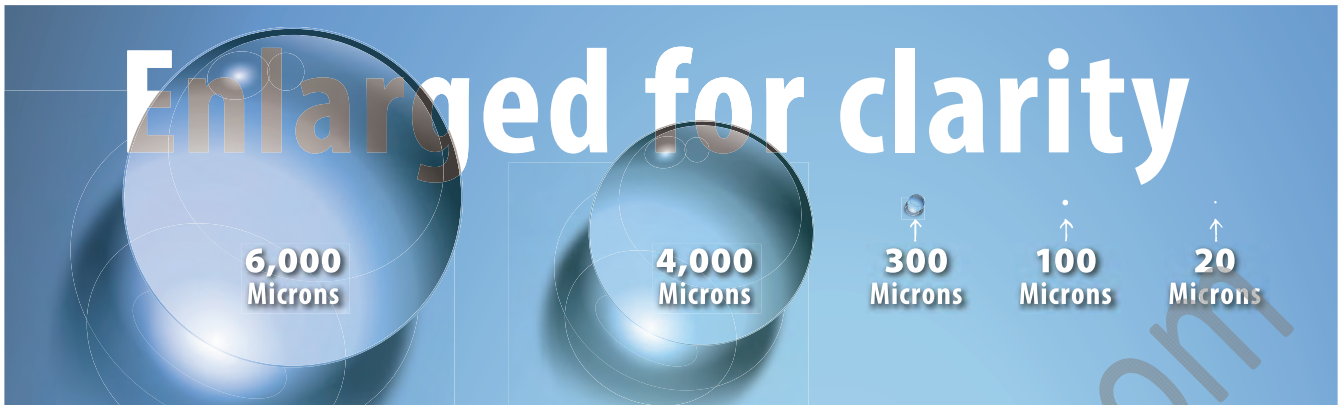


No Drip Atomizing Nozzles



Droplet Size

One of the primary reasons atomizing spray nozzles are used is because of their fine droplet size. Benefits of fine droplet size include even coating and liquid conservation. For reference, a large raindrop is around 6,000 microns (0.236") in diameter. Standard liquid nozzles produce droplet sizes ranging from 4,000 microns (0.157") down to 300 microns (0.012") in diameter. EXAIR's Atomizing Nozzles produce minuscule droplet sizes in the range of 100 microns (0.004") to 20 microns (0.0008")!

Droplet size can be adjusted by varying either the air or liquid pressure. An increase in air pressure or decrease in liquid pressure will generally produce a smaller droplet size. Below is a chart showing various models of atomizing air nozzles and their droplet sizes at selected pressures.

Droplet Size			
Model	Liquid Pressure	Air Pressure	Droplet Size μm^*
AN1020SS	20 PSI	40 PSI	71
	40 PSI	65 PSI	83
ER1020SS	5 PSI	40 PSI	39
	20 PSI	40 PSI	57
SR1020SS	4" Siphon Height	20 PSI	25
	4" Siphon Height	40 PSI	22

* Volume Median Diameter $D_v(50.0)$ of liquid droplets.
1 μm = 1 micron = 0.00004". All tests performed with water.

Spray Angle

The Spray Angle is the trigonometric angle created by the width of the spray pattern and the distance at which it is measured. This angle can vary greatly within a given family of atomizing nozzles depending on flow rates and pressures, but will generally fall into the ranges below:

Spray Angle		
Family	Minimum Angle	Maximum Angle
Internal Mix Narrow Angle Round Pattern - AN1010SS, AN2010SS, etc.	20	45
Internal Mix Wide Angle Round Pattern - AW1010SS, AW2010SS, etc.	50	90
Internal Mix Flat Fan Pattern - AF1010SS, AF2010SS, etc.	50	120
External Mix Round Pattern - ER1010SS, ER2010SS, etc.	25	60
External Mix Narrow Angle Flat Fan Pattern - EF1010SS, EF2010SS, etc.	35	70
External Mix Wide Angle Flat Fan Pattern - EB1010SS, EB2010SS, etc.	50	105
Siphon Fed Round Pattern - SR1010SS, SR2010SS, etc.	20	50
Siphon Fed Flat Fan Pattern - SF1010SS, SF2010SS, etc.	50	100

Atomizing Nozzles

External Mix Narrow Angle Flat Fan Pattern - 1/4 NPT



Model: EF1010SS
Material: Type 303 Stainless Steel

Model EF1010SS, EF1020SS, EF1030SS and EF1040SS

1/4 NPT external mix narrow angle flat fan pattern nozzles are great where a high volume of liquid is needed over a concentrated area. Since they are external mix, airflow and liquid flow can be controlled independently. External mix narrow angle flat fan pattern nozzles are the best choice where thicker liquids for a heavy coating are needed over a narrow band, such as a paint line.



Model: EF1020SS
Material: Type 303 Stainless Steel

For pressure fed applications with independent air and liquid control.



Model: EF1030SS
Material: Type 303 Stainless Steel



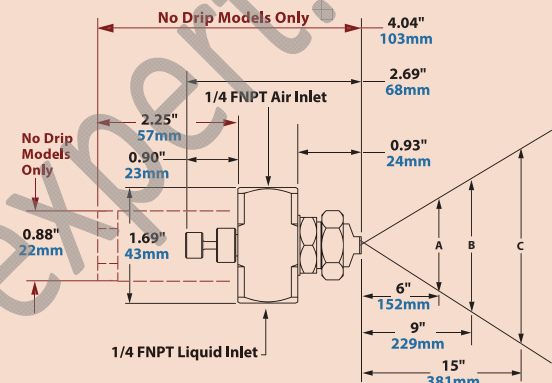
Model: EF1040SS
Material: Type 303 Stainless Steel



A Model EF1020SS is used to supply humidification for a corrosion test chamber.

Dimensions and Airflow Pattern

DOWNLOAD drawings at EXAIR.com



No Drip Only Dimensions in Red See page 80 for No Drip Atomizing Nozzles

For more information about droplet size and spray angle, see page 83.

Model	3 PSI/0.2 BAR Liquid			5 PSI/0.3 BAR Liquid			10 PSI/0.7 BAR Liquid			20 PSI/1.4 BAR Liquid			40 PSI/2.8 BAR Liquid			Spray Dimensions														
	Air Pressure PSI/BAR	GPH/LPH	SCFM/SLPM	Air Pressure PSI/BAR	GPH/LPH	SCFM/SLPM	Air Pressure PSI/BAR	GPH/LPH	SCFM/SLPM	Air Pressure PSI/BAR	GPH/LPH	SCFM/SLPM	Air Pressure PSI/BAR	GPH/LPH	SCFM/SLPM	Pressure		Width			Max. Depth feet/m									
																Air PSI/BAR	Liquid PSI/BAR	A	B	C										
EF1010SS	5	0.3	0.8 22.7	10	0.7	1.0 28.3	15	1.0	1.3 36.8	25	1.7	1.8 51.0	45	3.1	2.7 76.5	5	0.3	3	0.2	4.0	10.2	5.8	14.7	9.5	24.1	6	1.8			
	10	0.7	1.0 28.3	20	1.4	1.5 42.5	25	1.7	1.8 51.0	40	2.8	2.5 70.8	60	4.1	3.4 96.3	25	1.7	5	0.3	5.5	14.0	8.0	20.3	10.0	25.4	12	3.7			
	20	1.4	1.5 42.5	30	2.1	2.0 56.6	40	2.8	2.5 70.8	60	4.1	3.4 96.3	75	5.2	4.1 116	6.5	16.5	9.5	24.1	13.0	33.0	13	4.0							
	40	2.8	2.5 70.8	50	3.4	2.9 82.1	60	4.1	3.4 96.3	90	6.2	4.7 133	95	6.5	5.1 144	50	3.4	20	1.4	6.3	16.0	9.3	23.6	12.0	30.5	16	4.9			
EF1020SS	10	0.7	1.0 28.3	15	1.0	1.3 36.8	20	1.4	1.5 42.5	35	2.4	2.2 62.3	50	3.4	2.9 82.1	60	4.1	3.4 96.3	75	5.2	4.1 116	6.5	16.5	9.5	24.1	13.0	33.0	13	4.0	
	20	1.4	1.5 42.5	25	1.7	1.8 51.0	30	2.1	2.0 56.6	50	3.4	2.9 82.1	70	4.8	3.8 108	80	5.5	4.3 122	60	4.1	20	1.4	7.5	19.1	11.5	29.2	18.0	45.7	20	6.1
	30	2.1	2.0 56.6	40	2.8	2.5 70.8	50	3.4	2.9 82.1	70	4.8	3.8 108	90	6.2	4.7 133	100	6.9	5.2 147	7.5	19.1	12.0	30.5	17.0	43.2	22	6.7				
	50	3.4	2.9 82.1	60	4.1	3.4 96.3	70	4.8	3.8 108	90	6.2	4.7 133	100	6.9	5.2 147	75	5.2	40	2.8	7.5	19.1	12.0	30.5	17.0	43.2	22	6.7			
EF1030SS	10	0.7	1.0 28.3	15	1.0	1.3 36.8	20	1.4	1.5 42.5	35	2.4	2.2 62.3	50	3.4	2.9 82.1	60	4.1	3.4 96.3	75	5.2	4.1 116	6.5	16.5	9.5	24.1	13.0	33.0	13	4.0	
	20	1.4	1.5 42.5	25	1.7	1.8 51.0	30	2.1	2.0 56.6	50	3.4	2.9 82.1	70	4.8	3.8 108	80	5.5	4.3 122	50	3.4	20	1.4	6.3	16.0	9.3	23.6	12.0	30.5	16	4.9
	30	2.1	2.0 56.6	40	2.8	2.5 70.8	50	3.4	2.9 82.1	70	4.8	3.8 108	90	6.2	4.7 133	100	6.9	5.2 147	60	4.1	20	1.4	7.5	19.1	11.5	29.2	18.0	45.7	20	6.1
	50	3.4	2.9 82.1	60	4.1	3.4 96.3	70	4.8	3.8 108	90	6.2	4.7 133	100	6.9	5.2 147	75	5.2	40	2.8	7.5	19.1	12.0	30.5	17.0	43.2	22	6.7			
EF1040SS	15	1.0	1.3 36.8	20	1.4	1.5 42.5	25	1.7	1.8 51.0	40	2.8	2.5 70.8	60	4.1	3.4 96.3	75	5.2	4.1 116	6.5	16.5	9.5	24.1	13.0	33.0	13	4.0				
	25	1.7	1.8 51.0	35	2.4	2.2 62.3	50	3.4	2.9 82.1	70	4.8	3.8 108	90	6.2	4.7 133	100	6.9	5.2 147	10	0.7	3	0.2	4.0	10.2	5.8	14.7	9.5	24.1	6	1.8
	40	2.8	2.5 70.8	50	3.4	2.9 82.1	70	4.8	3.8 108	90	6.2	4.7 133	100	6.9	5.2 147	35	2.4	5	0.3	6.8	17.3	9.0	22.9	12.0	30.5	20	6.1			
	50	3.4	2.9 82.1	60	4.1	3.4 96.3	70	4.8	3.8 108	90	6.2	4.7 133	100	6.9	5.2 147	40	2.8	10	0.7	7.0	17.8	10.0	25.4	13.0	33.0	23	7.0			