

TH

Tangential Inlet/Right Angle



Metal

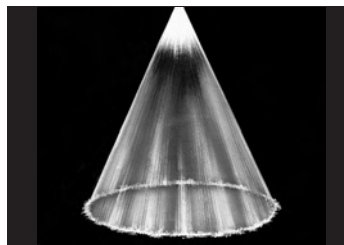
DESIGN FEATURES

- Large free passage
- Clog-resistant; nozzles have no internal parts
- One-piece casting
- Female connection
- Flanged connection available
- U.S. Patent 4,231,524
- Inlet and outlet are in-line

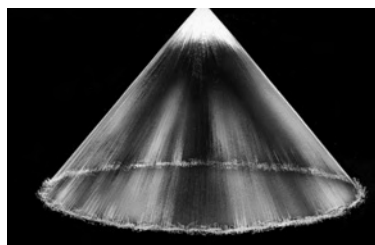
SPRAY CHARACTERISTICS

- Patented geometry designed to give the most uniform liquid distribution around the periphery of the spray
- Spray pattern:** Hollow Cone
Spray angles: Narrow to Medium
Flow rates: 4.11 to 564 gpm

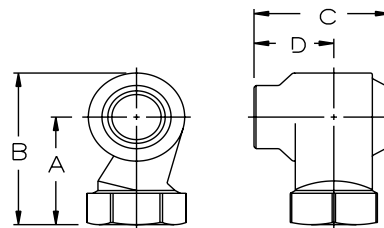
Silicon carbide requests require review prior to quote/order acceptance.
 Please contact BETE for information.



Hollow Cone - Narrow Angle



Hollow Cone - Medium Angle



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

TH Flow Rates and Dimensions

Hollow Cone, Narrow to Medium Spray Angles, 1" to 3" Pipe Sizes

| Female Pipe Size | Nozzle Number | Spray Ang. | | | K Factor | GALLONS PER MINUTE @ PSI | | | | | | | | Approx. Orifice Dia. (in.) | Free Pass. Dia. (in.) | Dimensions (in.) | | | | Wt. (lbs.) |
|------------------|---------------|------------|-----|-----|----------|--------------------------|------|------|------|------|------|------|------|----------------------------|-----------------------|------------------|------|------|------|------------|
| | | 5° | 15° | 40° | | 3 | 5 | 7 | 10 | 15 | 20 | 30 | 40 | | | A | B | C | D | |
| 1 | THF1508 | 54° | 54° | 54° | 2.37 | 4.11 | 5.30 | 6.27 | 7.50 | 9.19 | 10.6 | 13.0 | 15.0 | 0.34 | 0.34 | 2.31 | 3.12 | 2.00 | 1.06 | 0.40 |
| | THF1808 | 56° | 56° | 56° | 2.85 | 4.93 | 6.36 | 7.53 | 9.00 | 11.0 | 12.7 | 15.6 | 18.0 | 0.38 | 0.38 | | | | | |
| | THF2308 | 63° | 66° | 66° | 3.64 | 6.30 | 8.13 | 9.62 | 11.5 | 14.1 | 16.3 | 19.9 | 23.0 | 0.44 | 0.44 | | | | | |
| | THF2708 | 66° | 70° | 70° | 4.27 | 7.39 | 9.55 | 11.3 | 13.5 | 16.5 | 19.1 | 23.4 | 27.0 | 0.47 | 0.47 | | | | | |
| | THF3208 | 68° | 72° | 71° | 5.06 | 8.76 | 11.3 | 13.4 | 16.0 | 19.6 | 22.6 | 27.7 | 32.0 | 0.44 | 0.44 | | | | | |
| 1 1/4 | THF3808 | 68° | 72° | 71° | 6.01 | 10.4 | 13.4 | 15.9 | 19.0 | 23.3 | 26.9 | 32.9 | 38.0 | 0.60 | 0.60 | 2.88 | 3.85 | 2.62 | 1.50 | 1.20 |
| | THF3210 | 66° | 66° | 66° | 5.06 | 8.76 | 11.3 | 13.4 | 16.0 | 19.6 | 22.6 | 27.7 | 32.0 | 0.55 | 0.55 | | | | | |
| | THF3810 | 68° | 70° | 70° | 6.01 | 10.4 | 13.4 | 15.9 | 19.0 | 23.3 | 26.9 | 32.9 | 38.0 | 0.63 | 0.63 | | | | | |
| | THF4110 | 73° | 74° | 74° | 6.48 | 11.2 | 14.5 | 17.2 | 20.5 | 25.1 | 29.0 | 35.5 | 41.0 | 0.66 | 0.66 | | | | | |
| | THF5210 | 79° | 80° | 80° | 8.22 | 14.2 | 18.4 | 21.8 | 26.0 | 31.8 | 36.8 | 45.0 | 52.0 | 0.78 | 0.78 | | | | | |
| 1 1/2 | THF7010 | 83° | 85° | 85° | 11.1 | 19.2 | 24.7 | 29.3 | 35.0 | 42.9 | 49.5 | 60.6 | 70.0 | 1.03 | 0.89 | 2.94 | 4.09 | 3.22 | 1.88 | 2.20 |
| | THF6112 | 58° | 60° | 60° | 9.65 | 16.7 | 21.6 | 25.5 | 30.5 | 37.4 | 43.1 | 52.8 | 61.0 | 0.77 | 0.77 | | | | | |
| | THF7012 | 63° | 65° | 65° | 11.1 | 19.2 | 24.7 | 29.3 | 35.0 | 42.9 | 49.5 | 60.6 | 70.0 | 0.84 | 0.84 | | | | | |
| | THF7712 | 63° | 66° | 66° | 12.2 | 21.1 | 27.2 | 32.2 | 38.5 | 47.2 | 54.4 | 66.7 | 77.0 | 0.92 | 0.92 | | | | | |
| | THF9012 | 67° | 70° | 70° | 14.2 | 24.6 | 31.8 | 37.6 | 45.0 | 55.1 | 63.6 | 77.9 | 90.0 | 1.03 | 1.03 | | | | | |
| | THF12712 | 75° | 80° | 80° | 20.1 | 34.8 | 44.9 | 53.1 | 63.5 | 77.8 | 89.8 | 110 | 127 | 1.30 | 1.06 | | | | | |
| | THF14512 | 80° | 80° | 83° | 22.9 | 39.7 | 51.3 | 60.7 | 72.5 | 88.8 | 103 | 126 | 145 | 1.42 | 1.06 | | | | | |

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

Standard Materials: Brass, Carbon Steel and 316 Stainless Steel.

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

WHIRL

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



Silicon Carbide, Flanged

For more effective distribution of multiple nozzle arrays, BETE junction boxes can be used. See page 108 for more detailed information.

Junction Box



Silicon Carbide requests require review prior to quote/order acceptance - please contact BETE for information.



WHIRL

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

TH Flow Rates and Dimensions

Hollow Cone, Narrow to Medium Spray Angles, 1" to 3" Pipe Sizes

| Female Pipe Size | Nozzle Number | Spray Ang. | | | K Factor | GALLONS PER MINUTE @ PSI | | | | | | | | Approx. Orifice Dia. (in.) | Free Pass. Dia. (in.) | Dimensions (in.) | | | | Wt. (lbs.) |
|------------------|---------------|------------|-----|------|----------|--------------------------|-------|-------|--------|--------|--------|--------|--------|----------------------------|-----------------------|------------------|------|------|------|------------|
| | | 5° | 15° | 40° | | 3 PSI | 5 PSI | 7 PSI | 10 PSI | 15 PSI | 20 PSI | 30 PSI | 40 PSI | | | A | B | C | D | |
| 2 | THF8516 | 63° | 65° | 65° | 13.4 | 23.3 | 30.1 | 35.6 | 42.5 | 52.1 | 60.1 | 73.6 | 85.0 | 0.86 | 0.86 | 3.62 | 5.10 | 4.19 | 2.47 | 4.00 |
| | THF10516 | 65° | 67° | 67° | 16.6 | 28.8 | 37.1 | 43.9 | 52.5 | 64.3 | 74.2 | 90.9 | 105 | 1.00 | 1.00 | | | | | |
| | THF12516 | 68° | 70° | 70° | 19.8 | 34.2 | 44.2 | 52.3 | 62.5 | 76.5 | 88.4 | 108 | 125 | 1.14 | 1.14 | | | | | |
| | THF14516 | 74° | 79° | 79° | 22.9 | 39.7 | 51.3 | 60.7 | 72.5 | 88.8 | 103 | 126 | 145 | 1.27 | 1.27 | | | | | |
| | THF17016 | 77° | 80° | 80° | 26.9 | 46.6 | 60.1 | 71.1 | 85.0 | 104 | 120 | 147 | 170 | 1.39 | 1.39 | | | | | |
| | THF19216 | 77° | 80° | 80° | 30.4 | 52.6 | 67.9 | 80.3 | 96.0 | 118 | 136 | 166 | 192 | 1.52 | 1.44 | | | | | |
| | THF20516 | 77° | 83° | 83° | 32.4 | 56.1 | 72.5 | 85.8 | 103 | 126 | 145 | 178 | 205 | 1.63 | 1.44 | | | | | |
| THF23016 | 76° | 83° | 83° | 36.4 | 63.0 | 81.3 | 96.2 | 115 | 141 | 163 | 199 | 230 | 1.75 | 1.44 | | | | | | |
| 2 1/2 | THF17020 | 85° | 85° | 85° | 26.9 | 46.6 | 60.1 | 71.1 | 85.0 | 104 | 120 | 147 | 170 | 1.33 | 1.33 | 4.94 | 6.77 | 5.22 | 3.06 | 6.40 |
| | THF19020 | 70° | 73° | 73° | 30.0 | 52.0 | 67.2 | 79.5 | 95.0 | 116 | 134 | 165 | 190 | 1.42 | 1.42 | | | | | |
| | THF20520 | 72° | 75° | 73° | 32.4 | 56.1 | 72.5 | 85.8 | 103 | 126 | 145 | 178 | 205 | 1.47 | 1.47 | | | | | |
| | THF23020 | 76° | 78° | 78° | 36.4 | 63.0 | 81.3 | 96.2 | 115 | 141 | 163 | 199 | 230 | 1.58 | 1.58 | | | | | |
| | THF28020 | 79° | 80° | 80° | 44.3 | 76.7 | 99.0 | 117 | 140 | 171 | 198 | 242 | 280 | 1.81 | 1.75 | | | | | |
| | THF32020 | 83° | 85° | 85° | 50.6 | 87.6 | 113 | 134 | 160 | 196 | 226 | 277 | 320 | 2.02 | 1.75 | | | | | |
| | THF34020 | 87° | 90° | 90° | 53.8 | 93.1 | 120 | 142 | 170 | 208 | 240 | 294 | 340 | 2.09 | 1.75 | | | | | |
| THF43520 | 92° | 95° | 95° | 68.8 | 119 | 154 | 182 | 218 | 266 | 308 | 377 | 435 | 2.44 | 1.75 | | | | | | |
| 3 | THF18524 | 58° | 58° | 58° | 29.3 | 50.7 | 65.4 | 77.4 | 92.5 | 113 | 131 | 160 | 185 | 1.28 | 1.28 | 5.72 | 7.88 | 6.03 | 3.50 | 9.00 |
| | THF23024 | 65° | 65° | 65° | 36.4 | 63.0 | 81.3 | 96.2 | 115 | 141 | 163 | 199 | 230 | 1.44 | 1.44 | | | | | |
| | THF28024 | 70° | 70° | 70° | 44.3 | 76.7 | 99.0 | 117 | 140 | 171 | 198 | 242 | 280 | 1.63 | 1.63 | | | | | |
| | THF32024 | 65° | 70° | 70° | 50.6 | 87.6 | 113 | 134 | 160 | 196 | 226 | 277 | 320 | 1.78 | 1.78 | | | | | |
| | THF34024 | 68° | 70° | 70° | 53.8 | 93.1 | 120 | 142 | 170 | 208 | 240 | 294 | 340 | 1.84 | 1.84 | | | | | |
| | THF41224 | 75° | 78° | 78° | 65.1 | 113 | 146 | 172 | 206 | 252 | 291 | 357 | 412 | 2.11 | 2.11 | | | | | |
| | THF46924 | 75° | 80° | 80° | 74.2 | 128 | 166 | 196 | 235 | 287 | 332 | 406 | 469 | 2.28 | 2.13 | | | | | |
| THF52624 | 78° | 80° | 80° | 83.2 | 144 | 186 | 220 | 263 | 322 | 372 | 456 | 526 | 2.48 | 2.13 | | | | | | |
| THF56424 | 78° | 80° | 80° | 89.2 | 154 | 199 | 236 | 282 | 345 | 399 | 488 | 564 | 2.59 | 2.13 | | | | | | |

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

Standard Materials: Brass, Carbon Steel and 316 Stainless Steel.

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

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