

# Liquid Atomizing Spray Nozzles



## Liquid Atomizing Spray Nozzles

**Pressurized liquid nozzles increase liquid flow for cooling, washing and rinsing!**

### What are Liquid Atomizing Spray Nozzles?

EXAIR's Liquid Atomizing Spray Nozzles require no air to operate. They produce droplets by spinning the liquid and breaking its surface tension through a precision orifice or by impacting the liquid on to a surface of the nozzle. Compared to EXAIR's Air Atomizing Spray Nozzles, liquid atomizing spray nozzles generate more liquid volume and produce a coarse spray pattern. The higher liquid flow rates benefit some common industrial applications like cleaning, cooling, rinsing, dust suppression and washing. Many liquid atomizing spray nozzles operate well when the liquid they are spraying contains particulate or is a slurry.

### Why Liquid Atomizing Spray Nozzles?

They are good general-purpose nozzles for industry and are commonly used with inexpensive liquids like water, rinse aids or detergents while also very effective with chemicals, pesticides and herbicides. Adjustment of the liquid flow rate can be done with varying liquid pressure but without the same adjustability or refinement of Air Atomizing Spray Nozzles. Their smaller footprint allows for mounting in smaller spaces and with less plumbing required, since no air line is needed. Liquid nozzles, made of Type 303 stainless steel are durable and rugged, with no moving parts and have a maximum operating temperature of 800°F (427°C).



#### Applications

- Cooling
- Quenching
- Coating
- Dust suppression
- Washing
- Rinsing

#### Advantages

- Foam breaking
- Slurry spraying
- Sanitizing
- Degreasing
- Lubricating
- High liquid flow rates
- Increase the liquid's surface area
- Increase the liquid coverage area on your target
- All stainless steel construction
- Compact footprint
- Versatile

# Liquid Atomizing Spray Nozzles

## FullStream™ Cone Nozzles - 1/4 NPT



**Model: FL1008SS**

**Material:** Type 303 Stainless Steel



**Model: FL1010SS**

**Material:** Type 303 Stainless Steel



**Model: FL1011SS**

**Material:** Type 303 Stainless Steel

### Model FL1008SS, FL1010SS and FL1011SS

EXAIR's 1/4 NPT FullStream Cone Nozzles, with a full cone spray pattern, are among the most common type of spray nozzles. Full cone spray nozzles are applied to solve cooling, cleaning, washing, rinsing and dust suppression applications throughout industry. Their tangential flow design is vaneless, which creates wide open internal features to resist clogging. This produces a uniform distribution in a full cone round pattern and medium to large droplets. Their right-angle design is compact and operates at up to 250 PSI liquid pressure. FullStream nozzles also work well with liquids containing particulate.

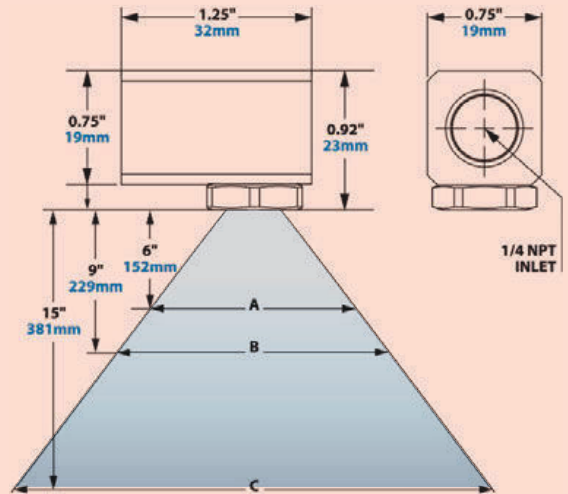
Compared to EXAIR's Air Atomizing Spray Nozzles the FullStream will have higher liquid flow rates.

For maximum liquid conservation and spray control visit page 70.



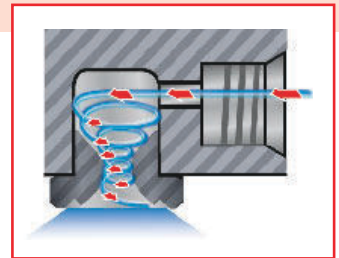
### Dimensions and Spray Pattern

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### How FullStream and HollowStream Cone Nozzles Work

With FullStream and HollowStream nozzles, the atomizing fluid is supplied into the body of the nozzle creating a swirling action within the vortex chamber. This vortex produces a full cone spray pattern when the precisely machined nozzle breaks the liquid surface tension as it exits the orifice at a controlled spray angle.



1/4 NPT FullStream Cone Nozzle with cone spray pattern is rinsing anodized aluminium pipe.

FullStream Cone Nozzles												Spray Angle							
Inlet Connection	Model	Capacity	Max Free Passage	Flow Rate GPM/LPM								Inlet Pressure PSI/BAR		Width					
					3 psi	5 psi	7 psi	10 psi	20 psi	40 psi	60 psi			A		B		C	
1/4 NPT	FL1008SS	8	0.109"	GPM	0.50	0.60	0.70	0.80	1.15	1.55	1.80	7	0.5	5.7	14	8.6	22	14.3	36
				LPM	1.89	2.27	2.65	3.03	4.35	5.87	6.81	20	1.4	7.4	19	11.0	28	18.4	47
												60	4.1	8.4	21	12.6	32	21.0	53
	FL1010SS	10	0.125"	GPM	0.48	0.67	0.83	1.00	1.34	1.88	2.36	7	0.5	6.8	17	10.2	26	17.0	43
				LPM	1.82	2.54	3.14	3.79	5.07	7.12	8.93	20	1.4	8.7	22	13.1	33	21.8	55
												60	4.1	10.1	26	15.1	38	25.2	64
	FL1011SS	11	0.144"	GPM	0.62	0.85	0.96	1.10	1.51	2.21	2.66	7	0.5	6.8	17	10.2	26	17.0	43
				LPM	2.35	3.22	3.63	4.16	5.72	8.36	10.07	20	1.4	8.7	22	13.1	33	21.8	55
												60	4.1	10.1	26	15.1	38	25.2	64

# Liquid Atomizing Spray Nozzles

## FullStream™ Cone Nozzles - 3/8 NPT



**Model: FL3011SS**  
**Material: Type 303 Stainless Steel**



**Model: FL3013SS**  
**Material: Type 303 Stainless Steel**



**Model: FL3016SS**  
**Material: Type 303 Stainless Steel**



**Model: FL3020SS**  
**Material: Type 303 Stainless Steel**



**Model: FL3023SS**  
**Material: Type 303 Stainless Steel**



**Model: FL3026SS**  
**Material: Type 303 Stainless Steel**



**Model: FL3029SS**  
**Material: Type 303 Stainless Steel**

Model FL3011SS, FL3013SS, FL3016SS, FL3020SS, FL3023SS, FL3026SS and FL3029SS

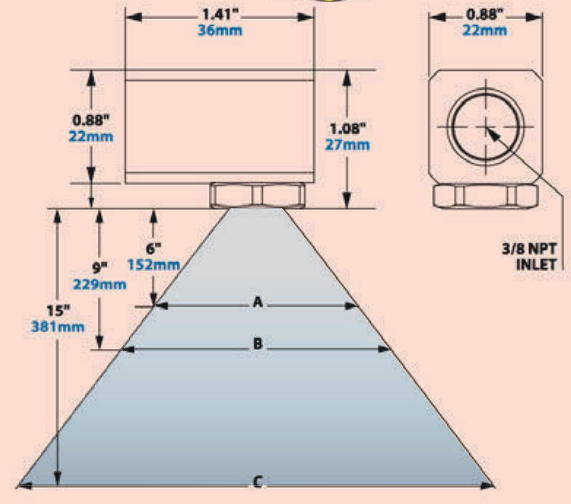
EXAIR's 3/8 FullStream Cone Nozzles, with a full cone spray pattern, are among the most common type of spray nozzles. Full cone spray nozzles are applied to solve cooling, cleaning, washing, rinsing and dust suppression applications throughout industry. Their tangential flow design is vaneless, which creates wide open internal features to resist clogging. This produces a uniform distribution in a full cone round pattern and medium to large droplets. Their right-angle design is compact and operates at up to 250 PSI liquid pressure. FullStream nozzles also work well with liquids containing particulate.

Compared to EXAIR's Air Atomizing Spray Nozzles the FullStream will have higher liquid flow rates.

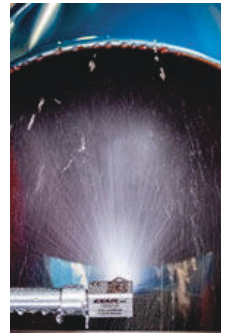
For maximum liquid conservation and spray control visit page 70.

## Dimensions and Spray Pattern

DOWNLOAD drawings at EXAIR.com



3/8 NPT FullStream Cone Nozzle washing the inside of a 55 gallon drum.



FullStream Cone Nozzles											Spray Angle								
Inlet Connection	Model	Capacity	Max Free Passage	Flow Rate GPM/LPM								Inlet		Width					
					3 psi	5 psi	7 psi	10 psi	20 psi	40 psi	60 psi			Pressure PSI/BAR	A		B		C
												in	cm	in	cm	in	cm		
3/8 NPT	FL3011SS	11	0.128"	GPM	0.57	0.76	0.91	1.10	1.52	2.20	2.70	7	0.5	8.1	21	12.1	31	20.2	51
				LPM	2.16	2.88	3.44	4.16	5.75	8.33	10.22	20	1.4	9.9	25	14.8	38	24.7	63
	FL3013SS	13	0.144"	GPM	0.75	0.95	1.13	1.30	1.86	2.60	3.34	7	0.5	7.6	19	11.5	29	19.1	49
				LPM	2.84	3.60	4.28	4.92	7.04	9.84	12.64	20	1.4	9.0	23	13.6	35	22.6	57
	FL3016SS	16	0.154"	GPM	0.98	1.10	1.25	1.60	2.23	2.90	3.60	7	0.5	7.6	19	11.5	29	19.1	49
				LPM	3.71	4.16	4.73	6.06	8.44	10.98	13.63	20	1.4	9.7	25	14.6	37	24.3	62
	FL3020SS	20	0.172"	GPM	1.22	1.64	1.88	2.00	2.98	4.24	4.82	7	0.5	8.4	21	12.6	32	21.0	53
				LPM	4.62	6.21	7.12	7.57	11.28	16.05	18.24	20	1.4	9.9	25	14.8	38	24.7	63
	FL3023SS	23	0.189"	GPM	1.36	1.76	1.96	2.30	3.18	4.56	5.38	7	0.5	9.0	23	13.6	35	22.6	57
				LPM	5.15	6.66	7.42	8.71	12.04	17.26	20.36	20	1.4	10.2	26	15.4	39	25.6	65
	FL3026SS	26	0.204"	GPM	1.26	1.80	2.02	2.60	3.30	5.18	6.12	7	0.5	9.7	25	14.6	37	24.3	62
				LPM	4.77	6.81	7.65	9.84	12.49	19.61	23.17	20	1.4	10.8	27	16.2	41	27.0	69
	FL3029SS	29	0.221"	GPM	1.30	1.84	2.28	2.90	3.62	5.48	6.48	7	0.5	9.9	25	14.8	38	24.7	63
				LPM	4.92	6.97	8.63	10.98	13.70	20.74	24.53	20	1.4	10.8	27	16.2	41	27.0	69
	FL3011SS	11	0.128"	GPM	0.57	0.76	0.91	1.10	1.52	2.20	2.70	7	0.5	8.1	21	12.1	31	20.2	51
				LPM	2.16	2.88	3.44	4.16	5.75	8.33	10.22	20	1.4	9.9	25	14.8	38	24.7	63
FL3013SS	13	0.144"	GPM	0.75	0.95	1.13	1.30	1.86	2.60	3.34	7	0.5	7.6	19	11.5	29	19.1	49	
			LPM	2.84	3.60	4.28	4.92	7.04	9.84	12.64	20	1.4	9.0	23	13.6	35	22.6	57	
FL3016SS	16	0.154"	GPM	0.98	1.10	1.25	1.60	2.23	2.90	3.60	7	0.5	7.6	19	11.5	29	19.1	49	
			LPM	3.71	4.16	4.73	6.06	8.44	10.98	13.63	20	1.4	9.7	25	14.6	37	24.3	62	
FL3020SS	20	0.172"	GPM	1.22	1.64	1.88	2.00	2.98	4.24	4.82	7	0.5	8.4	21	12.6	32	21.0	53	
			LPM	4.62	6.21	7.12	7.57	11.28	16.05	18.24	20	1.4	9.9	25	14.8	38	24.7	63	
FL3023SS	23	0.189"	GPM	1.36	1.76	1.96	2.30	3.18	4.56	5.38	7	0.5	9.0	23	13.6	35	22.6	57	
			LPM	5.15	6.66	7.42	8.71	12.04	17.26	20.36	20	1.4	10.2	26	15.4	39	25.6	65	
FL3026SS	26	0.204"	GPM	1.26	1.80	2.02	2.60	3.30	5.18	6.12	7	0.5	9.7	25	14.6	37	24.3	62	
			LPM	4.77	6.81	7.65	9.84	12.49	19.61	23.17	20	1.4	10.8	27	16.2	41	27.0	69	
FL3029SS	29	0.221"	GPM	1.30	1.84	2.28	2.90	3.62	5.48	6.48	7	0.5	9.9	25	14.8	38	24.7	63	
			LPM	4.92	6.97	8.63	10.98	13.70	20.74	24.53	20	1.4	10.8	27	16.2	41	27.0	69	

# Liquid Atomizing Spray Nozzles

## FullStream™ Cone Nozzles - 1/2 NPT



**Model: FL5032SS**  
**Material:** Type 303 Stainless Steel



**Model: FL5040SS**  
**Material:** Type 303 Stainless Steel



**Model: FL5048SS**  
**Material:** Type 303 Stainless Steel



**Model: FL5056SS**  
**Material:** Type 303 Stainless Steel



**Model: FL5064SS**  
**Material:** Type 303 Stainless Steel



**Model: FL5072SS**  
**Material:** Type 303 Stainless Steel

Model FL5032SS, FL5040SS, FL5048SS, FL5056SS, FL5064SS and FL5072SS

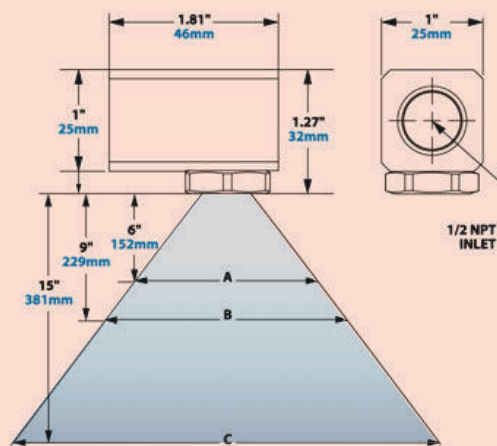
EXAIR's 1/2 NPT FullStream Cone Nozzles, with a full cone spray pattern, are among the most common type of spray nozzles. Full cone spray nozzles are applied to solve cooling, cleaning, washing, rinsing and dust suppression applications throughout industry. Their tangential flow design is vaneless, which creates wide open internal features to resist clogging. This produces a uniform distribution in a full cone round pattern and medium to large droplets. Their right-angle design is compact and operates at up to 250 PSI liquid pressure. FullStream nozzles also work well with liquids containing particulate.

Compared to EXAIR's Air Atomizing Spray Nozzles the FullStream will have higher liquid flow rates.

For maximum liquid conservation and spray control visit page 70.

## Dimensions and Spray Pattern

DOWNLOAD drawings at EXAIR.com



1/2 NPT FullStream Cone Nozzle with cone spray pattern is cleaning red potatoes.

FullStream Cone Nozzles											Spray Angle								
Inlet Connection	Model	Capacity	Max Free Passage	Flow Rate GPM/LPM								Inlet		Width					
					3 psi	5 psi	7 psi	10 psi	20 psi	40 psi	60 psi			Pressure PSI/BAR	A		B		C
1/2 NPT	FL5032SS	32	0.201"	GPM	1.74	2.46	2.80	3.20	4.46	6.28	7.30	7	0.5	9.4	23.9	14.1	35.81	23.4	59.4
				LPM	6.59	9.31	10.60	12.11	16.88	23.77	27.63	20	1.4	10.1	25.7	15.1	38.3	25.2	64.0
	FL5040SS	40	0.242"	GPM	2.68	3.14	3.52	4.00	5.60	7.80	8.76	7	0.5	10.1	25.7	15.1	38.4	25.2	64.0
				LPM	10.14	11.89	13.32	15.14	21.20	29.53	33.16	20	1.4	12.0	30.5	18.0	45.7	30.0	76.2
	FL5048SS	48	0.281"	GPM	3.06	3.56	3.96	4.80	6.81	9.58	11.73	7	0.5	10.1	25.7	15.1	38.4	25.2	64.0
				LPM	11.28	13.48	15.00	18.17	25.78	39.26	44.40	20	1.4	12.0	30.5	18.0	45.7	30.0	76.2
	FL5056SS	56	0.295"	GPM	3.32	4.18	4.67	5.60	7.89	11.22	13.74	7	0.5	11.0	28.0	16.5	42.0	27.5	69.9
				LPM	12.57	15.82	17.68	21.20	29.87	42.47	52.01	20	1.4	12.0	30.5	18.0	45.7	30.0	76.2
	FL5064SS	64	0.328"	GPM	3.50	4.50	5.15	6.40	9.13	12.70	15.81	7	0.5	11.0	28.0	16.5	42.0	27.5	69.9
				LPM	13.25	17.03	19.49	24.23	34.56	48.07	59.85	20	1.4	12.0	30.5	18.0	45.7	30.0	76.2
	FL5072SS	72	0.359"	GPM	4.08	5.00	6.17	7.20	10.17	14.40	17.64	7	0.5	11.0	28.0	16.5	42.0	27.5	69.9
				LPM	15.44	18.93	23.36	27.25	38.50	54.51	66.77	20	1.4	12.0	30.5	18.0	45.7	30.0	76.2