

# 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

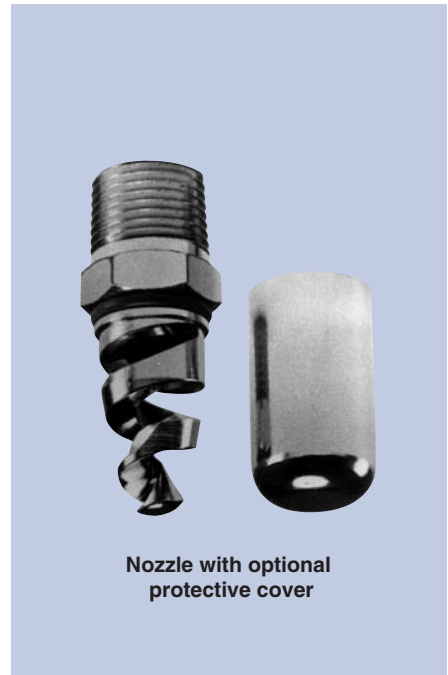
### SPRAY CHARACTERISTICS

- Two spray cones - an outer, wide-angle cone and a narrower, inner cone - combine to give full cone effect

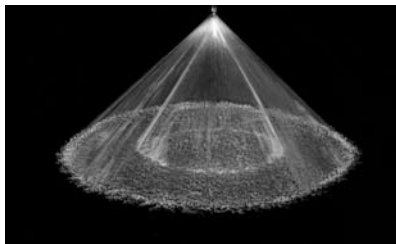
**Spray pattern:** Full Cone

**Spray angles:** 90° and 120° standard

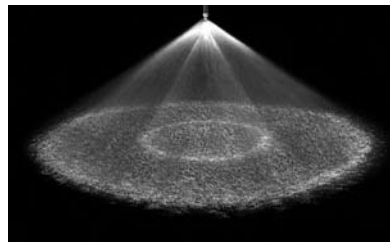
**Flow rates:** 9.67 to 1720 l/min



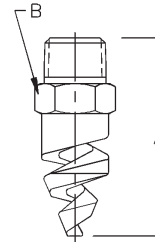
Nozzle with optional protective cover



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, BSP or NPT

Male Pipe Size	Nozzle Number	K Factor	LITERS PER MINUTE @ BAR								Approx. (mm)		Approximate Dimensions (mm)		Wt. (g) Metal
			0.5 bar	0.7 bar	1 bar	2 bar	3 bar	5 bar	10 bar	20 bar	Orifice Dia.	Free Pass. Dia.	A	B	
1/2	N1	13.7	9.67	11.4	13.7	19.3	23.7	30.6	43.2	61.1	4.76	3.18	63.5	22.4	85
	N2	24.2	17.1	20.2	24.2	34.2	41.8	54.0	76.4	108	6.35	3.18			
	N3	37.6	26.6	31.5	37.6	53.2	65.1	84.1	119	168	7.94	3.18			
	N4	54.9	38.8	46.0	54.9	77.7	95.1	123	174	246	9.53	4.76			
	N5	75.2	53.2	62.9	75.2	106	130	168	238	336	11.1	4.76			
	N6	95.7	67.7	80.1	95.7	135	166	214	303	428	12.7	4.76			
1	N6	95.7	67.7	80.1	95.7	135	166	214	303	428	12.7	4.76	92.2	35.1	241
	N7	153	108	128	153	216	264	341	483	683	15.9	6.35			
1 1/2	N8	216	153	181	216	306	375	484	685	968	19.1	6.35	111	50.8	765
	N9	294	208	246	294	416	509	657	930	1320	22.2	7.94			
	N10	385	272	322	385	545	667	861	1220	1720	25.4	7.94			

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

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

Also available in nickel aluminum bronze and titanium, plus other materials on request.

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
- Roadway tunnel protection



**SPIRAL**



UL  
approved



All models  
Factory Mutual  
Approved



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

TF 24 150° also available in Factory Mutual approved brass.

\*U.S. Coast Guard approved

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