

# N

## Fire Protection

### DESIGN FEATURES

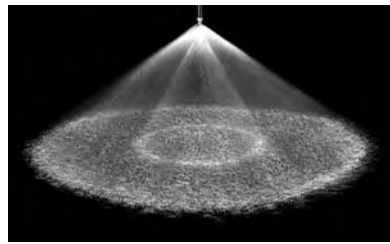
- Simplicity of design
- One-piece/no internal parts
- Clog-resistant
- Three standard pipe sizes—1/2", 1" and 1-1/2"
- Male connection
- Factory Mutual, U.S. Coast Guard, and Lloyd's Register approved models

### SPRAY CHARACTERISTICS

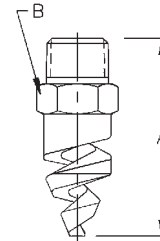
- Two spray cones: an outer, wide angle cone and a narrower inner cone combine to give full cone effect
- Spray pattern:** Full Cone  
**Spray angles:** 90° and 120° standard  
**Flow rates:** 3.0 to 534 gpm



Full Cone 90°



Full Cone 120° (W)



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

### N Flow Rates and Dimensions

Full Cone, Medium 90° and Wide 120° (W) Spray Angles, 1/2" to 1 1/2" Pipe Sizes

Male Pipe Size	Nozzle Number	K Factor	GALLONS PER MINUTE @ PSI									Approx. (in.)		Approximate Dimensions (inches)		Wt. (oz.) Metal
			10 PSI	20 PSI	30 PSI	40 PSI	60 PSI	80 PSI	100 PSI	200 PSI	400 PSI	Orifice Dia.	Free Pass. Dia.	A	B	
1/2	N1	0.949	3.00	4.24	5.20	6.00	7.35	8.49	9.49	13.4	19.0	0.19	0.13	2.50	0.88	3.00
	N2	1.68	5.30	7.50	9.18	10.6	13.0	15.0	16.8	23.7	33.5	0.25	0.13			
	N3	2.61	8.25	11.7	14.3	16.5	20.2	23.3	26.1	36.9	52.2	0.31	0.13			
	N4	3.81	12.1	17.0	20.9	24.1	29.5	34.1	38.1	53.9	76.2	0.38	0.19			
	N5	5.22	16.5	23.3	28.6	33.0	40.4	46.7	52.2	73.8	104	0.43	0.19			
	N6	6.64	21.0	29.7	36.4	42.0	51.4	59.4	66.4	93.9	133	0.50	0.19			
1	N6	6.64	21.0	29.7	36.4	42.0	51.4	59.4	66.4	93.9	133	0.50	0.19	3.63	1.38	8.50
	N7	10.6	33.5	47.4	58.0	67.0	82.1	94.8	106	150	212	0.63	0.25			
1 1/2	N8	15.0	47.5	67.2	82.3	95.0	116	134	150	212	300	0.75	0.25	4.38	2.00	27.0
	N9	20.4	64.5	91.2	112	129	158	182	204	288	408	0.88	0.31			
	N10	26.7	84.5	120	146	169	207	239	267	378	534	1.00	0.31			

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

**Standard Materials: Brass and 316 Stainless Steel. All N series covers are 304 Stainless 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.



N6 nozzles protect a propane storage tank from fire and explosion.

### Fire Protection Approved

This **BETE** high-efficiency spiral was designed specifically with critical fire and explosion suppression applications in mind. These nozzles feature superior performance unequalled by traditional whirl nozzles.

### SUPERIOR PERFORMANCE CHARACTERISTICS

- Sprays composed of droplets 30% to 50% smaller than conventional designs at equivalent pressures
- Extraordinarily large surface area of spray enhances evaporation and cooling
- Rugged, compact design
- Multiple concentric cone spray, unique to spiral pattern, maximizes contact

### SUPERIOR FIRE/LOSS PREVENTION APPLICATIONS

- Gas wellhead protection
- Safeguarding ship-borne cargo
- Storage tank protection
- Secondary explosion protection in explosive, dusty environments
- Mitigation of HF and other toxic gas releases



All models  
Factory Mutual  
Approved



Certified for use  
on ships and  
offshore  
installations by  
Lloyd's Register



UL  
approved

TF 24 150° also available in Factory Mutual approved brass (see page 18)

\*U.S. Coast Guard approved

### These diagrams represent 50 psi

