

FF

Extra-Wide Angle

DESIGN FEATURES

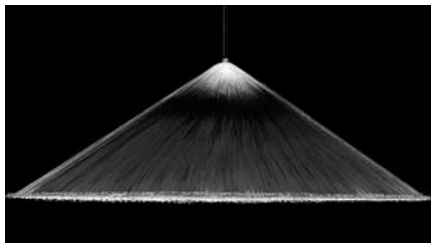
- One-piece construction
- Clog resistant
- Durable
- All 3/8" FFs in Brass have UL approval; 3/8" FF187145 in Brass has FM approval
- Male connection

SPRAY CHARACTERISTICS

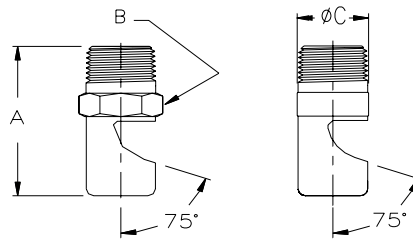
- Extra-wide 145° spray angle
 - Medium-impact spray
 - Spray discharge deflected 75° from inlet axis
 - Coarse atomization
- Spray pattern:** Flat Fan
Spray angle: 105° and 145°
Flow rates: 0.510 to 757 l/min



Plastic



Fan 145°



Metal

Plastic

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

FF Flow Rates

Fan, 105° and 145° Spray Angle, 1/8" to 1" Pipe Sizes, BSP or NPT

Male Pipe Size	Nozzle Number	Spray Angle	K Factor	LITERS PER MINUTE @ BAR								Approx. Orifice Dia. (mm)
				0.2 bar	0.5 bar	0.7 bar	1 bar	2 bar	3 bar	5 bar	10 bar	
1/8	FF016	105°	0.114	0.0510	0.0806	0.0953	0.114	0.161	0.197	0.255	0.360	0.406
	FF024	105°	0.228	0.102	0.161	0.191	0.228	0.322	0.395	0.510	0.721	0.610
	FF028	105°	0.342	0.153	0.242	0.286	0.342	0.483	0.592	0.764	1.08	0.711
	FF033	105°	0.456	0.204	0.322	0.381	0.456	0.645	0.789	1.02	1.44	0.838
	FF041	145°	0.684	0.306	0.483	0.572	0.684	0.967	1.18	1.53	2.16	1.04
	FF046	145°	0.912	0.408	0.645	0.763	0.912	1.29	1.58	2.04	2.88	1.17
	FF052	145°	1.14	0.510	0.806	0.953	1.14	1.61	1.97	2.55	3.60	1.32
	FF057	145°	1.37	0.611	0.967	1.14	1.37	1.93	2.37	3.06	4.32	1.45
	FF065	145°	1.82	0.815	1.29	1.53	1.82	2.58	3.16	4.08	5.77	1.65
1/8 or 1/4	FF073	145°	2.28	1.02	1.61	1.91	2.28	3.22	3.95	5.10	7.21	1.85
	FF093	145°	3.42	1.53	2.42	2.86	3.42	4.83	5.92	7.64	10.8	2.36
	FF104	145°	4.56	2.04	3.22	3.81	4.56	6.45	7.89	10.2	14.4	2.64
	FF116	145°	5.47	2.45	3.87	4.58	5.47	7.73	9.47	12.2	17.3	2.95
	FF125	145°	5.70	2.55	4.03	4.77	5.70	8.06	9.87	12.7	18.0	3.18
	FF129	145°	6.84	3.06	4.83	5.72	6.84	9.67	11.8	15.3	21.6	3.28
	FF141	145°	8.20	3.67	5.80	6.86	8.20	11.6	14.2	18.3	25.9	3.58
	FF148	145°	9.12	4.08	6.45	7.63	9.12	12.9	15.8	20.4	28.8	3.76
1/4	FF156	145°	10.0	4.48	7.09	8.39	10.0	14.2	17.4	22.4	31.7	3.96
	FF161	145°	10.9	4.89	7.73	9.15	10.9	15.5	18.9	24.5	34.6	4.09
	FF173	145°	12.3	5.50	8.70	10.3	12.3	17.4	21.3	27.5	38.9	4.39

FF Dimensions

Pipe Size	Dim. (mm)			Wt. (g)	
	A	B	C	M	P
1/8	25.4	11.2	12.7	14	3
1/4	35.1	14.2	16.0	35	7.5

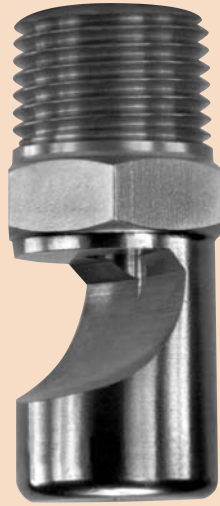
$$\text{Flow Rate (l/min)} = K \sqrt{\text{bar}}$$

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.

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



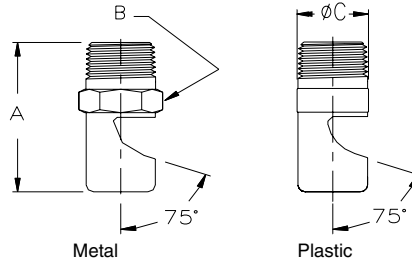
Metal



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													FF Dimensions					
Fan, 105° and 145° Spray Angle, 1/8" to 1" Pipe Sizes, BSP or NPT																		
Male Pipe Size	Nozzle Number	Spray Angle	K Factor	LITERS PER MINUTE @ BAR								Approx. Orifice Dia (mm)	Pipe Size	Dim. (mm)			Wt. (g)	
				0.2 bar	0.5 bar	0.7 bar	1 bar	2 bar	3 bar	5 bar	10 bar			A	B	C	M	P
3/8	FF187	145°	13.7	6.11	9.67	11.4	13.7	19.3	23.7	30.6	43.2	4.75	3/8	44.5	17.5	19.1	72	15
	FF196	145°	16.0	7.1	11.3	13.3	16.0	22.6	27.6	35.7	50.4	4.98						
	FF209	145°	17.0	7.6	12.0	14.2	17.0	24.0	29.4	38.0	53.8	5.31						
	FF221	145°	20.5	9.2	14.5	17.2	20.5	29.0	35.5	45.9	64.9	5.61						
1/2	FF209	145°	17.0	7.6	12.0	14.2	17.0	24.0	29.4	38.0	53.8	5.31	1/2	50.8	22.4	22.4	117	25
	FF218	145°	18.2	8.2	12.9	15.3	18.2	25.8	31.6	40.8	57.7	5.54						
	FF250	145°	23.9	10.7	16.9	20.0	23.9	33.8	41.4	53.5	75.7	6.35						
	FF256	145°	27.3	12.2	19.3	22.9	27.3	38.7	47.4	61.1	86.5	6.55						
	FF281	145°	31.9	14.3	22.6	26.7	31.9	45.1	55.3	71.3	101	7.14						
	FF312	145°	36.5	16.3	25.8	30.5	36.5	51.6	63.2	81.5	115	7.92						
	FF375	145°	54.7	24.5	38.7	45.8	54.7	77.3	94.7	122	173	9.53						
3/4	FF316	145°	41.0	18.3	29.0	34.3	41.0	58.0	71.0	92	130	8.03	3/4	66.8	38.1	38.1	345	73
	FF332	145°	45.6	20.4	32.2	38.1	45.6	64.5	78.9	102	144	8.43						
	FF348	145°	50.1	22.4	35.5	41.9	50.1	70.9	86.8	112	159	8.84						
	FF368	145°	54.7	24.5	38.7	45.8	54.7	77.3	94.7	122	173	9.35						
	FF406	145°	63.8	28.5	45.1	53.4	63.8	90.2	111	143	202	10.3						
	FF437	145°	72.9	32.6	51.6	61.0	72.9	103	126	163	231	11.1						
	FF453	145°	82.0	36.7	58.0	68.6	82.0	116	142	183	259	11.5						
	FF484	145°	95.7	42.8	67.7	80.1	95.7	135	166	214	303	12.3						
	FF500	145°	109	48.9	77.3	91.5	109	155	189	245	346	12.7						
1	FF578	145°	137	61.1	96.7	114	137	193	237	306	432	14.7	1	85.9	50.8	50.8	908	192
	FF625	145°	166	74.4	118	139	166	235	288	372	526	15.9						
	FF703	145°	205	91.7	145	172	205	290	355	459	649	17.9						
	FF750	145°	239	107	169	200	239	338	414	535	757	19.1						

$$\text{Flow Rate (l/min)} = K \sqrt{\text{bar}}$$

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.



FAN

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