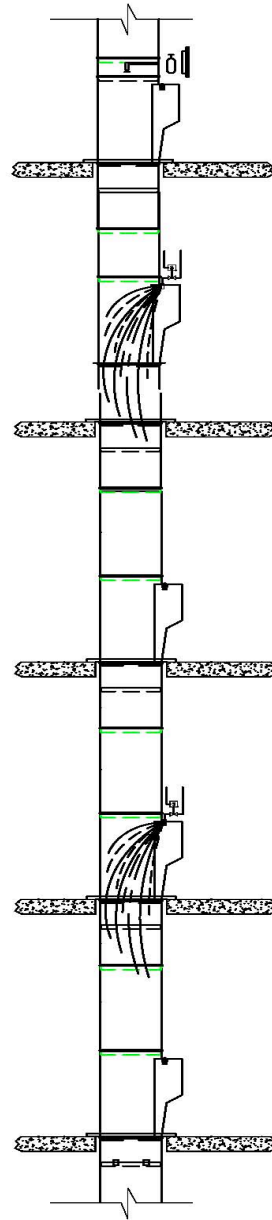




**Wilkinson Hi-Rise**

# Chute Janitor System

- Fully automatic wash down and cleaning of trash and linen chutes. User defined wash cycles, easily programmable
- Extends the life of the chute
- High pressure spray nozzles are installed on every other floor intake to provide full wash down of entire chute.
- Operated in conjunction with Disinfecting and Sanitizing unit (D&S) to provide the necessary disinfectants / detergents to keep the chute clean and odor free
- Easy to install – spray nozzle and corresponding solenoid valve are factory installed. Just hook up hot or cold water source and connect applicable power source and system is ready to go.
- Available in 24V or 120V operating voltages
- Spray head operating parameters – 8-10 GPM at 60 -70 psi
- Contact your local Wilkinson Hi-Rise Representative for further information



**Wilkinson Hi-Rise**  
**3001 Greene Street**  
**Hollywood, FL**  
**954-342-4400; F 954-342-4338**

# FF

## Extra-Wide Angle

### DESIGN FEATURES

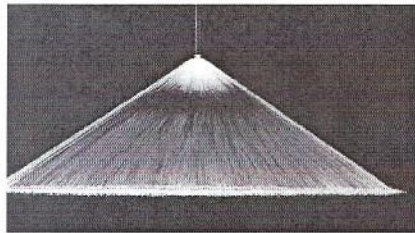
- One-piece construction
- Clog-resistant
- Durable
- All 3/8" FFs in Brass have UL approval; 3/8" FF187145 in Brass has FM approval
- Male connection

### SPRAY CHARACTERISTICS

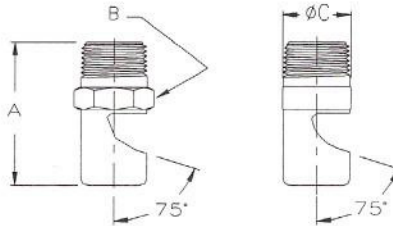
- Extra-wide 145° spray angle
  - Medium-impact spray
  - Spray discharge deflected 75° from inlet axis
  - Coarse atomization
- Spray pattern:** Flat Fan  
**Spray angle:** 105° and 145°  
**Flow rates:** 0.014 to 235 gpm



Plastic



Fan 145°



Metal

Plastic

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

### FF Flow Rates

Fan, 105° and 145° Spray Angles, 1/8" to 1" Pipe Sizes

Male Pipe Size	Nozzle Number	Spray Angle	K Factor	GALLONS PER MINUTE @ PSI												Approx. Orifice Dia. (in.)
				3 PSI	5 PSI	10 PSI	20 PSI	30 PSI	40 PSI	50 PSI	60 PSI	80 PSI	100 PSI	200 PSI		
1/8	FF016	105°	0.00791	0.014	0.018	0.025	0.035	0.043	<b>0.050</b>	0.056	0.061	0.071	0.079	0.112	0.016	
	FF024	105°	0.0158	0.027	0.035	0.050	0.071	0.087	<b>0.100</b>	0.112	0.122	0.141	0.158	0.224	0.024	
	FF028	105°	0.0237	0.041	0.053	0.075	0.106	0.130	<b>0.150</b>	0.168	0.184	0.212	0.237	0.335	0.028	
	FF033	105°	0.0316	0.055	0.071	0.100	0.141	0.173	<b>0.200</b>	0.224	0.245	0.283	0.316	0.447	0.033	
	FF041	145°	0.0474	0.082	0.106	0.150	0.212	0.280	<b>0.300</b>	0.335	0.367	0.424	0.474	0.671	0.041	
	FF046	145°	0.0632	0.110	0.141	0.200	0.283	0.346	<b>0.400</b>	0.447	0.490	0.566	0.632	0.894	0.046	
	FF052	145°	0.0791	0.137	0.177	0.250	0.354	0.433	<b>0.500</b>	0.559	0.612	0.707	0.791	1.11	0.052	
	FF057	145°	0.0949	0.164	0.212	0.300	0.424	0.520	<b>0.600</b>	0.671	0.735	0.849	0.949	1.34	0.057	
	FF065	145°	0.126	0.219	0.283	0.400	0.566	0.693	<b>0.800</b>	0.894	0.980	1.13	1.26	1.79	0.065	
1/8 or 1/4	FF073	145°	0.158	0.274	0.354	0.500	0.707	0.866	<b>1.00</b>	1.12	1.22	1.41	1.58	2.24	0.073	
	FF093	145°	0.237	0.411	0.530	0.750	1.06	1.30	<b>1.50</b>	1.68	1.84	2.12	2.37	3.35	0.093	
	FF104	145°	0.316	0.548	0.707	1.00	1.41	1.73	<b>2.00</b>	2.24	2.45	2.83	3.16	4.47	0.104	
	FF116	145°	0.379	0.657	0.849	1.20	1.70	2.08	<b>2.40</b>	2.68	2.94	3.39	3.79	5.37	0.116	
1/4	FF125	145°	0.395	0.685	0.884	1.25	1.77	2.17	<b>2.50</b>	2.80	3.06	3.54	3.95	5.59	0.125	
	FF129	145°	0.474	0.822	1.06	1.50	2.12	2.60	<b>3.00</b>	3.35	3.67	4.24	4.74	6.71	0.129	
	FF141	145°	0.569	0.986	1.27	1.80	2.55	3.12	<b>3.60</b>	4.02	4.41	5.09	5.69	8.05	0.141	
	FF148	145°	0.632	1.10	1.41	2.00	2.83	3.46	<b>4.00</b>	4.47	4.90	5.66	6.32	8.94	0.148	
1/4	FF156	145°	0.696	1.20	1.56	2.20	3.11	3.81	<b>4.40</b>	4.92	5.39	6.22	6.96	9.84	0.156	
	FF161	145°	0.750	1.31	1.70	2.40	3.39	4.18	<b>4.80</b>	5.37	5.88	6.79	7.59	10.7	0.161	
	FF173	145°	0.854	1.48	1.91	2.70	3.82	4.68	<b>5.40</b>	6.04	6.61	7.64	8.54	12.1	0.173	

$$\text{Flow Rate (GPM)} = K \sqrt{\text{PSI}}$$

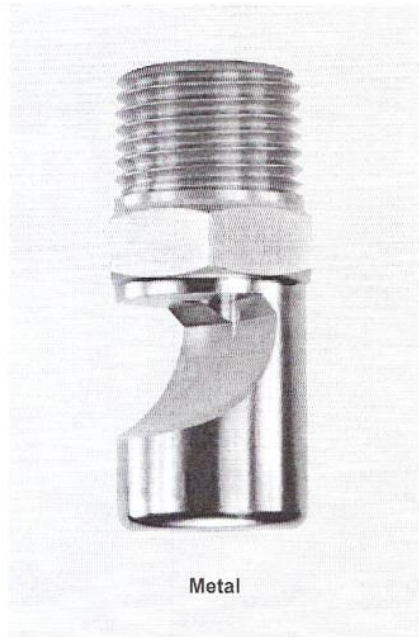
**Standard Materials:** Brass, 303 Stainless Steel, 316 Stainless Steel, PVC, and PTFE (PTFE not available in nozzle numbers FF016 to FF065).

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

### FF Dimensions

Pipe Size	Dim. (in.)		
	A	B	C
1/8	1.00	0.44	0.50
1/4	1.38	0.56	0.63

TO ORDER: specify pipe size, connector type, nozzle number, spray angle, and material.



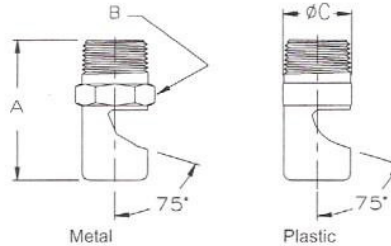
Metal



All 3/8" FFs in Brass have UL approval



3/8" FF187145 nozzles in Brass have FM approval



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

**FF Flow Rates**

Fan, 105° and 145° Spray Angles, 1/8" to 1" Pipe Sizes

Male Pipe Size	Nozzle Number	Spray Angle	K Factor	GALLONS PER MINUTE @ PSI												Approx. Orifice Dia. (in.)	FF Dimensions		
				3 PSI	5 PSI	10 PSI	20 PSI	30 PSI	40 PSI	50 PSI	60 PSI	80 PSI	100 PSI	200 PSI	Pipe Size		Dim. (in.) A	B	C
3/8	FF187	145°	0.949	1.64	2.12	3.00	4.24	5.20	6.00	6.71	7.35	8.49	9.49	13.4	0.187	3/8	1.75	0.68	0.75
	FF196	145°	1.11	1.92	2.47	3.50	4.95	6.06	7.00	7.83	8.57	9.90	11.1	15.7	0.196				
	FF209	145°	1.18	2.04	2.64	3.73	5.28	6.46	7.46	8.34	9.14	10.1	11.8	16.7	0.196				
	FF218	145°	1.26	2.19	2.83	4.00	5.66	6.93	8.00	8.94	9.80	11.3	12.6	17.9	0.218				
	FF221	145°	1.42	2.46	3.18	4.50	6.36	7.79	9.00	10.1	11.0	12.7	14.2	20.1	0.221				
1/2	FF209	145°	1.18	2.04	2.64	3.73	5.28	6.46	7.46	8.34	9.14	10.1	11.8	16.7	0.196	1/2	2.00	0.88	0.88
	FF218	145°	1.26	2.19	2.83	4.00	5.66	6.93	8.00	8.90	9.80	11.3	12.6	17.9	0.218				
	FF250	145°	1.66	2.88	3.71	5.25	7.42	9.09	10.5	11.7	12.9	14.8	16.6	23.5	0.250				
	FF256	145°	1.90	3.29	4.24	6.00	8.49	10.4	12.0	13.4	14.7	17.0	19.0	26.8	0.256				
	FF281	145°	2.21	3.83	4.95	7.00	9.90	12.1	14.0	15.7	17.1	19.8	22.1	31.3	0.281				
	FF312	145°	2.53	4.38	5.66	8.00	11.3	13.9	16.0	17.9	19.6	22.6	25.3	35.8	0.312				
	FF375	145°	3.79	6.57	8.49	12.0	17.0	20.8	24.0	26.8	29.4	33.9	37.9	53.7	0.375				
3/4	FF316	145°	2.85	4.93	6.36	9.00	12.7	15.6	18.0	20.1	22.0	25.5	28.5	40.2	0.316	3/4	2.63	1.38	1.50
	FF332	145°	3.16	5.48	7.07	10.0	14.1	17.3	20.0	22.4	24.5	28.3	31.6	44.7	0.332				
	FF348	145°	3.48	6.02	7.78	11.0	15.6	19.1	22.0	24.6	26.9	31.1	34.8	49.2	0.348				
	FF375	145°	3.79	6.57	8.49	12.0	17.0	20.8	24.0	26.8	29.4	33.9	37.9	53.7	0.375				
	FF406	145°	4.43	7.67	9.90	14.0	19.8	24.2	28.0	31.3	34.3	39.6	44.3	62.6	0.406				
	FF437	145°	5.06	8.76	11.3	16.0	22.6	27.7	32.0	35.8	39.2	45.3	50.6	71.6	0.437				
	FF453	145°	5.69	9.86	12.7	18.0	25.5	31.2	36.0	40.2	44.1	50.9	56.9	80.5	0.453				
	FF484	145°	6.64	11.5	14.8	21.0	29.7	36.4	42.0	47.0	51.4	59.4	66.4	93.9	0.484				
	FF500	145°	7.59	13.1	17.0	24.0	33.9	41.6	48.0	53.7	58.8	67.9	75.9	107	0.500				
1	FF578	145°	9.49	16.4	21.2	30.0	42.4	52.0	60.0	67.1	73.5	84.9	94.9	134	0.578	1	3.38	2.00	2.00
	FF625	145°	11.5	20.0	25.8	36.5	51.6	63.2	73.0	81.6	89.4	103	115	163	0.625				
	FF703	145°	14.2	24.6	31.8	45.0	63.6	77.9	90.0	101	110	127	142	201	0.703				
	FF750	145°	16.6	28.8	37.1	52.5	74.2	90.9	105	117	129	148	166	235	0.750				

Flow Rate (GPM) = K √PSI

Standard Materials: Brass, 303 Stainless Steel, 316 Stainless Steel, PVC, and PTFE.

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

CALL 413-772-0846  
Call for the name of your nearest BETE representative