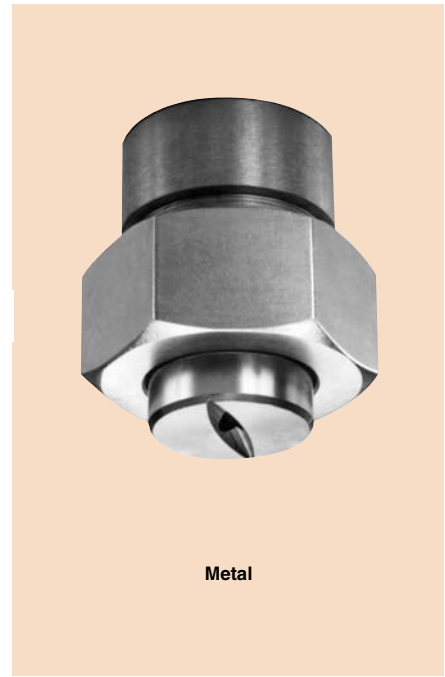


NFD

Dovetail Flat Fan



Metal

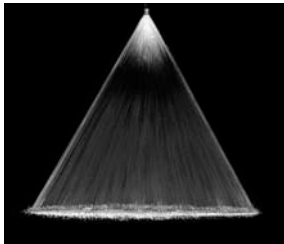
DESIGN FEATURES

- Dovetail joint guarantees alignment of interchangeable tips
- Dimensionally compatible with other dovetail systems
- Tips offset 5° or 15° for overlapping spray patterns
- Tapered overlapping spray provides uniform coverage
- Male, female and welded connections
- Other sizes available upon request

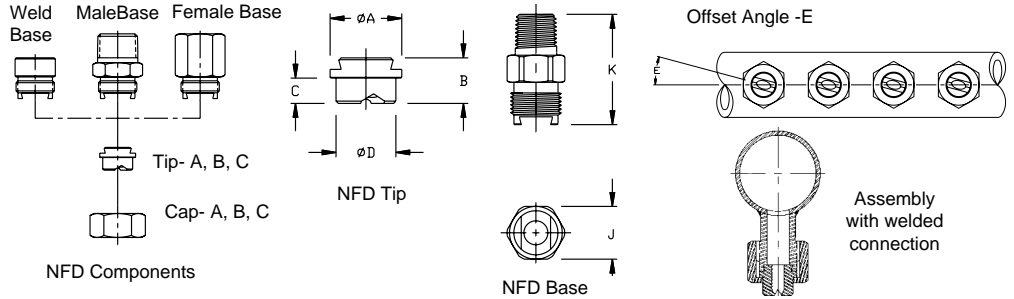
SPRAY CHARACTERISTICS

- **Spray pattern:** Flat Fan
- **Spray angles:** 20°, 30°, 45°, 60°, 90°, and 120°. Special angles are available on request
- **Flow rates:** 0.159 to 358 l/min

FAN



Fan 45°



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

NFD Flow Rates and Dimensions

Fan, 20°, 30°, 45°, 60°, 90°, 120° Spray Angles, 1/4", 3/8", 1/2", 3/4" and 1-1/4" Pipe Size, BSP or NPT, or Welded Connections

Cap & Tip Size	Nozzle Number	Base Sizes* Available	K Factor	LITERS PER MINUTE @ BAR							Equiv. Orifice Dia. (mm)	Approximate Tip Dimensions (mm)					Wt. (g)	BSP NPT Pipe	Approx. Base Dim. (mm)	
				0.5 bar	1 bar	2 bar	3 bar	5 bar	7 bar	10 bar		A	B	C	D	E			J	K
A	NFD 010	1/4 3/8 1/2	0.225	0.159	0.225	0.318	0.390	0.503	0.596	0.712	0.700	14.8	5°	42	1/4"	17.5	36.5			
	NFD 014	1/4 3/8 1/2	0.318	0.225	0.318	0.449	0.550	0.710	0.840	1.00	0.900									
	NFD 019	1/4 3/8 1/2	0.445	0.314	0.445	0.629	0.770	0.994	1.18	1.41	1.00									
	NFD 031	1/4 3/8 1/2	0.704	0.498	0.704	0.996	1.22	1.58	1.86	2.23	1.20									
	NFD 039	1/4 3/8 1/2	0.883	0.625	0.883	1.25	1.53	1.98	2.34	2.79	1.35	12	7	3/8"	17.5	36.5				
	NFD 050	1/4 3/8 1/2	1.13	0.800	1.13	1.60	1.96	2.53	2.99	3.58	1.50									
	NFD 059	1/4 3/8 1/2	1.34	0.947	1.34	1.89	2.32	3.00	3.54	4.24	1.65	15	12	1/2"	22	44.5				
	NFD 077	1/4 3/8 1/2	1.77	1.25	1.77	2.50	3.06	3.95	4.67	5.59	2.00									
	NFD 097	1/4 3/8 1/2	2.22	1.57	2.22	3.14	3.85	4.97	5.88	7.03	2.20	9	15°	168	3/4"	28.5	51			
	NFD 12	1/4 3/8 1/2	2.82	2.00	2.82	3.99	4.89	6.31	7.47	8.93	2.50									
NFD 15	1/4 3/8 1/2	3.35	2.37	3.35	4.74	5.81	7.50	8.87	10.6	2.70	20	15°	224	1-1/4"	44.5	63.5				
NFD 20	3/4	4.45	3.15	4.45	6.30	7.71	10.0	11.8	14.1	3.00										
NFD 25	3/4	5.65	4.00	5.65	7.99	9.79	12.6	15.0	17.9	3.50	24	15°	168	1/2"	22	44.5				
NFD 31	3/4	7.04	4.98	7.04	9.96	12.2	15.8	18.6	22.3	4.00										
NFD 39	3/4	8.83	6.25	8.83	12.5	15.3	19.8	23.4	27.9	4.50	15	9	3/4"	28.5	51					
NFD 50	3/4	11.3	8.00	11.3	16.0	19.6	25.3	29.9	35.8	5.00										
NFD 62	3/4	14.1	10.0	14.1	20.0	24.5	31.6	37.4	44.7	5.50	20	15°	224	1-1/4"	44.5	63.5				
NFD 77	3/4	17.7	12.5	17.7	25.0	30.6	39.5	46.7	55.9	6.00										
NFD 87	3/4	19.8	14.0	19.8	28.0	34.3	44.3	52.4	62.6	6.40	9	15°	168	3/4"	28.5	51				
NFD 104	3/4	23.7	16.7	23.7	33.5	41.0	52.9	62.6	74.9	7.20										
NFD 124	3/4	28.3	20.0	28.3	40.0	49.0	63.3	74.8	89.5	8.00	20	15°	224	1-1/4"	44.5	63.5				
NFD 155	3/4	35.3	25.0	35.3	50.0	61.2	79.0	93.5	112	9.00										
NFD 195	3/4	44.5	31.4	44.5	62.9	77.0	99.4	118	141	10.0	24	15°	224	1-1/4"	44.5	63.5				
NFD 124	1-1/4	28.3	20.0	28.3	40.0	49.0	63.2	74.8	89.5	8.00										
NFD 195	1-1/4	44.5	31.4	44.5	62.9	77.0	99.4	118	141	10.0	38.5	22	13.5	32	15°	224	1-1/4"	44.5	63.5	
NFD 309	1-1/4	70.4	49.8	70.4	100	122	158	186	223	12.0										
NFD 496	1-1/4	113	80.0	113	160	196	253	299	358	15.0	24	15°	224	1-1/4"	44.5	63.5				

Flow Rate (l/min) = $K \sqrt{\text{bar}}$ * NPT, BSP, male or female or weldable connections. Dimensions are for male base, female and weldable vary.

Standard Materials: Brass, 303 Stainless Steel and 316 Stainless Steel. Weldable adapters also available in mild steel.

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

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