

# NFS

## Stubby Flat Fan

### DESIGN FEATURES

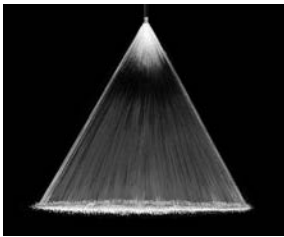
- Extremely short length for minimum projection and maximum clearance
- Produces a flat fan spray pattern available in a variety of spray angles
- Available in straight (parallel) threads only, NPSM and G
- Requires gasket to seal connection

### SPRAY CHARACTERISTICS

**Spray pattern:** Fan  
**Spray angles:** 20°, 30°, 45°, 60°, 90° and 120° standard  
**Flow rates:** 0.049 to 295 gpm



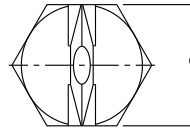
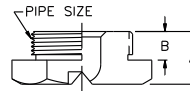
Metal



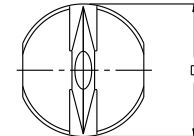
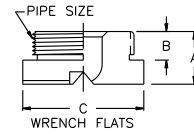
Fan 45°



Fan 90°



Metal



Plastic

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

### NFS Flow Rates and Dimensions

Flat Fan, 20°, 30°, 45°, 60°, 90° & 120° Spray Angles, 1/4" to 2" Pipe Sizes

** Male Pipe Size	Nozzle Number	K Factor	GALLONS PER MINUTE @ PSI											Equiv. Orifice Dia. (in)
			5 PSI	10 PSI	15 PSI	20 PSI	30 PSI	40 PSI	60 PSI	80 PSI	100 PSI	150 PSI	200 PSI	
1/4	NFS 012	0.020	0.04	0.06	0.08	0.09	0.11	0.12	0.15	0.18	0.20	0.24	0.28	0.315
	NFS 019	0.031	0.07	0.10	0.12	0.14	0.17	0.19	0.24	0.28	0.31	0.38	0.44	0.0394
	NFS 031	0.049	0.11	0.16	0.19	0.22	0.27	0.31	0.38	0.44	0.49	0.60	0.70	0.0472
	NFS 039	0.061	0.14	0.19	0.24	0.27	0.34	0.39	0.47	0.55	0.61	0.75	0.87	0.0531
	NFS 050	0.078	0.18	0.25	0.30	0.35	0.43	0.50	0.61	0.70	0.78	0.96	1.11	0.0591
	NFS 059	0.093	0.21	0.29	0.36	0.42	0.51	0.59	0.72	0.83	0.93	1.14	1.32	0.0650
	NFS 077	0.122	0.27	0.39	0.47	0.55	0.67	0.77	0.95	1.10	1.22	1.50	1.73	0.0787
	NFS 098	0.155	0.35	0.49	0.60	0.69	0.85	0.98	1.20	1.38	1.55	1.89	2.19	0.0866
	NFS 12	0.196	0.44	0.62	0.76	0.88	1.07	1.24	1.52	1.75	1.96	2.40	2.77	0.0984
NFS 15	0.233	0.52	0.74	0.90	1.04	1.28	1.47	1.80	2.08	2.33	2.85	3.29	0.106	
1/4 or 3/4"	NFS 20	0.309	0.69	0.98	1.20	1.38	1.69	1.97	2.39	2.76	3.09	3.78	4.36	0.118
	NFS 25	0.392	0.88	1.24	1.52	1.75	2.15	2.48	3.04	3.51	3.92	4.80	5.55	0.138
	NFS 31	0.492	1.10	1.56	1.91	2.20	2.70	3.11	3.81	4.40	4.92	6.03	6.96	0.157
	NFS 39	0.612	1.37	1.94	2.37	2.74	3.35	3.87	4.74	5.48	6.12	7.50	8.66	0.177
	NFS 50	0.785	1.75	2.48	3.04	3.51	4.30	4.96	6.08	7.02	7.85	9.61	11.1	0.197
	NFS 62	0.981	2.19	3.10	3.80	4.39	5.37	6.25	7.60	8.77	9.81	12.0	13.9	0.217
NFS 77	1.22	2.74	3.87	4.74	5.48	6.71	7.75	9.49	11.0	12.2	15.0	17.3	0.236	
3/4"	NFS 93	1.47	3.28	4.65	5.69	6.57	8.05	9.29	11.4	13.1	14.7	18.0	20.8	0.272
3/4" or 1-1/4"	NFS 124	1.96	4.39	6.20	7.60	8.77	10.7	12.4	15.2	17.5	19.6	24.0	27.7	0.315
	NFS 155	2.45	5.48	7.75	9.49	11.0	13.4	15.5	19.0	21.9	24.5	30.0	34.6	0.354
	NFS 185	2.92	6.53	9.24	11.3	13.1	16.0	18.5	22.6	26.1	29.2	35.8	41.3	0.374
	NFS 195	3.09	6.91	9.77	12.0	13.8	16.9	19.5	23.9	27.6	30.9	37.8	43.7	0.394
1-1/4"	NFS 309	4.88	10.9	15.4	18.9	21.8	26.7	30.9	37.8	43.7	48.8	59.8	69.1	0.472
	NFS 496	7.85	17.5	24.8	30.4	35.1	43.0	49.6	60.8	70.2	78.5	96.1	111	0.591
2	NFS 557	8.81	19.7	27.8	34.1	39.4	48.2	55.7	68.2	78.8	88.1	108	125	0.630
	NFS 620	9.81	21.9	31.0	38.0	43.9	53.7	62.0	76.0	87.7	98.1	120	139	0.669
	NFS 775	12.2	27.4	38.7	47.4	54.8	67.1	77.5	94.9	110	122	150	173	0.748
	NFS 977	15.5	34.5	48.9	59.8	69.1	84.6	97.7	120	138	155	189	219	0.827
	NFS 1130	17.9	40.0	56.6	69.3	80.0	98.0	113	139	160	179	219	253	0.886
	NFS 1320	20.9	46.6	65.9	80.8	93.3	114	132	162	187	209	255	295	0.965

### NFS Dimensions and Spray Angles

Pipe Size	Nozzle Number	Spray Angles Available	Dimensions (in)			
			A	B	C	D
1/4	NFS 012 To NFS 39	20° 30° 45° 60° 90° 120°	0.47			
	NFS 50	20° 30° 45° 60° 90°	0.69			
	NFS 62	45° 60° 90°				
	NFS 77	45°	0.75			
3/4	NFS 20 To NFS 77	20° 30° 45° 60° 90° 120°	0.59			
	NFS 93*	120°	0.31			
	NFS 124	20° 30° 45° 60° 90° 120°				
	NFS 155	20° 30° 45° 60° 90° 120°	1.25			
	NFS 185	120°				
1-1/4	NFS 124 To NFS 496	20° 30° 45° 60° 90° 120°	0.87	0.47	2.0	
	NFS 557 To NFS 1320	20° 30° 45° 60° 90° 120°	1.25	0.79	2.75	
			3.0			
			2.18			

Flow Rate (GPM) =  $K\sqrt{PSI}$  \*\*Available in straight (parallel) threads only, NPSM and G.

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

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