



Hollow Cone



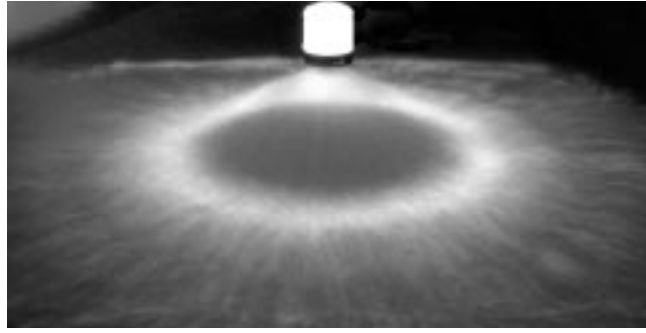
WELCOME TO DELAVAN

Meeting the **challenges**
of new
industries and *NEW markets*



DELAVAN
Spray Technologies

TYPICAL SPRAY PATTERN



TYPICAL APPLICATIONS

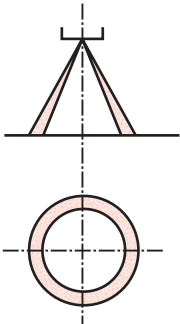
Aerating water, brine sprays, chemical processing, coil defrosting, dust control, evaporative condensers, evaporative coolers, industrial washers, roof cooling, spray ponds, spray coating, gas scrubbing and washing, humidification, gas cooling, cooling towers, coal washing, degreasing, gravel washing, dishwashing, foam control, industrial washing and water fountains.

HOLLOW CONE

| Nozzle Type | Spray Characteristics | Spray Angles | Basic Features | Flow Range. L/Min @ 3 Bar.G. | Page No. |
|------------------|------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------|------------------------------|----------|
| WM | Uniform distribution with very fine atomisation. | 40°, 60°, 80° | 1/4" BSPT Male thread. | 0,04 – 1,97 | B.1 |
| WG | Uniform distribution with very fine atomisation. | 40°, 60°, 80° | Flanged tip design for use with standard bodies and caps. | 0,04 – 1,97 | B.2 |
| WA | Uniform distribution with very fine atomisation. | 40°, 60°, 80° | 9/16" UNEF thread for use with special Male and Female BSP threaded adaptors. | 0,04 – 1,97 | B.3 |
| WDA | Uniform distribution with very fine atomisation. | 30°, 45°, 60°, 70°, 80°, 90° | 9/16" UNEF thread for use with special Male and Female BSP threaded adaptors. | 0,019 – 1,3 | B.4 |
| HB-HC | Uniform distribution with very fine atomisation. | 45°, 70°, 80° | Flanged tip design for use with standard bodies and caps. | 0,066 – 1,72 | B.5 |
| BJ | Uniform distribution with fine to coarse atomisation. | 44° – 98° | 1/8"-1" BSPT Male and BSPP Female threads. | 0,94 – 46,86 | B.6 |
| DC | Uniform distribution with fine to medium atomisation. | 20° – 110° | Two piece nozzle design for use with standard bodies and caps. | 0,32 – 9,86 | B.7 |
| AG | Uniform distribution with fine to coarse atomisation. | 65° – 75° | 3/8"-3/4" BSPT Male thread. | 1,6 – 39,5 | B.8 |
| AH | Uniform distribution with fine to coarse atomisation. | 100° – 115° | 3/8"-3/4" BSPT Male thread. | 1,6 – 39,5 | B.9 |
| WS | Uniform distribution with fine to coarse atomisation. | 65°, 70°, 75° | 1/8"-3/4" NPT Male and Female threads. | 0,8 – 39,5 | B.10 |
| CBJ | Uniform distribution with fine to coarse atomisation. | 44° – 98° | 1/8"-1" BSPP Male threads. More compact than BJ type. | 0,94 – 46,86 | B.11 |
| PJ | Relatively uniform distribution with fine to coarse atomisation. | 90°, 120°, 150°, 180°, 210° | 1/4"-3/4" BSPT Male threads. | 8,05 – 59,19 | B.12 |
| AE | Uniform distribution with fine to coarse atomisation. | 65° – 95° | 1/8"-1" BSPT Male and BSPP Female threads. | 0,79 – 138 | B.13 |
| AF | Uniform distribution with fine to coarse atomisation. | 100°, 110°, 115°, 120° | 1/8"-1" BSPT Male and BSPP Female threads. | 0,79 – 98,8 | B.14 |
| WR | Uniform distribution with fine to coarse atomisation. | 45° – 155° | 3/8" NPT Male and Female threads. | 4,7 – 39,5 | B.15 |
| WRW | Uniform distribution with fine to coarse atomisation. | 110°, 115°, 140° | 1/4" and 3/4" NPT Male threads. | 0,79 – 94,7 | B.16 |
| RA | Uniform distribution of a 'Raindrop' type spray. | 120° – 140° | 1/4" and 3/4" NPT Male threads. | 0,79 – 111,0 | B.17 |
| BE | Uniform distribution with coarse atomisation. | 55° – 90° | 1/4"-4" BSPT Female threads. | 130 – 3500 | B.18 |
| * WRA-WRS | Uniform distribution with coarse atomisation. | 50° – 100° | 1/2" BSPT Male thread or Quick Coupler Adaptor connection. | 62 – 501* | B.19 |
| WRA-RD WRS-RD | Uniform distribution of a 'Raindrop' type spray. | 100° – 135° | 1/2" BSPT Male thread or Quick Coupler Adaptor connection. | 65 – 414 | B.20 |

* Flow quoted at 2 Bar.G.

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SPRAY CHARACTERISTICS

- Uniform distribution with finest possible atomisation using direct liquid pressure alone.
- The standard spray angles of 40°, 60° or 80° are the nominal angles close to the nozzle orifice.
- For small capacity tips up to say 8 litres/hour the angle falls off rapidly a few inches from the tip. The larger the tip size the further the nominal angle projects before the spray begins to fall away.
- The nozzles produce a hollow cone spray but with the small capacity tips the spray rapidly merges into a "Solid" cone type.

CONSTRUCTION AND MATERIALS

- Nozzle tips precision machined to ensure most perfect spray available at low throughputs.
- Internal distributor, screw pin and strainers are renewable in most sizes.
- Available in Brass and 316 Stainless Steel as standard.
- Nozzle has 1/4" Male BSPT thread as standard.
- Other materials available to special order.

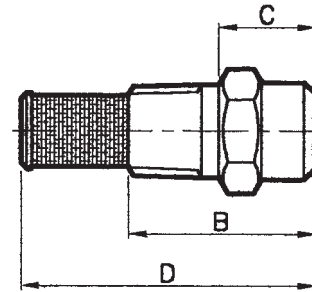
ORDER EXAMPLE

WM 1408 Brass.



DIMENSIONS AND WEIGHTS

| A Hex | Dimensions (mm) | | | D | Weight (g) |
|-------|-----------------|------|------|----|------------|
| | B | C | D | | |
| 15,9 | 44,5 | 16,7 | 27,8 | 14 | |



CAPACITY CHART

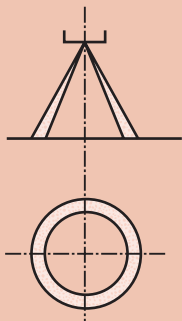
Maximum Recommended Pressure: 35 Bar.G.

| NOZZLE NUMBERS | | | MESH SIZE | FLOW RATE IN LITRES/HOUR AT Bar.G. | | | | | | | |
|--------------------------|---------|---------|-----------|------------------------------------|------|-------|-------|-------|-------|-------|-------|
| SPRAY ANGLES AT 7 Bar.G. | | | | 1,5 | 2 | 3 | 3,5 | 4 | 6 | 7 | 8 |
| 40° | 60° | 80° | | | | | | | | | |
| WM 054 | WM 056 | WM 058 | 200 | - | - | - | - | 1,47 | 2,04 | 2,29 | 2,46 |
| WM 074 | WM 076 | WM 078 | 200 | - | - | 2,22 | 2,42 | 2,59 | 3,12 | 3,20 | 3,48 |
| WM 104 | WM 106 | WM 108 | 200 | - | - | 3,08 | 3,25 | 3,53 | 4,36 | 4,57 | 5,04 |
| WM 124 | WM 126 | WM 128 | 200 | - | - | 3,74 | 4,03 | 4,20 | 5,21 | 5,49 | 5,80 |
| WM 154 | WM 156 | WM 158 | 200 | - | - | 4,97 | 5,03 | 5,36 | 6,39 | 6,86 | 7,23 |
| WM 204 | WM 206 | WM 208 | 80 | 4,73 | 5,36 | 6,39 | 6,86 | 7,37 | 8,76 | 9,15 | 9,37 |
| WM 254 | WM 256 | WM 258 | 80 | 5,92 | 6,47 | 7,91 | 8,32 | 8,93 | 10,7 | 11,4 | 12,1 |
| WM 304 | WM 306 | WM 308 | 80 | 6,87 | 8,04 | 9,47 | 10,1 | 10,6 | 12,8 | 13,7 | 14,4 |
| WM 354 | WM 356 | WM 358 | 80 | 8,05 | 9,15 | 10,9 | 11,5 | 12,3 | 14,9 | 16,0 | 17,0 |
| WM 404 | WM 406 | WM 408 | 80 | 9,00 | 10,0 | 12,3 | 13,1 | 14,1 | 17,0 | 18,3 | 19,4 |
| WM 454 | WM 456 | WM 458 | 80 | 10,27 | 11,5 | 13,7 | 14,6 | 15,6 | 18,9 | 20,6 | 21,9 |
| WM 504 | WM 506 | WM 508 | 80 | 10,89 | 12,7 | 15,2 | 16,1 | 17,4 | 21,1 | 22,9 | 24,5 |
| WM 554 | WM 556 | WM 558 | 80 | 12,31 | 13,8 | 16,8 | 17,8 | 19,2 | 23,2 | 25,2 | 26,9 |
| WM 604 | WM 606 | WM 608 | 80 | 13,26 | 15,1 | 18,0 | 19,2 | 21,0 | 25,6 | 27,4 | 29,2 |
| WM 704 | WM 706 | WM 708 | 80 | 15,62 | 17,9 | 21,3 | 22,8 | 24,6 | 29,8 | 32,0 | 34,4 |
| WM 804 | WM 806 | WM 808 | 80 | 17,52 | 20,1 | 26,0 | 26,5 | 27,7 | 34,3 | 36,6 | 39,7 |
| WM 1004 | WM 1006 | WM 1008 | 80 | 21,31 | 24,6 | 30,1 | 32,5 | 34,6 | 42,6 | 45,7 | 49,1 |
| WM 1054 | WM 1056 | WM 1058 | 80 | 22,49 | 25,4 | 31,2 | 33,8 | 36,4 | 45,0 | 48,0 | 51,3 |
| WM 1154 | WM 1156 | WM 1158 | 40 | 25,1 | 29,5 | 35,0 | 38,0 | 41,1 | 49,2 | 52,6 | 55,8 |
| WM 1404 | WM 1406 | WM 1408 | 40 | 28,4 | 33,5 | 41,2 | 44,6 | 47,5 | 59,7 | 64,0 | 67,9 |
| WM 1704 | WM 1706 | WM 1708 | 40 | 33,6 | 39,7 | 49,2 | 52,6 | 56,2 | 69,8 | 77,8 | 85,3 |
| WM 2004 | WM 2006 | WM 2008 | 40 | 43,6 | 49,1 | 59,2 | 64,0 | 69,2 | 85,2 | 91,5 | 97,3 |
| WM 2504 | WM 2506 | WM 2508 | 40 | 52,1 | 60,3 | 73,4 | 78,2 | 84,8 | 104,2 | 114,3 | 122,8 |
| WM 3004 | WM 3006 | WM 3008 | 40 | 66,3 | 74,1 | 90,0 | 94,2 | 101,3 | 125,0 | 137,2 | 150,4 |
| WM 3504 | WM 3506 | WM 3508 | 40 | 75,8 | 86,6 | 104,2 | 109,8 | 117,2 | 144,9 | 160,1 | 175,0 |
| WM 4004 | WM 4006 | WM 4008 | 40 | 85,2 | 99,3 | 118,4 | 125,8 | 133,9 | 165,7 | 183,0 | 200,9 |

HOLLOW CONE SPRAY

TYPE WM

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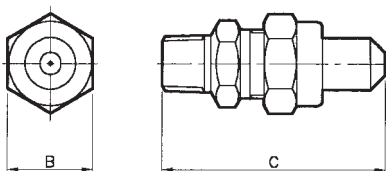


Coltec Industries

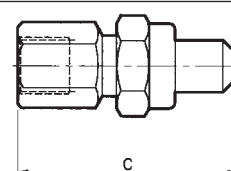




Maximum Recommended Pressure: 35 Bar.G.



WGM (MALE) ASSEMBLY



WGF (FEMALE) ASSEMBLY

CAPACITY CHART

| NOZZLE NUMBERS | | | MESH SIZE | FLOW RATE IN LITRES/HOUR AT Bar.G. | | | | | | | |
|--------------------------|---------|---------|-----------|------------------------------------|------|-------|-------|-------|-------|-------|-------|
| SPRAY ANGLES AT 7 Bar.G. | | | | 1,5 | 2 | 3 | 3,5 | 4 | 6 | 7 | 8 |
| 40° | 60° | 80° | | | | | | | | | |
| WG 054 | WG 056 | WG 058 | 200 | - | - | - | - | 1,47 | 2,04 | 2,29 | 2,46 |
| WG 074 | WG 076 | WG 078 | 200 | - | - | 2,22 | 2,42 | 2,59 | 3,12 | 3,20 | 3,48 |
| WG 104 | WG 106 | WG 108 | 200 | - | - | 3,08 | 3,25 | 3,53 | 4,36 | 4,57 | 5,04 |
| WG 124 | WG 126 | WG 128 | 200 | - | - | 3,74 | 4,03 | 4,20 | 5,21 | 5,49 | 5,80 |
| WG 154 | WG 156 | WG 158 | 200 | - | - | 4,97 | 5,03 | 5,36 | 6,39 | 6,86 | 7,23 |
| WG 204 | WG 206 | WG 208 | 80 | 4,73 | 5,36 | 6,39 | 6,86 | 7,37 | 8,76 | 9,15 | 9,37 |
| WG 254 | WG 256 | WG 258 | 80 | 5,92 | 6,47 | 7,91 | 8,32 | 8,93 | 10,7 | 11,4 | 12,1 |
| WG 304 | WG 306 | WG 308 | 80 | 6,87 | 8,04 | 9,47 | 10,1 | 10,6 | 12,8 | 13,7 | 14,4 |
| WG 354 | WG 356 | WG 358 | 80 | 8,05 | 9,15 | 10,9 | 11,5 | 12,3 | 14,9 | 16,0 | 17,0 |
| WG 404 | WG 406 | WG 408 | 80 | 9,00 | 10,0 | 12,3 | 13,1 | 14,1 | 17,0 | 18,3 | 19,4 |
| WG 454 | WG 456 | WG 458 | 80 | 10,27 | 11,5 | 13,7 | 14,6 | 15,6 | 18,9 | 20,6 | 21,9 |
| WG 504 | WG 506 | WG 508 | 80 | 10,89 | 12,7 | 15,2 | 16,1 | 17,4 | 21,1 | 22,9 | 24,5 |
| WG 554 | WG 556 | WG 558 | 80 | 12,31 | 13,8 | 16,8 | 17,8 | 19,2 | 23,2 | 25,2 | 26,9 |
| WG 604 | WG 606 | WG 608 | 80 | 13,26 | 15,1 | 18,0 | 19,2 | 21,0 | 25,6 | 27,4 | 29,2 |
| WG 704 | WG 706 | WG 708 | 80 | 15,62 | 17,9 | 21,3 | 22,8 | 24,6 | 29,8 | 32,0 | 34,4 |
| WG 804 | WG 806 | WG 808 | 80 | 17,52 | 20,1 | 26,0 | 26,5 | 27,7 | 34,3 | 36,6 | 39,7 |
| WG 1004 | WG 1006 | WG 1008 | 80 | 21,31 | 24,6 | 30,1 | 32,5 | 34,6 | 42,6 | 45,7 | 49,1 |
| WG 1054 | WG 1056 | WG 1058 | 80 | 22,49 | 25,4 | 31,2 | 33,8 | 36,4 | 45,0 | 48,0 | 51,3 |
| WG 1154 | WG 1156 | WG 1158 | 40 | 25,1 | 29,5 | 35,0 | 38,0 | 41,1 | 49,2 | 52,6 | 55,8 |
| WG 1404 | WG 1406 | WG 1408 | 40 | 28,4 | 33,5 | 41,2 | 44,6 | 47,5 | 59,7 | 64,0 | 67,9 |
| WG 1704 | WG 1706 | WG 1708 | 40 | 33,6 | 39,7 | 49,2 | 52,6 | 56,2 | 69,8 | 77,8 | 85,3 |
| WG 2004 | WG 2006 | WG 2008 | 40 | 43,6 | 49,1 | 59,2 | 64,0 | 69,2 | 85,2 | 91,5 | 97,3 |
| WG 2504 | WG 2506 | WG 2508 | 40 | 52,1 | 60,3 | 73,4 | 78,2 | 84,8 | 104,2 | 114,3 | 122,8 |
| WG 3004 | WG 3006 | WG 3008 | 40 | 66,3 | 74,1 | 90,0 | 94,2 | 101,3 | 125,0 | 137,2 | 150,4 |
| WG 3504 | WG 3506 | WG 3508 | 40 | 75,8 | 86,6 | 104,2 | 109,8 | 117,2 | 144,9 | 160,1 | 175,0 |
| WG 4004 | WG 4006 | WG 4008 | 40 | 85,2 | 99,3 | 118,4 | 125,8 | 133,9 | 165,7 | 183,0 | 200,9 |

SPRAY CHARACTERISTICS

- Uniform distribution with finest possible atomisation using direct liquid pressure alone.
- The standard spray angles of 40°, 60° or 80° are the nominal angles close to the nozzle orifice.
- For small capacity tips up to say 8 litres/hour the angle falls off rapidly a few inches from the tip. The larger the tip size the further the nominal angle projects before the spray begins to fall away.
- The nozzles produce a hollow cone spray but with the small capacity tips the spray rapidly merges into a "Solid" cone type.

CONSTRUCTION AND MATERIALS

- Nozzle tips precision machined to ensure most perfect spray available at low throughputs.
- Internal distributor, screw pin and strainers are renewable in most sizes.
- Available in Brass and 316 Stainless Steel as standard.
- Used with standard bodies and caps.
- Body thread sizes are Male BSPT and Female BSPP.
- Other materials available to special order.

ORDER EXAMPLE

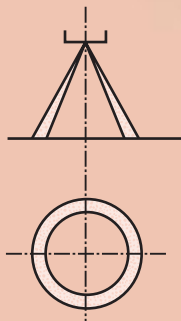
WG 154 Brass = Tip Only.

1/8" WGF 2008 (Female) Brass = Complete Assembly.

DIMENSIONS AND WEIGHTS

| Assembly Type | Dimensions (mm) | | | Weight in (g) |
|---------------|-----------------|-------|------|---------------|
| | A Hex | B Hex | C | |
| 1/8 WGF | 18 | 20,8 | 54 | 70 |
| 1/8 WGM | 18 | 20,8 | 52.4 | 60 |
| 1/4 WGF | 18 | 20,8 | 54 | 70 |
| 1/4 WGM | 18 | 20,8 | 54 | 62 |

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SPRAY CHARACTERISTICS

- Uniform distribution with finest possible atomisation using direct liquid pressure alone.
- The standard spray angles of 40°, 60° or 80° are the nominal angles close to the nozzle orifice.
- For small capacity tips up to say 8 litres/hour the angle falls off rapidly a few inches from the tip. The larger the tip size the further the nominal angle projects before the spray begins to fall away.
- The nozzles produce a hollow cone spray but with the small capacity tips the spray rapidly merges into a "Solid" cone type.

CONSTRUCTION AND MATERIALS

- Nozzle tips precision machined to ensure most perfect spray available at low throughputs.
- Internal distributor, screw pin and strainers are renewable in most sizes.
- Available in Brass and 316 Stainless Steel as standard.
- Nozzle thread is 9/16" - 24 UNEF.
- Adaptors are available with 1/4" Male BSPT and 1/8"/1/4" Female BSPP and can be ordered separately.
- Other materials available to special order.

ORDER EXAMPLE

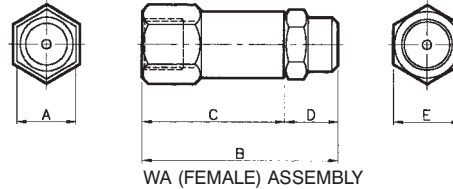
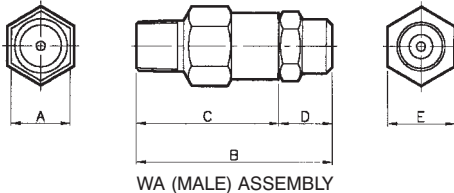
WA 1408 Stainless Steel = Tip Only.

1/4" Male WA 808 Brass = Complete Assembly.

DIMENSIONS AND WEIGHTS

| Assembly Type | Dimensions (mm) | | | | | Weight (g) |
|---------------|-----------------|------|------|------|-------|------------|
| | A Hex | B | C | D | E Hex | |
| 1/8 Female | 15,9 | 52,4 | 38,1 | 14,3 | 18,0 | 82 |
| 1/4 Male | 15,9 | 52,4 | 38,1 | 14,3 | 18,0 | 78 |
| 1/4 Female | 15,9 | 52,4 | 38,1 | 14,3 | 18,0 | 69 |

Maximum Recommended Pressure: 35 Bar.G.



CAPACITY CHART

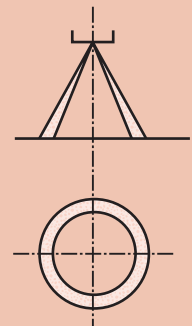
| NOZZLE NUMBERS | | | MESH SIZE | FLOW RATE IN LITRES/HOUR AT Bar.G. | | | | | | | |
|----------------|---------|---------|-----------|------------------------------------|------|-------|-------|-------|-------|-------|-------|
| 40° | 60° | 80° | | 1,5 | 2 | 3 | 3,5 | 4 | 6 | 7 | 8 |
| WA 054 | WA 056 | WA 058 | 200 | - | - | - | - | 1,47 | 2,04 | 2,29 | 2,46 |
| WA 074 | WA 076 | WA 078 | 200 | - | - | 2,22 | 2,42 | 2,59 | 3,12 | 3,20 | 3,48 |
| WA 104 | WA 106 | WA 108 | 200 | - | - | 3,08 | 3,25 | 3,53 | 4,36 | 4,57 | 5,04 |
| WA 124 | WA 126 | WA 128 | 200 | - | - | 3,74 | 4,03 | 4,20 | 5,21 | 5,49 | 5,80 |
| WA 154 | WA 156 | WA 158 | 200 | - | - | 4,97 | 5,03 | 5,36 | 6,39 | 6,86 | 7,23 |
| WA 204 | WA 206 | WA 208 | 80 | 4,73 | 5,36 | 6,39 | 6,86 | 7,37 | 8,76 | 9,15 | 9,37 |
| WA 254 | WA 256 | WA 258 | 80 | 5,92 | 6,47 | 7,91 | 8,32 | 8,93 | 10,7 | 11,4 | 12,1 |
| WA 304 | WA 306 | WA 308 | 80 | 6,87 | 8,04 | 9,47 | 10,1 | 10,6 | 12,8 | 13,7 | 14,4 |
| WA 354 | WA 356 | WA 358 | 80 | 8,05 | 9,15 | 10,9 | 11,5 | 12,3 | 14,9 | 16,0 | 17,0 |
| WA 404 | WA 406 | WA 408 | 80 | 9,00 | 10,0 | 12,3 | 13,1 | 14,1 | 17,0 | 18,3 | 19,4 |
| WA 454 | WA 456 | WA 458 | 80 | 10,27 | 11,5 | 13,7 | 14,6 | 15,6 | 18,9 | 20,6 | 21,9 |
| WA 504 | WA 506 | WA 508 | 80 | 10,89 | 12,7 | 15,2 | 16,1 | 17,4 | 21,1 | 22,9 | 24,5 |
| WA 554 | WA 556 | WA 558 | 80 | 12,31 | 13,8 | 16,8 | 17,8 | 19,2 | 23,2 | 25,2 | 26,9 |
| WA 604 | WA 606 | WA 608 | 80 | 13,26 | 15,1 | 18,0 | 19,2 | 21,0 | 25,6 | 27,4 | 29,2 |
| WA 704 | WA 706 | WA 708 | 80 | 15,62 | 17,9 | 21,3 | 22,8 | 24,6 | 29,8 | 32,0 | 34,4 |
| WA 804 | WA 806 | WA 808 | 80 | 17,52 | 20,1 | 26,0 | 26,5 | 27,7 | 34,3 | 36,6 | 39,7 |
| WA 1004 | WA 1006 | WA 1008 | 80 | 21,31 | 24,6 | 30,1 | 32,5 | 34,6 | 42,6 | 45,7 | 49,1 |
| WA 1054 | WA 1056 | WA 1058 | 80 | 22,49 | 25,4 | 31,2 | 33,8 | 36,4 | 45,0 | 48,0 | 51,3 |
| WA 1154 | WA 1156 | WA 1158 | 40 | 25,1 | 29,5 | 35,0 | 38,0 | 41,1 | 49,2 | 52,6 | 55,8 |
| WA 1404 | WA 1406 | WA 1408 | 40 | 28,4 | 33,5 | 41,2 | 44,6 | 47,5 | 59,7 | 64,0 | 67,9 |
| WA 1704 | WA 1706 | WA 1708 | 40 | 33,6 | 39,7 | 49,2 | 52,6 | 56,2 | 69,8 | 77,8 | 85,3 |
| WA 2004 | WA 2006 | WA 2008 | 40 | 43,6 | 49,1 | 59,2 | 64,0 | 69,2 | 85,2 | 91,5 | 97,3 |
| WA 2504 | WA 2506 | WA 2508 | 40 | 52,1 | 60,3 | 73,4 | 78,2 | 84,8 | 104,2 | 114,3 | 122,8 |
| WA 3004 | WA 3006 | WA 3008 | 40 | 66,3 | 74,1 | 90,0 | 94,2 | 101,3 | 125,0 | 137,2 | 150,4 |
| WA 3504 | WA 3506 | WA 3508 | 40 | 75,8 | 86,6 | 104,2 | 109,8 | 117,2 | 144,9 | 160,1 | 175,0 |
| WA 4004 | WA 4006 | WA 4008 | 40 | 85,2 | 99,3 | 118,4 | 125,8 | 133,9 | 165,7 | 183,0 | 200,9 |



HOLLOW CONE SPRAY

TYPE WA

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Web:www.delavan.co.uk





SPRAY CHARACTERISTICS

- *Finely atomised hollow cone spray pattern.*
- *Available spray angles of 30°, 45°, 60°, 70°, 80° and 90° at 8,6 Bar.G. pressure.*

CONSTRUCTION AND MATERIALS

Nozzle consists of five basic parts:

- *Nozzle body - Brass or 416 Stainless Steel.*
- *Orifice Disc - 416 Stainless Steel.*
- *Distributor - 416 Stainless Steel.*
- *Retainer - Brass or 416 Stainless Steel.*
- *Strainer - (used up to WDA 14).*
- *Nozzle thread is 9/16" - 24 UNEF.*
- *Adaptors are available with 1/4" Male BSPT and 1/8" 1/4" Female BSPP and can be ordered separately.*

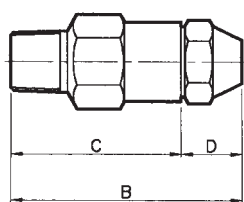
ORDER EXAMPLE

WDA 8,0-70° Stainless Steel = Tip Only.

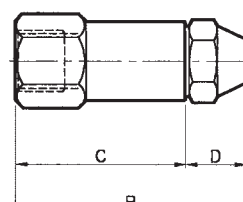
1/4" Female WDA 12,0-70° Brass = Complete Assembly.

DIMENSIONS AND WEIGHTS

| Assembly Type | Dimensions (mm) | | | | | Weight (g) |
|---------------|-----------------|------|------|------|-------|------------|
| | A Hex | B | C | D | E Hex | |
| 1/8 Female | 15,9 | 52,4 | 38,1 | 14,3 | 18,0 | 82 |
| 1/4 Male | 15,9 | 52,4 | 38,1 | 14,3 | 18,0 | 78 |
| 1/4 Female | 15,9 | 52,4 | 38,1 | 14,3 | 18,0 | 69 |



WDA (MALE) ASSEMBLY



WDA (FEMALE) ASSEMBLY

CAPACITY CHART

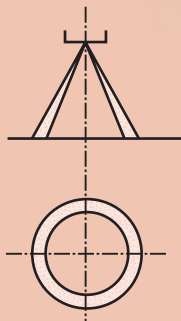
Maximum Recommended Pressure: 35 Bar.G.

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | FLOW RATE IN LITRES/HOUR AT Bar.G. | | | | | | | |
|---------------|---------------------------|------------------------------------|------|------|------|------|------|------|------|
| | | 2 | 3 | 5 | 7 | 10 | 15 | 20 | 35 |
| 0,5 x | 0,21 | - | - | 1,45 | 1,72 | 2,05 | 2,51 | 2,87 | 3,82 |
| 0,75 x | 0,23 | - | - | 2,16 | 2,56 | 3,05 | 3,74 | 4,32 | 5,72 |
| 1,0 | 0,28 | - | - | 2,87 | 3,40 | 4,10 | 5,02 | 5,77 | 7,63 |
| 1,5 | 0,33 | - | - | 4,32 | 5,11 | 6,15 | 7,53 | 8,64 | 11,4 |
| 2,0 | 0,38 | - | - | 5,77 | 6,83 | 8,19 | 10,0 | 11,6 | 15,3 |
| 2,5 | 0,41 | - | - | 7,19 | 8,55 | 10,2 | 12,5 | 14,5 | 19,1 |
| 3,0 | 0,46 | - | - | 8,64 | 10,2 | 12,3 | 15,1 | 17,3 | 22,9 |
| 4,0 | 0,64 | - | 8,69 | 11,5 | 13,7 | 16,4 | 20,1 | 23,1 | 30,5 |
| 5,0 | 0,64 | - | 11,1 | 14,5 | 17,2 | 20,5 | 25,1 | 28,7 | 38,2 |
| 6,0 | 0,74 | - | 14,2 | 17,5 | 20,6 | 24,6 | 30,1 | 34,6 | 45,8 |
| 8,0 | 0,81 | - | 17,8 | 23,1 | 27,5 | 33,1 | 40,6 | 46,2 | 61,1 |
| 10,0 | 0,89 | 17,9 | 22,1 | 28,7 | 34,0 | 41,0 | 50,2 | 57,7 | 76,3 |
| 12,0 | 1,02 | 21,6 | 26,9 | 34,6 | 40,8 | 49,2 | 60,2 | 69,3 | 91,6 |
| 14,0 | 1,02 | 25,3 | 31,2 | 40,2 | 47,7 | 57,0 | 69,8 | 80,8 | 107 |
| 16,0* | 1,17 | 29,1 | 35,6 | 46,2 | 54,6 | 65,2 | 79,8 | 92,4 | 122 |
| 18,0* | 1,32 | 32,8 | 39,9 | 51,8 | 61,4 | 73,4 | 89,9 | 104 | 137 |
| 20,0* | 1,40 | 36,5 | 44,6 | 57,8 | 68,3 | 81,6 | 99,9 | 115 | 153 |
| 24,0* | 1,52 | 45,8 | 53,3 | 69,3 | 82,1 | 98,0 | 120 | 139 | 183 |
| 30,0* | 1,70 | 54,4 | 66,8 | 86,4 | 102 | 123 | 150 | 173 | 229 |
| 35,0* | 1,78 | 64,1 | 78,2 | 101 | 120 | 143 | 175 | 202 | 267 |

x Not available in 30° or 45°.

* These sizes are supplied without strainers.

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Fax: +44 (0) 151 495 1043
e-mail:sales@delavan.co.uk
Web:www.delavan.co.uk



SPRAY CHARACTERISTICS

- *Finely atomised hollow cone spray pattern.*
- *Nominal spray angle of 70° (45° and 80° to special order).*

CONSTRUCTION AND MATERIALS

- *Four part design - nozzle body, strainer, tip and cap.*
- *Tip consists of body with orifice insert (HC) or one piece body (HB), and distributor and screw pin.*
- *Tips are interchangeable and replaceable.*
- *Body thread sizes are Male BSPT and Female BSPP.*
- *100 - mesh Stainless Steel strainers supplied on request.*
- *HB - All brass parts only.*
- *HC - Brass with 416 Stainless Steel metering parts.*

ORDER EXAMPLE

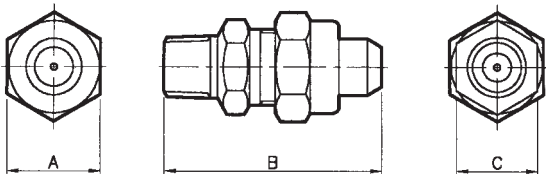
HB 5 = Tip Only.

1/4" HB 5 (Male) = Complete Assembly.

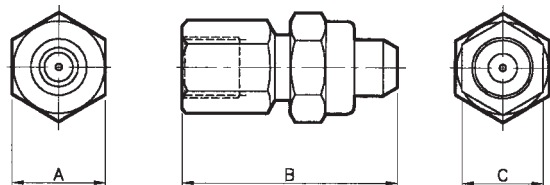
1/4" HC 10 (Female) = Complete Assembly.

DIMENSIONS AND WEIGHTS

| Assembly Type | Dimensions (mm) | | | Weight (g) |
|---------------|-----------------|------|-------|------------|
| | A Hex | B | C Hex | |
| 1/8 FEMALE | 20,8 | 45,2 | 18,0 | 70 |
| 1/8 MALE | 20,8 | 46,0 | 18,0 | 60 |
| 1/4 FEMALE | 20,8 | 46,8 | 18,0 | 70 |
| 1/4 MALE | 20,8 | 47,7 | 18,0 | 62 |



HB (MALE) ASSEMBLY



HC (FEMALE) ASSEMBLY

HB TYPE



HC TYPE



CAPACITY CHART

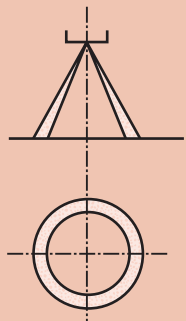
Maximum Recommended Pressure: 35 Bar.G.

| NOZZLE NUMBER | FLOW RATE IN LITRES/HOUR AT Bar.G. | | | | | |
|---------------|------------------------------------|------|------|------|------|------|
| | 2 | 3 | 4 | 5 | 6 | 7 |
| HB/HC 1,0 | 3,23 | 3,95 | 4,56 | 5,10 | 5,58 | 6,03 |
| HB/HC 1,25 | 4,03 | 4,93 | 5,70 | 6,37 | 6,98 | 7,54 |
| HB/HC 1,50 | 4,84 | 5,92 | 6,84 | 7,64 | 8,37 | 9,04 |
| HB/HC 2,0 | 6,45 | 7,89 | 9,12 | 10,2 | 11,2 | 12,1 |
| HB/HC 2,5 | 8,05 | 9,57 | 11,4 | 12,7 | 14,0 | 15,1 |
| HB/HC 3,0 | 9,65 | 11,8 | 13,7 | 15,3 | 16,7 | 18,0 |
| HC/HC 4,0 | 12,9 | 15,8 | 18,2 | 20,4 | 22,3 | 24,1 |
| HB/HC 5,0 | 16,1 | 19,7 | 22,8 | 25,5 | 27,9 | 30,1 |
| HB/HC 6,0 | 19,3 | 23,7 | 27,3 | 30,6 | 33,5 | 36,2 |
| HB/HC 8,0 | 25,8 | 31,6 | 36,5 | 40,8 | 44,7 | 48,3 |
| HB/HC 10,0 | 32,2 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 |
| HB/HC 12,0 | 38,6 | 47,4 | 54,7 | 61,1 | 67,0 | 72,4 |
| HB/HC 14,0 | 45,1 | 55,3 | 63,8 | 71,3 | 78,1 | 84,4 |
| HB/HC 18,0 | 58,0 | 71,0 | 82,0 | 91,7 | 100 | 108 |
| HB/HC 22,0 | 71,0 | 86,8 | 100 | 112 | 123 | 133 |
| HB/HC 26,0 | 84,0 | 103 | 119 | 132 | 145 | 157 |

HOLLOW CONE SPRAY

TYPE HB-HC

Contact our Helpline for any special requirements:
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e-mail:sales@delavan.co.uk
Web:www.delavan.co.uk



Coltec Industries





SPRAY CHARACTERISTICS

- Uniform distribution of droplets in a hollow cone spray pattern.
- For nozzles of the same capacity, the droplet size of hollow cone type nozzles are smaller than droplets produced by solid cone nozzles.

CONSTRUCTION AND MATERIALS

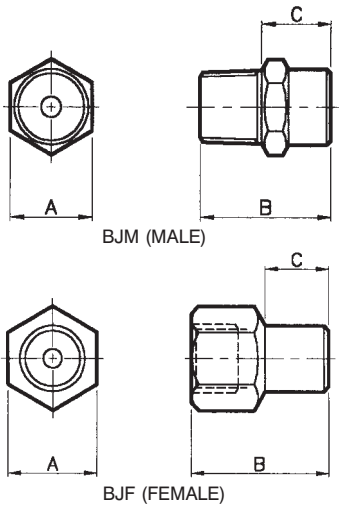
- One-piece body with removable spiral-type core.
- Hexagon body for easy installation, eliminates distortion of orifice during installation.
- Available with Male BSPT or Female BSPP threads.
- Brass and 316 Stainless Steel are standard.
- Other materials available to special order.

ORDER EXAMPLE

3/8" BJM 6 (Male) Brass.
1" BJF 60 (Female) Stainless Steel.

DIMENSIONS AND WEIGHTS

| Thread Size | Nozzle Type | Dimensions (mm) | | | Weight (g) |
|-------------|-------------|-----------------|------|------|------------|
| | | A Hex | B | C | |
| 1/8 | BJM | 11,3 | 17,5 | 9,6 | 10 |
| 1/8 | BJF | 15,3 | 25,4 | 13,5 | 21 |
| 1/4 | BJM | 15,3 | 24,5 | 13,0 | 24 |
| 1/4 | BJF | 18,0 | 27,8 | 12,7 | 35 |
| 3/8 | BJM | 18,0 | 25,5 | 14,0 | 35 |
| 3/8 | BJF | 20,8 | 38,9 | 21,1 | 58 |
| 1/2 | BJM | 25,6 | 32,0 | 16,1 | 75 |
| 1/2 | BJF | 25,6 | 50,0 | 28,3 | 118 |
| 3/4 | BJM | 28,0 | 36,0 | 19,0 | 115 |
| 3/4 | BJF | 31,8 | 62,7 | 31,5 | 215 |
| 1 | BJM | 38,0 | 50,0 | 28,5 | 290 |
| 1 | BJF | 38,0 | 81,0 | 51,0 | 330 |



CAPACITY CHART

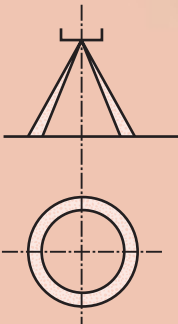
Maximum Recommended Pressure: 35 Bar.G.

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | BSPT THREAD SIZE | | | | | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | | SPRAY ANGLE (°) AT Bar.G. | | | | |
|---------------|---------------------------|------------------|-----|-----|-----|-----|---|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|---------------------------|-------|------|------|----|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | ,7 | 1 | 1,5 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ,7 | 2 | 5 |
| | | BJ 1 | 1,6 | | | | | | | ,45 | ,53 | ,65 | ,76 | ,94 | 1,09 | 1,22 | 1,33 | 1,46 | 1,57 | 44 |
| BJ 2 | 2,0 | | | | | | | ,62 | ,74 | ,87 | 1,00 | 1,20 | 1,37 | 1,53 | 1,67 | 1,80 | 1,93 | 60 | 70 | 75 |
| BJ 3 | 2,4 | | | | | | | ,69 | ,84 | ,98 | 1,12 | 1,36 | 1,57 | 1,73 | 1,88 | 2,03 | 2,16 | 66 | 80 | 85 |
| BJ 3 | 2,8 | | | | | | | ,74 | ,86 | 1,04 | 1,19 | 1,44 | 1,66 | 1,84 | 1,99 | 2,16 | 2,29 | 62 | 65 | 70 |
| BJ 4 | 2,4 | | | | | | | ,90 | 1,07 | 1,29 | 1,47 | 1,79 | 2,04 | 2,27 | 2,46 | 2,67 | 2,85 | 62 | 66 | 80 |
| BJ 5 | 2,8 | | | | | | | 1,02 | 1,21 | 1,47 | 1,70 | 2,09 | 2,40 | 2,70 | 2,93 | 3,21 | 3,39 | 74 | 83 | 83 |
| BJ 6 | 3,2 | | | | | | | 1,21 | 1,45 | 1,77 | 2,04 | 2,51 | 2,89 | 3,23 | 3,52 | 3,83 | 4,09 | 75 | 84 | 86 |
| BJ 7 | 3,6 | | | | | | | 1,36 | 1,62 | 1,99 | 2,30 | 2,84 | 3,31 | 3,68 | 4,02 | 4,36 | 4,69 | 75 | 90 | 95 |
| BJ 7 | 3,2 | | | | | | | 1,70 | 2,00 | 2,44 | 2,82 | 3,42 | 3,95 | 4,40 | 4,83 | 5,24 | 5,57 | 64 | 68 | 76 |
| BJ 8 | 3,6 | | | | | | | 1,84 | 2,17 | 2,66 | 3,06 | 3,73 | 4,47 | 4,78 | 5,24 | 5,70 | 6,06 | 72 | 85 | 84 |
| BJ 9 | 4,0 | | | | | | | 2,16 | 2,55 | 3,08 | 3,54 | 4,29 | 4,92 | 5,46 | 5,98 | 6,48 | 6,89 | 84 | 90 | 88 |
| BJ 11 | 4,7 | | | | | | | 2,39 | 2,87 | 3,52 | 4,14 | 5,10 | 5,93 | 6,62 | 7,26 | 7,95 | 8,50 | 86 | 90 | 90 |
| BJ 13 | 5,5 | | | | | | | 2,85 | 3,41 | 4,21 | 4,92 | 6,06 | 7,26 | 7,91 | 8,69 | 9,51 | 10,10 | 87 | 97 | 98 |
| BJ 18 | 4,7 | | | | | | | 3,88 | 4,60 | 5,61 | 6,43 | 7,91 | 9,10 | 10,20 | 11,21 | 12,12 | 13,03 | 67 | 73 | 74 |
| BJ 20 | 5,5 | | | | | | | 4,69 | 5,57 | 6,80 | 7,86 | 9,65 | 11,21 | 12,52 | 13,64 | 14,85 | 15,86 | 74 | 75 | 80 |
| BJ 26 | 6,4 | | | | | | | 5,46 | 6,58 | 8,13 | 9,46 | 11,72 | 13,64 | 15,35 | 16,97 | 18,58 | 19,90 | 80 | 84 | 80 |
| BJ 29 | 7,1 | | | | | | | 6,34 | 7,63 | 9,42 | 10,91 | 13,43 | 15,76 | 17,68 | 19,39 | 21,11 | 22,62 | 88 | 88 | 87 |
| BJ 33 | 7,9 | | | | | | | 6,99 | 8,36 | 10,50 | 12,22 | 15,15 | 17,88 | 20,10 | 22,22 | 24,24 | 26,06 | 95 | 95 | 92 |
| BJ 28 | 4,7 | | | | | | | - | 7,08 | 8,83 | 10,20 | 12,63 | 14,85 | 16,67 | 18,38 | 20,10 | 21,61 | - | 50 | 45 |
| BJ 39 | 5,9 | | | | | | | - | 10,06 | 12,52 | 14,65 | 18,08 | 21,11 | 23,94 | 26,26 | 28,68 | 30,81 | - | 60 | 55 |
| BJ 53 | 7,1 | | | | | | | 10,61 | 12,83 | 15,86 | 18,58 | 22,83 | 26,66 | 30,10 | 33,07 | 36,26 | 38,58 | 65 | 60 | 62 |
| BJ 60 | 7,9 | | | | | | | 12,63 | 15,15 | 18,69 | 21,61 | 26,56 | 31,01 | 34,74 | 38,18 | 41,31 | 44,14 | 70 | 65 | 67 |
| BJ 66 | 8,7 | | | | | | | 14,34 | 17,17 | 21,01 | 24,24 | 29,59 | 34,14 | 38,18 | 41,81 | 45,45 | 48,28 | 70 | 65 | 65 |
| BJ 75 | 9,5 | | | | | | | 15,96 | 18,99 | 23,43 | 27,07 | 33,13 | 38,58 | 43,23 | 47,37 | 51,51 | 52,82 | 73 | 70 | 70 |
| BJ 102 | 12,3 | | | | | | | 23,03 | 27,27 | 33,33 | 38,48 | 46,86 | 53,73 | 59,79 | 65,25 | 70,80 | 75,35 | 80 | 83 | 83 |

TYPE BJ

HOLLOW CONE SPRAY

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SPRAY CHARACTERISTICS

- Hollow cone spray pattern with relatively large droplets at lower pressures.
- As pressure increases, the atomisation becomes finer.

CONSTRUCTION AND MATERIALS

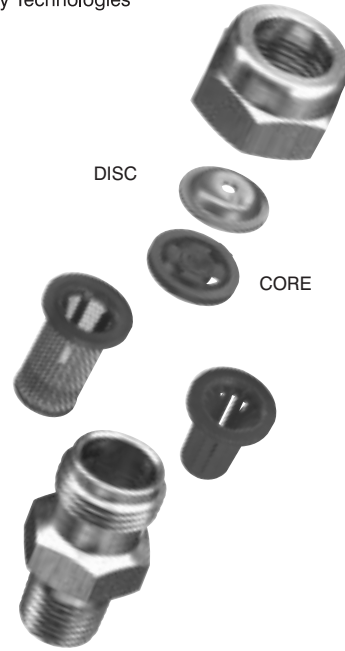
- Made up of five parts and available in these materials:
- Body - Brass and 316 Stainless Steel.
- Flanged Strainer - Brass, 316 Stainless Steel and Nylon.
- Core - Nylon only (5 different sizes).
- Disc - 302 Stainless Steel (12 different sizes).
- Cap - Brass and 316 Stainless Steel.
- Body thread sizes are Male BSPT and Female BSPP.

ORDER EXAMPLE

1/4" DCF (Female) 7-25 Brass.

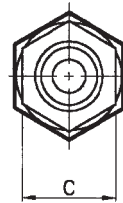
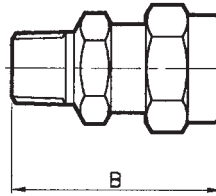
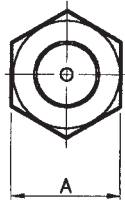
1/8" DCM (Male) 6-23 Stainless Steel.

No. 8 Disc, No. 45 Core (can be ordered separately).



DIMENSIONS AND WEIGHTS

| Assembly Type | Dimensions (mm) | | | Weight (g) |
|---------------|-----------------|------|-------|------------|
| | A Hex | B | C Hex | |
| 1/8 DCF | 20,8 | 40,0 | 18,0 | 65 |
| 1/8 DCM | 20,8 | 38,4 | 18,0 | 55 |
| 1/4 DCF | 20,8 | 40,0 | 18,0 | 64 |
| 1/4 DCM | 20,8 | 40,0 | 18,0 | 55 |



DCM (MALE) ASSEMBLY

CAPACITY CHART

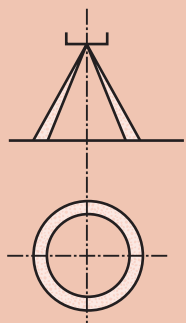
Maximum Recommended Pressure: 35 Bar.G.

| NOZZLE NUMBER | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | SPRAY ANGLE (°) AT 2,8 Bar.G. |
|---------------|-----------|-----------------------------------|------|------|------|------|------|----------------------------------|
| TYPE | DISC-CORE | 2,8 | 5 | 7 | 10 | 15 | 25 | |
| DC | 2-13 | 0,31 | 0,41 | 0,48 | 0,58 | 0,71 | 0,91 | 70 |
| DC | 3-13 | 0,34 | 0,46 | 0,54 | 0,65 | 0,79 | 1,03 | 70 |
| DC | 2-23 | 0,38 | 0,51 | 0,60 | 0,72 | 0,88 | 1,14 | 65 |
| DC | 3-23 | 0,46 | 0,61 | 0,72 | 0,86 | 1,06 | 1,37 | 70 |
| DC | 4-13 | 0,46 | 0,61 | 0,72 | 0,86 | 1,06 | 1,37 | 80 |
| DC | 2-25 | 0,61 | 0,82 | 0,96 | 1,15 | 1,41 | 1,82 | 50 |
| DC | 5-23 | 0,69 | 0,92 | 1,09 | 1,30 | 1,59 | 2,05 | 90 |
| DC | 3-25 | 0,72 | 0,97 | 1,15 | 1,37 | 1,68 | 2,17 | 65 |
| DC | 6-23 | 0,80 | 1,07 | 1,27 | 1,51 | 1,85 | 2,39 | 95 |
| DC | 3-45 | 0,88 | 1,17 | 1,39 | 1,66 | 2,03 | 2,62 | 60 |
| DC | 4-25 | 1,11 | 1,48 | 1,75 | 2,09 | 2,56 | 3,30 | 75 |
| DC | 3-46 | 1,22 | 1,63 | 1,93 | 2,30 | 2,82 | 3,65 | 20 |
| DC | 5-25 | 1,33 | 1,78 | 2,11 | 2,52 | 3,09 | 3,99 | 80 |
| DC | 6-25 | 1,68 | 2,24 | 2,65 | 3,17 | 3,88 | 5,01 | 85 |
| DC | 5-45 | 1,72 | 2,29 | 2,71 | 3,24 | 3,97 | 5,13 | 75 |
| DC | 7-25 | 1,98 | 2,65 | 3,14 | 3,75 | 4,59 | 5,93 | 90 |
| DC | 6-45 | 2,21 | 2,96 | 3,50 | 4,18 | 5,12 | 6,61 | 80 |
| DC | 8-25 | 2,33 | 3,11 | 3,68 | 4,40 | 5,38 | 6,95 | 95 |
| DC | 7-45 | 2,59 | 3,47 | 4,10 | 4,90 | 6,00 | 7,75 | 85 |
| DC | 5-46 | 2,94 | 3,92 | 4,64 | 5,55 | 6,80 | 8,77 | 40 |
| DC | 8-45 | 3,05 | 4,28 | 5,07 | 6,05 | 7,41 | 9,57 | 90 |
| DC | 12-25 | 3,55 | 4,74 | 5,61 | 6,70 | 8,21 | 10,6 | 110 |
| DC | 14-25 | 3,81 | 5,10 | 6,03 | 7,21 | 8,83 | 11,4 | 110 |
| DC | 6-46 | 4,20 | 5,61 | 6,63 | 7,93 | 9,71 | 12,5 | 50 |
| DC | 10-45 | 4,20 | 5,61 | 6,63 | 7,93 | 9,71 | 12,5 | 90 |
| DC | 7-46 | 5,34 | 7,13 | 8,44 | 10,1 | 12,4 | 16,0 | 55 |
| DC | 12-45 | 5,34 | 7,13 | 8,44 | 10,1 | 12,4 | 16,0 | 100 |
| DC | 14-45 | 5,72 | 7,64 | 9,04 | 10,8 | 13,2 | 17,1 | 105 |
| DC | 8-46 | 6,86 | 9,17 | 10,9 | 13,0 | 15,9 | 20,5 | 60 |
| DC | 10-46 | 9,53 | 12,7 | 15,1 | 18,0 | 22,1 | 28,5 | 65 |

HOLLOW CONE SPRAY

TYPE DC

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e-mail:sales@delavan.co.uk
Web:www.delavan.co.uk



Coltec Industries





SPRAY CHARACTERISTICS

- Hollow cone spray pattern with uniform distribution of finely atomised droplets.
- Smaller droplets in spray pattern than full cone nozzles of the same capacity at similar pressures.

CONSTRUCTION AND MATERIALS

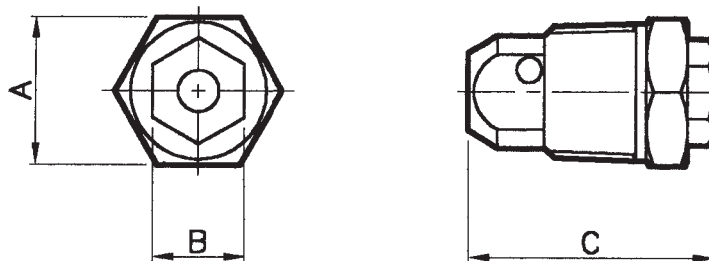
- One piece in-line body with removable orifice cap.
- No internal vanes or cores for clog resistant performance.
- Available with Male BSPT thread only.
- Brass and Stainless Steel are standard.
- Other materials available to special order.

ORDER EXAMPLE

3/8" AG 20 Brass.

DIMENSIONS AND WEIGHTS

| Thread Size | Dimensions (mm) | | | Weight (g) |
|-------------|-----------------|-------|------|------------|
| | A Hex | B Hex | C | |
| 3/8 | 18,0 | 11,3 | 32,0 | 60 |
| 1/2 | 25,6 | 15,3 | 37,0 | 90 |
| 3/4 | 28,0 | 18,0 | 44,5 | 140 |

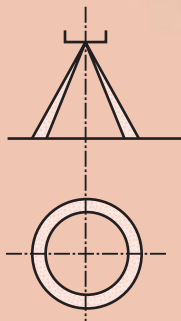


Maximum Recommended Pressure:
14 Bar.G. (Metal), 7 Bar.G. (Plastic).

CAPACITY CHART

| NOZZLE NUMBER | BSPT THREAD SIZE | | | APPROX. ORIFICE SIZE (mm) | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | SPRAY ANGLE (°) AT 3 Bar.G. |
|---------------|------------------|-----|-----|---------------------------|-------|-----------------------------------|------|------|------|------|------|------|-----------------------------|
| | 3/8 | 1/2 | 3/4 | Outlet | Inlet | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| | | | | | | | | | | | | | |
| AG 4 | | | | 2,0 | 2,4 | 0,92 | 1,3 | 1,6 | 1,8 | 2,0 | 2,2 | 2,4 | 65 |
| AG 6 | | | | 2,4 | 2,4 | 1,3 | 1,9 | 2,4 | 2,7 | 3,1 | 3,4 | 3,6 | 68 |
| AG 10 | | | | 3,2 | 2,8 | 2,3 | 3,2 | 3,9 | 4,6 | 5,1 | 5,6 | 6,0 | 70 |
| AG 15 | | | | 3,6 | 4,0 | 3,4 | 4,8 | 5,9 | 6,8 | 7,6 | 8,4 | 9,0 | 72 |
| AG 20 | | | | 4,4 | 4,0 | 4,5 | 6,4 | 7,9 | 9,1 | 10,2 | 11,2 | 12,1 | 75 |
| AG 25 | | | | 4,8 | 5,6 | 5,7 | 8,1 | 9,9 | 11,4 | 12,7 | 14,0 | 15,1 | 75 |
| AG 15 | | | | 4,0 | 4,0 | 3,4 | 4,8 | 5,9 | 6,8 | 7,6 | 8,4 | 9,0 | 65 |
| AG 20 | | | | 4,4 | 4,4 | 4,5 | 6,4 | 7,9 | 9,1 | 10,2 | 11,2 | 12,1 | 67 |
| AG 25 | | | | 4,8 | 4,4 | 5,7 | 8,1 | 9,9 | 11,4 | 12,7 | 14,0 | 15,1 | 70 |
| AG 30 | | | | 5,2 | 6,2 | 6,9 | 9,7 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 70 |
| AG 40 | | | | 6,0 | 6,8 | 9,1 | 12,9 | 15,8 | 18,2 | 20,4 | 22,3 | 24,1 | 73 |
| AG 50 | | | | 7,2 | 7,4 | 11,4 | 16,1 | 19,7 | 22,8 | 25,5 | 27,9 | 30,2 | 75 |
| AG 30 | | | | 5,6 | 6,4 | 6,9 | 9,7 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 65 |
| AG 40 | | | | 6,4 | 7,2 | 9,1 | 12,9 | 15,8 | 18,2 | 20,4 | 22,3 | 24,1 | 68 |
| AG 50 | | | | 7,5 | 7,2 | 11,4 | 16,1 | 19,7 | 22,8 | 25,5 | 27,9 | 30,2 | 70 |
| AG 60 | | | | 8,0 | 7,2 | 13,6 | 19,3 | 23,7 | 27,3 | 30,6 | 33,5 | 36,2 | 70 |
| AG 80 | | | | 8,8 | 10,0 | 18,2 | 25,8 | 31,6 | 36,5 | 40,8 | 44,7 | 48,2 | 72 |
| AG 100 | | | | 9,5 | 10,0 | 22,8 | 32,2 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 75 |

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SPRAY CHARACTERISTICS

- Hollow cone wide angle spray pattern with uniform distribution of finely atomised droplets.
- Smaller droplets in spray pattern than full cone nozzles of the same capacity at similar pressures.

CONSTRUCTION AND MATERIALS

- One piece in-line body with removable orifice cap.
- No internal vanes or cores for clog resistant performance.
- Available with Male BSPT thread only.
- Brass and Stainless Steel are standard.
- Other materials available to special order.

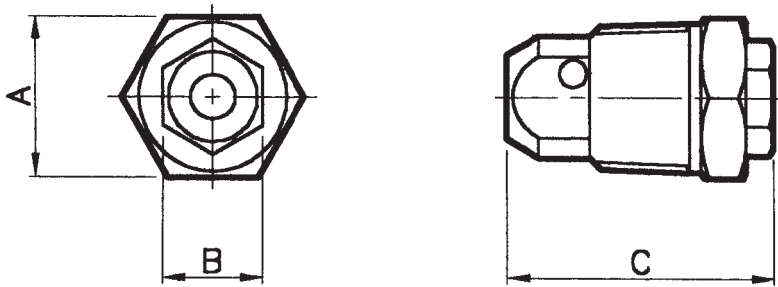
ORDER EXAMPLE

1/2" AH 30 Stainless Steel.



DIMENSIONS AND WEIGHTS

| Thread Size | Dimensions (mm) | | | Weight (g) |
|-------------|-----------------|-------|------|------------|
| | A Hex | B Hex | C | |
| 3/8 | 18,0 | 11,3 | 32,0 | 60 |
| 1/2 | 25,6 | 15,3 | 37,0 | 90 |
| 3/4 | 28,0 | 18,0 | 44,5 | 140 |



Maximum Recommended Pressure:
14 Bar.G. (Metal), 7 Bar.G. (Plastic).

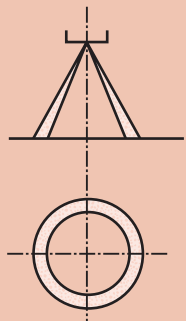
CAPACITY CHART

| NOZZLE NUMBER | BSPT THREAD SIZE | | | APPROX. ORIFICE SIZE (mm) | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | SPRAY ANGLE (°) AT 3 Bar.G. |
|---------------|------------------|-----|-----|---------------------------|-------|-----------------------------------|------|------|------|------|------|------|-----------------------------|
| | 3/8 | 1/2 | 3/4 | Outlet | Inlet | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| AH 4 | | | | 2,0 | 2,4 | 0,92 | 1,3 | 1,6 | 1,8 | 2,0 | 2,2 | 2,4 | 100 |
| AH 5 | | | | 2,4 | 2,4 | 1,1 | 1,6 | 2,0 | 2,3 | 2,5 | 2,8 | 3,0 | 100 |
| AH 6 | | | | 2,8 | 2,4 | 1,3 | 1,9 | 2,4 | 2,7 | 3,1 | 3,4 | 3,6 | 105 |
| AH 10 | | | | 3,6 | 2,8 | 2,3 | 3,2 | 3,9 | 4,6 | 5,1 | 5,6 | 6,0 | 105 |
| AH 15 | | | | 4,0 | 4,0 | 3,4 | 4,8 | 5,9 | 6,8 | 7,6 | 8,4 | 9,0 | 105 |
| AH 15 | | | | 4,4 | 4,0 | 3,4 | 4,8 | 5,9 | 6,8 | 7,6 | 8,4 | 9,0 | 110 |
| AH 20 | | | | 4,8 | 4,4 | 4,5 | 6,4 | 7,9 | 9,1 | 10,2 | 11,2 | 12,1 | 110 |
| AH 25 | | | | 5,2 | 4,4 | 5,7 | 8,1 | 9,9 | 11,4 | 12,7 | 14,0 | 15,1 | 110 |
| AH 30 | | | | 6,0 | 6,0 | 6,9 | 9,7 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 110 |
| AH 50 | | | | 8,0 | 7,2 | 11,4 | 16,1 | 19,7 | 22,8 | 26,5 | 27,9 | 30,2 | 115 |
| AH 80 | | | | 9,5 | 10,0 | 18,2 | 25,8 | 31,6 | 36,5 | 40,8 | 44,7 | 48,2 | 115 |
| AH 100 | | | | 10,0 | 10,0 | 22,8 | 32,2 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 115 |

HOLLOW CONE SPRAY

TYPE AH

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Coltec Industries





SPRAY CHARACTERISTICS

- Nominal spray angle of 75° as standard (measured at 3 Bar.G.).
- Hollow cone spray pattern with fine atomisation.
- Three piece construction with a removable internal distributor for ease of cleaning.

CONSTRUCTION AND MATERIALS

- Three part construction - nozzle body, core and nozzle adaptor.
- Threads are NPT Male or Female.
- Core imparts swirling motion to liquid producing a hollow cone pattern.
- Resistant to clogging, but can be disassembled for easy cleaning.
- Brass and 303 Stainless Steel are standard.
- Other materials available to special order.

ORDER EXAMPLE

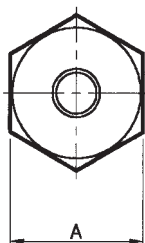
1/2" WSF (Female) 40 Stainless Steel.

3/8" WSM (Male) 10 Brass.

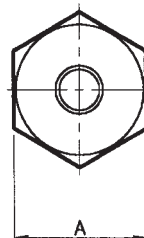
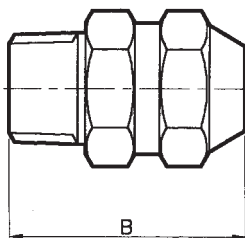
DIMENSIONS AND WEIGHTS

| Thread Size | Nozzle Type | Dimensions (mm) | | Weight (g) |
|-------------|-------------|-----------------|------|------------|
| | | A Hex | B | |
| 1/8 | WSF | 15,9 | 27,8 | 28,4 |
| 1/8 | WSM | 15,9 | 31,0 | 28,4 |
| 1/4 | WSF | 15,9 | 29,4 | 28,4 |
| 1/4 | WSM | 15,9 | 32,5 | 28,4 |
| 3/8 | WSF | 19,0 | 34,1 | 57,0 |
| 3/8 | WSM | 19,0 | 34,1 | 57,0 |
| 1/2 | WSF | 25,4 | 43,7 | 113,0 |
| 1/2 | WSM | 25,4 | 45,2 | 113,0 |
| 3/4 | WSF | 31,8 | 57,9 | 255,0 |
| 3/4 | WSM | 31,8 | 58,7 | 255,0 |

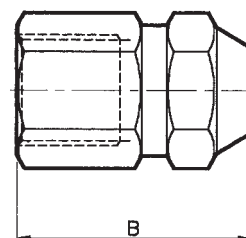
Maximum Recommended Pressure: 34 Bar.G.



WSM (MALE) ASSEMBLY



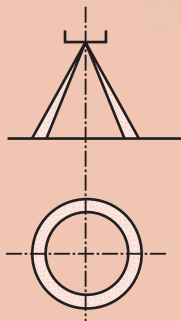
WSF (FEMALE) ASSEMBLY



CAPACITY CHART

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | MAXIMUM PASSAGE SIZE (mm) | NPT THREAD SIZE | | | | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | SPRAY ANGLE (°) AT Bar.G. | | |
|---------------|---------------------------|---------------------------|-----------------|-----|-----|-----|-----|-----------------------------------|------|------|------|------|------|------|---------------------------|----|----|
| | | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 0,35 | 0,7 | 1,5 | 3 | 4 | 7 | 10 | 0,35 | 3 | 6 |
| WS 2 | 1,4 | 0,8 | | | | | | - | 0,4 | 0,6 | 0,8 | 0,9 | 1,2 | 1,5 | 65 | 75 | 75 |
| WS 4 | 2,8 | 0,8 | | | | | | 0,5 | 0,8 | 1,1 | 1,6 | 1,8 | 2,4 | 2,9 | 65 | 75 | 75 |
| WS 6 | 2,6 | 1,3 | | | | | | 0,8 | 1,1 | 1,7 | 2,4 | 2,8 | 3,6 | 4,5 | 65 | 75 | 75 |
| WS 8 | 3,0 | 1,6 | | | | | | 1,1 | 1,5 | 2,2 | 3,2 | 3,6 | 4,8 | 6,0 | 65 | 75 | 75 |
| WS 10 | 3,3 | 1,6 | | | | | | 1,3 | 1,9 | 2,8 | 4,0 | 4,5 | 6,1 | 7,1 | 65 | 75 | 7 |
| WS 12 | 3,5 | 1,6 | | | | | | 1,6 | 2,3 | 3,3 | 4,7 | 5,6 | 7,3 | 8,9 | 65 | 75 | 75 |
| WS 15 | 4,0 | 1,6 | | | | | | 2,0 | 2,9 | 4,1 | 5,9 | 6,9 | 9,0 | 10,8 | 65 | 75 | 75 |
| WS 20 | 4,7 | 2,0 | | | | | | 2,7 | 3,8 | 5,5 | 7,9 | 8,9 | 12,2 | 14,5 | 70 | 75 | 75 |
| WS 30 | 5,7 | 2,4 | | | | | | 4,2 | 5,7 | 8,3 | 11,9 | 13,8 | 17,9 | 21,6 | 70 | 75 | 75 |
| WS 40 | 6,9 | 3,2 | | | | | | 5,3 | 7,6 | 11,1 | 15,8 | 17,9 | 24,4 | 29,0 | 70 | 75 | 75 |
| WS 50 | 7,7 | 3,2 | | | | | | 6,9 | 9,5 | 13,8 | 19,8 | 22,7 | 30,1 | 36,1 | 70 | 75 | 75 |
| WS 60 | 8,2 | 3,2 | | | | | | 8,4 | 11,4 | 16,6 | 23,7 | 27,6 | 35,9 | 43,2 | 70 | 75 | 75 |
| WS 80 | 9,6 | 4,0 | | | | | | 10,7 | 15,3 | 22,5 | 31,6 | 36,5 | 48,5 | 57,7 | 70 | 75 | 75 |
| WS 100 | 10,5 | 4,0 | | | | | | 13,7 | 19,1 | 27,7 | 39,5 | 45,4 | 60,3 | 72,3 | 70 | 75 | 75 |

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SPRAY CHARACTERISTICS

- Uniform distribution of spray droplets in a hollow cone shaped pattern.
- For nozzles of the same capacity, the droplet size of hollow cone type nozzles are smaller than droplets produced by solid cone nozzles.

CONSTRUCTION AND MATERIALS

- One piece body with removable spiral type core.
- Hex body for easy installation, eliminates distortion of orifice during installation.
- Available in Male BSPP thread design only.
- Brass and 316 Stainless Steel are standard.
- Other materials available to special order.

ORDER EXAMPLE

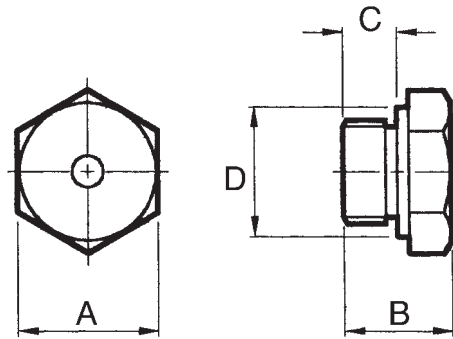
3/8" CBJ 7 Stainless Steel.



DIMENSIONS AND WEIGHTS

| Thread Size | Dimensions (mm) | | | | Weight (g) |
|-------------|-----------------|------|------|------|------------|
| | A Hex | B | C | D | |
| 1/8 | 14,0 | 10,7 | 6,4 | 12,7 | 10 |
| 1/4 | 18,0 | 14,0 | 7,0 | 16,5 | 20 |
| 3/8 | 20,8 | 20,0 | 10,0 | 20,0 | 32 |
| 1/2 | 25,7 | 25,4 | 12,7 | 24,9 | 63 |
| 3/4 | 31,8 | 33,3 | 15,9 | 31,0 | 105 |
| 1 | 38,0 | 47,6 | 19,1 | 38,0 | 210 |

Maximum Recommended Pressure: 35 Bar.G.



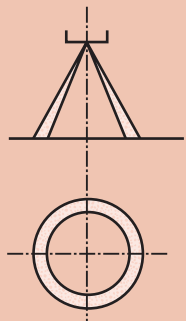
CAPACITY CHART

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | BSPT THREAD SIZE | | | | | | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | | SPRAY ANGLE (°) AT Bar.G. | | | |
|---------------|---------------------------|------------------|-----|-----|-----|-----|---|-------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|---------------------------|------|------|----|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | ,7 | 1 | 1,5 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ,7 | 2 | 5 |
| | | CBJ 1 | 1,6 | | | | | | | ,45 | ,53 | ,65 | ,76 | ,94 | 1,09 | 1,22 | 1,33 | 1,46 | 1,57 | 44 |
| CBJ 2 | 2,0 | | | | | | | ,62 | ,74 | ,87 | 1,00 | 1,20 | 1,37 | 1,53 | 1,67 | 1,80 | 1,93 | 60 | 70 | 75 |
| CBJ 3 | 2,4 | | | | | | | ,69 | ,84 | ,98 | 1,12 | 1,36 | 1,57 | 1,73 | 1,88 | 2,03 | 2,16 | 66 | 80 | 85 |
| CBJ 3 | 2,8 | | | | | | | ,74 | ,86 | 1,04 | 1,19 | 1,44 | 1,66 | 1,84 | 1,99 | 2,16 | 2,29 | 62 | 65 | 70 |
| CBJ 4 | 2,4 | | | | | | | ,90 | 1,07 | 1,29 | 1,47 | 1,79 | 2,04 | 2,27 | 2,46 | 2,67 | 2,85 | 62 | 66 | 80 |
| CBJ 5 | 2,8 | | | | | | | 1,02 | 1,21 | 1,47 | 1,70 | 2,09 | 2,40 | 2,70 | 2,93 | 3,21 | 3,39 | 74 | 83 | 83 |
| CBJ 6 | 3,2 | | | | | | | 1,21 | 1,45 | 1,77 | 2,04 | 2,51 | 2,89 | 3,23 | 3,52 | 3,83 | 4,09 | 75 | 84 | 86 |
| CBJ 7 | 3,6 | | | | | | | 1,36 | 1,62 | 1,99 | 2,30 | 2,84 | 3,31 | 3,68 | 4,02 | 4,36 | 4,69 | 75 | 90 | 95 |
| CBJ 7 | 3,2 | | | | | | | 1,70 | 2,00 | 2,44 | 2,82 | 3,42 | 3,95 | 4,40 | 4,83 | 5,24 | 5,57 | 64 | 68 | 76 |
| CBJ 8 | 3,6 | | | | | | | 1,84 | 2,17 | 2,66 | 3,06 | 3,73 | 4,47 | 4,78 | 5,24 | 5,70 | 6,06 | 72 | 85 | 84 |
| CBJ 9 | 4,0 | | | | | | | 2,16 | 2,55 | 3,08 | 3,54 | 4,29 | 4,92 | 5,46 | 5,98 | 6,48 | 6,89 | 84 | 90 | 88 |
| CBJ 11 | 4,7 | | | | | | | 2,39 | 2,87 | 3,52 | 4,14 | 5,10 | 5,93 | 6,62 | 7,26 | 7,95 | 8,50 | 86 | 90 | 90 |
| CBJ 13 | 5,5 | | | | | | | 2,85 | 3,41 | 4,21 | 4,92 | 6,06 | 7,26 | 7,91 | 8,69 | 9,51 | 10,10 | 87 | 97 | 98 |
| CBJ 18 | 4,7 | | | | | | | 3,88 | 4,60 | 5,61 | 6,43 | 7,91 | 9,10 | 10,20 | 11,21 | 12,12 | 13,03 | 67 | 73 | 74 |
| CBJ 20 | 5,5 | | | | | | | 4,69 | 5,57 | 6,80 | 7,86 | 9,65 | 11,21 | 12,52 | 13,64 | 14,85 | 15,86 | 74 | 75 | 80 |
| CBJ 26 | 6,4 | | | | | | | 5,46 | 6,58 | 8,13 | 9,46 | 11,72 | 13,64 | 15,35 | 16,97 | 18,58 | 19,90 | 80 | 84 | 80 |
| CBJ 29 | 7,1 | | | | | | | 6,34 | 7,63 | 9,42 | 10,91 | 13,43 | 15,76 | 17,68 | 19,39 | 21,11 | 22,62 | 88 | 88 | 87 |
| CBJ 33 | 7,9 | | | | | | | 6,99 | 8,36 | 10,50 | 12,22 | 15,15 | 17,88 | 20,10 | 22,22 | 24,24 | 26,06 | 95 | 95 | 92 |
| CBJ 28 | 4,7 | | | | | | | - | 7,08 | 8,83 | 10,20 | 12,63 | 14,85 | 16,67 | 18,38 | 20,10 | 21,61 | - | 50 | 45 |
| CBJ 39 | 5,9 | | | | | | | - | 10,06 | 12,52 | 14,65 | 18,08 | 21,11 | 23,94 | 26,26 | 28,68 | 30,81 | - | 60 | 55 |
| CBJ 53 | 7,1 | | | | | | | 10,61 | 12,83 | 15,86 | 18,58 | 22,83 | 26,66 | 30,10 | 33,07 | 36,26 | 38,58 | 65 | 60 | 62 |
| CBJ 60 | 7,9 | | | | | | | 12,63 | 15,15 | 18,69 | 21,61 | 26,56 | 31,01 | 34,74 | 38,18 | 41,31 | 44,14 | 70 | 65 | 67 |
| CBJ 66 | 8,7 | | | | | | | 14,34 | 17,17 | 21,01 | 24,24 | 29,59 | 34,14 | 38,18 | 41,81 | 45,45 | 48,28 | 70 | 65 | 65 |
| CBJ 75 | 9,5 | | | | | | | 15,96 | 18,99 | 23,43 | 27,07 | 33,13 | 38,58 | 43,23 | 47,37 | 51,51 | 52,82 | 73 | 70 | 70 |
| CBJ 102 | 12,3 | | | | | | | 23,03 | 27,27 | 33,33 | 38,48 | 46,86 | 53,73 | 59,79 | 65,25 | 70,80 | 75,35 | 80 | 83 | 83 |

HOLLOW CONE SPRAY

TYPE CBJ

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Coltec Industries





SPRAY CHARACTERISTICS

- Produces a hollow cone spray pattern using an external 'pintle' deflector.
- Relatively uniform distribution at low pressures.
- Produces coarser droplets than a normal hollow cone spray.
- Available in spray angles of 90°, 120°, 150°, 180° and 210°.

CONSTRUCTION AND MATERIALS

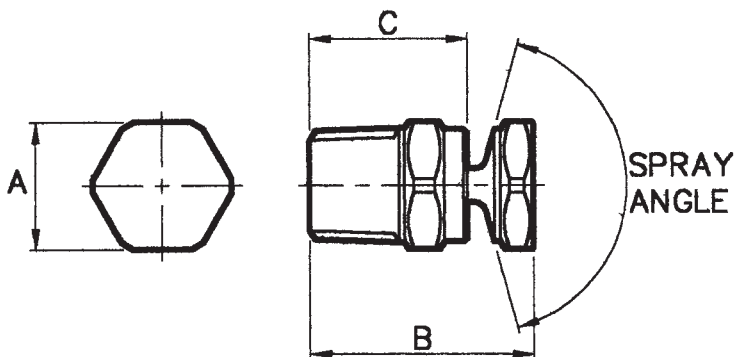
- In-line design, manufactured in Male BSPT thread only.
- The pintle design can be varied to allow for different spray angles.
- Available in Brass and 316 Stainless Steel as standard.
- Other materials available to special order.

ORDER EXAMPLE

3/8" PJ 70-120° Stainless Steel.

DIMENSIONS AND WEIGHTS

| Thread Size | Dimensions (mm) | | | Weight (g) |
|-------------|-----------------|------|------|------------|
| | A Hex | B | C | |
| 1/4 | 15,3 | 33,3 | 19,0 | 30 |
| 3/8 | 18,0 | 37,3 | 21,4 | 80 |
| 1/2 | 25,7 | 46,0 | 28,6 | 100 |
| 3/4 | 28,0 | 58,7 | 33,3 | 125 |

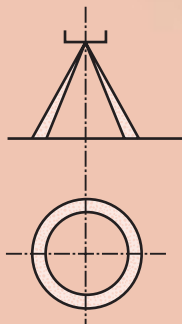


Maximum Recommended Pressure:
14 Bar.G. (Metal) 7 Bar.G. (Plastic).

CAPACITY CHART

| NOZZLE NUMBER | BSPT THREAD SIZE | | | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | |
|---------------|------------------|-----|-----|-----|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 1/4 | 3/8 | 1/2 | 3/4 | 0,7 | 1,0 | 2,0 | 3,0 | 4,0 | 5,0 | 6,0 | 7,0 |
| PJ 20 | | | | | 3,80 | 4,46 | 6,25 | 8,05 | 9,37 | 9,94 | 10,88 | 12,35 |
| PJ 30 | | | | | 5,95 | 6,70 | 9,82 | 11,84 | 13,84 | 15,13 | 16,57 | 17,84 |
| PJ 40 | | | | | 7,78 | 9,37 | 12,05 | 15,62 | 18,30 | 20,57 | 22,53 | 24,25 |
| PJ 50 | | | | | 9,61 | 11,61 | 16,07 | 19,89 | 22,77 | 25,50 | 27,93 | 30,19 |
| PJ 60 | | | | | 11,44 | 13,84 | 19,20 | 23,67 | 27,23 | 30,69 | 33,61 | 36,14 |
| PJ 70 | | | | | 13,27 | 16,07 | 22,77 | 27,46 | 32,14 | 35,88 | 39,30 | 42,54 |
| PJ 80 | | | | | 15,10 | 18,75 | 25,45 | 31,72 | 36,61 | 41,06 | 44,98 | 48,03 |
| PJ 90 | | | | | 16,73 | 20,00 | 28,95 | 35,10 | 40,95 | 45,02 | 50,01 | 54,00 |
| PJ 100 | | | | | 19,21 | 22,77 | 31,70 | 39,30 | 45,53 | 51,00 | 55,87 | 60,38 |
| PJ 125 | | | | | 24,01 | 28,46 | 39,62 | 49,12 | 56,91 | 63,75 | 69,83 | 75,48 |
| PJ 150 | | | | | 28,82 | 34,37 | 48,21 | 59,19 | 68,30 | 76,51 | 83,81 | 90,12 |

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SPRAY CHARACTERISTICS

- Uniform hollow cone spray pattern.
- Atomisation becomes finer at higher pressure and wider spray angles.

CONSTRUCTION AND MATERIALS

- Right angle configuration.
- Two piece design (body and cap) with no internal vanes.
- Swirl chamber designed with counterbore for improved spray quality.
- Thread sizes are Male BSPT and Female BSPP.
- Brass and 316 Stainless Steel are standard.
- Other materials available to special order.

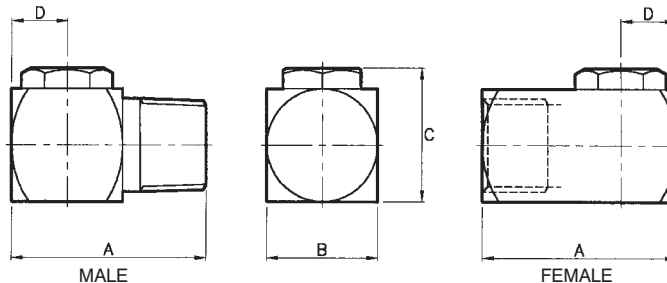
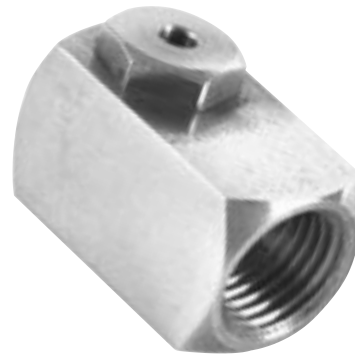
ORDER EXAMPLE

1/2" AEM (Male) 80 Stainless Steel.

3/4" AEF (Female) 150 Brass.

DIMENSIONS AND WEIGHTS

| Thread Size | Nozzle Type | Dimensions (mm) | | | | Weight (g) |
|-------------|-------------|-----------------|------|------|------|------------|
| | | A | B Sq | C | D | |
| 1/8 | AEF | 23,8 | 15,9 | 16,2 | 8,0 | 25 |
| 1/8 | AEM | 22,2 | 15,9 | 16,2 | 8,0 | 24 |
| 1/4 | AEF | 30,2 | 15,9 | 20,8 | 8,0 | 50 |
| 1/4 | AEM | 28,6 | 15,9 | 20,8 | 8,0 | 44 |
| 3/8 | AEF | 37,3 | 19,0 | 23,8 | 9,5 | 83 |
| 3/8 | AEM | 34,9 | 19,0 | 23,8 | 9,5 | 75 |
| 1/2 | AEF | 41,3 | 25,4 | 31,4 | 12,7 | 164 |
| 1/2 | AEM | 44,5 | 25,4 | 31,4 | 12,7 | 152 |
| 3/4 | AEF | 50,8 | 31,8 | 38,4 | 15,9 | 302 |
| 3/4 | AEM | 54,0 | 31,8 | 38,4 | 15,9 | 292 |
| 1 | AEF | 76,0 | 38,1 | 46,6 | 19,0 | 590 |
| 1 | AEM | 76,0 | 38,1 | 46,6 | 19,0 | 575 |



Maximum Recommended Pressure:
14 Bar.G. (Metal), 7 Bar.G. (Plastic).

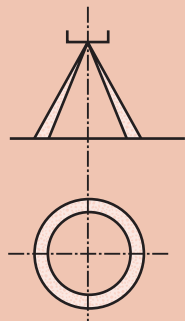
CAPACITY CHART

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | | BSPT THREAD SIZE | | | | | | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | SPRAY ANGLE (°) AT 3 Bar.G. |
|---------------|---------------------------|-------|------------------|-----|-----|-----|-----|---|------|-----------------------------------|------|-------|------|------|------|-----|-----------------------------|
| | Outlet | Inlet | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| | AE 2 | 1,7 | 1,6 | | | | | | | 0,46 | 0,64 | 0,79 | 0,91 | 1,0 | 1,1 | 1,2 | |
| AE 4 | 2,4 | 2,2 | | | | | | | 0,92 | 1,3 | 1,6 | 1,8 | 2,0 | 2,2 | 2,4 | 70 | |
| AE 6 | 2,9 | 2,6 | | | | | | | 1,3 | 1,9 | 2,4 | 2,7 | 3,1 | 3,4 | 3,6 | 70 | |
| AE 10 | 3,6 | 3,3 | | | | | | | 2,3 | 3,2 | 3,9 | 4,6 | 5,1 | 5,6 | 6,0 | 70 | |
| AE 15 | 4,3 | 3,9 | | | | | | | 3,4 | 4,8 | 5,9 | 6,8 | 7,6 | 8,4 | 9,0 | 70 | |
| AE 20 | 5,0 | 4,4 | | | | | | | 4,5 | 6,4 | 7,9 | 9,1 | 10,2 | 11,2 | 12,1 | 70 | |
| AE 25 | 5,6 | 4,9 | | | | | | | 5,7 | 8,1 | 9,9 | 11,4 | 12,7 | 14,0 | 15,1 | 70 | |
| AE 30 | 5,9 | 5,2 | | | | | | | 6,9 | 9,7 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 70 | |
| AE 40 | 5,6 | 9,1 | | | | | | | 9,1 | 12,9 | 15,8 | 18,2 | 20,4 | 22,3 | 24,1 | 65 | |
| AE 50 | 6,4 | 9,1 | | | | | | | 11,4 | 16,1 | 19,7 | 22,8 | 25,5 | 27,9 | 30,2 | 75 | |
| AE 60 | 7,5 | 9,1 | | | | | | | 13,6 | 19,3 | 23,7 | 27,3 | 30,6 | 33,5 | 36,2 | 75 | |
| AE 80 | 7,1 | 13,5 | | | | | | | 18,2 | 25,8 | 31,6 | 36,5 | 40,8 | 44,7 | 48,2 | 65 | |
| AE 100 | 8,3 | 13,5 | | | | | | | 22,8 | 32,2 | 39,5 | 45,6 | 41,0 | 55,8 | 60,3 | 75 | |
| AE 125 | 9,9 | 13,5 | | | | | | | 28,5 | 40,3 | 49,4 | 57,0 | 63,7 | 69,8 | 75,4 | 85 | |
| AE 150 | 11,5 | 13,5 | | | | | | | 34,2 | 48,3 | 59,2 | 68,4 | 76,4 | 83,7 | 90,5 | 95 | |
| AE 200 | 14,3 | 13,5 | | | | | | | 45,6 | 64,5 | 79,0 | 91,2 | 102 | 112 | 121 | 80 | |
| AE 250 | 15,5 | 17,5 | | | | | | | 57,0 | 80,7 | 98,8 | 114,1 | 128 | 140 | 151 | 70 | |
| AE 300 | 17,1 | 17,5 | | | | | | | 68,4 | 96,8 | 119 | 137 | 153 | 168 | 181 | 75 | |
| AE 350 | 20,0 | 17,5 | | | | | | | 79,8 | 113 | 138 | 160 | 179 | 196 | 211 | 80 | |

HOLLOW CONE SPRAY

TYPE AE

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Coltec Industries





SPRAY CHARACTERISTICS

- Uniform hollow cone wide angle spray pattern.
- Atomisation becomes finer at higher pressure and wider spray angles.

CONSTRUCTION AND MATERIALS

- Right angle configuration.
- Two piece design (body and cap) with no internal vanes.
- Swirl chamber designed with counterbore for improved spray quality.
- Thread sizes are Male BSPT and Female BSPP.
- Brass and 316 Stainless Steel are standard.
- Other materials available to special order.

ORDER EXAMPLE

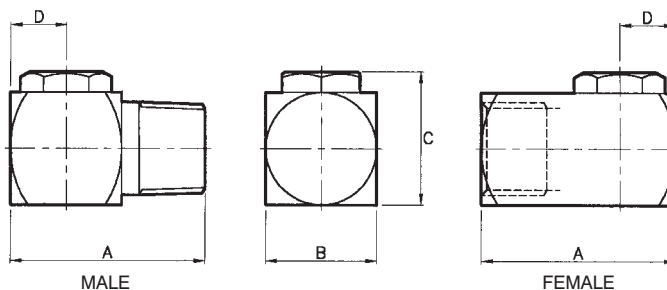
3/8" AFM (Male) 30 Stainless Steel.

1/4" AFF (Female) 10 Brass.

DIMENSIONS AND WEIGHTS

| Thread Size | Nozzle Type | Dimensions (mm) | | | | Weight (g) |
|-------------|-------------|-----------------|------|------|------|------------|
| | | A | B Sq | C | D | |
| 1/8 | AFF | 23,8 | 15,9 | 16,2 | 8,0 | 25 |
| 1/8 | AFM | 22,2 | 15,9 | 16,2 | 8,0 | 24 |
| 1/4 | AFF | 30,2 | 15,9 | 20,8 | 8,0 | 50 |
| 1/4 | AFM | 28,6 | 15,9 | 20,8 | 8,0 | 44 |
| 3/8 | AFF | 37,3 | 19,0 | 23,8 | 9,5 | 83 |
| 3/8 | AFM | 34,9 | 19,0 | 23,8 | 9,5 | 75 |
| 1/2 | AFF | 41,3 | 25,4 | 31,4 | 12,7 | 164 |
| 1/2 | AFM | 44,5 | 25,4 | 31,4 | 12,7 | 152 |
| 3/4 | AFF | 50,8 | 31,8 | 38,4 | 15,9 | 302 |
| 3/4 | AFM | 54,0 | 31,8 | 38,4 | 15,9 | 292 |
| 1 | AFF | 76,0 | 38,1 | 56,0 | 19,0 | 615 |
| 1 | AFM | 76,0 | 38,1 | 56,0 | 19,0 | 600 |

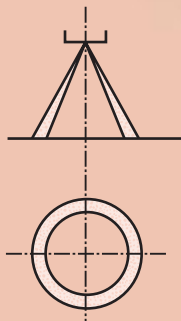
Maximum Recommended Pressure:
14 Bar.G. (Metal), 7 Bar.G. (Plastic).



CAPACITY CHART

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | | BSPT THREAD SIZE | | | | | | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | SPRAY ANGLE (°) AT 3 Bar.G. |
|---------------|---------------------------|-------|------------------|-----|-----|-----|-----|---|------|-----------------------------------|------|-------|------|------|------|-----|-----------------------------|
| | Outlet | Inlet | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| AF 2 | 1,7 | 1,6 | | | | | | | 0,46 | 0,64 | 0,79 | 0,91 | 1,0 | 1,1 | 1,2 | 100 | |
| AF 4 | 2,5 | 2,2 | | | | | | | 0,92 | 1,3 | 1,6 | 1,8 | 2,0 | 2,2 | 2,4 | 100 | |
| AF 5 | 2,5 | 2,6 | | | | | | | 1,1 | 1,6 | 2,0 | 2,3 | 2,5 | 2,8 | 3,0 | 100 | |
| AF 6 | 2,5 | 3,1 | | | | | | | 1,3 | 1,9 | 2,4 | 2,7 | 3,1 | 3,4 | 3,6 | 100 | |
| AF 10 | 3,4 | 3,8 | | | | | | | 2,3 | 3,2 | 3,9 | 4,6 | 5,1 | 5,6 | 6,0 | 100 | |
| AF 15 | 5,6 | 3,5 | | | | | | | 3,4 | 4,8 | 5,9 | 6,8 | 7,6 | 8,4 | 9,0 | 100 | |
| AF 20 | 6,4 | 4,3 | | | | | | | 4,5 | 6,4 | 7,9 | 9,1 | 10,2 | 11,2 | 12,1 | 100 | |
| AF 25 | 6,9 | 4,7 | | | | | | | 5,7 | 8,1 | 9,9 | 11,4 | 12,7 | 14,0 | 15,1 | 110 | |
| AF 30 | 7,5 | 5,1 | | | | | | | 6,9 | 9,7 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 110 | |
| AF 50 | 7,5 | 6,5 | | | | | | | 9,0 | 16,1 | 19,7 | 22,8 | 26,5 | 27,9 | 30,2 | 115 | |
| AF 80 | 9,9 | 7,5 | | | | | | | 18,2 | 25,8 | 31,6 | 36,5 | 40,8 | 44,7 | 48,2 | 115 | |
| AF 100 | 11,1 | 8,4 | | | | | | | 22,8 | 32,2 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 115 | |
| AF 150 | 14,3 | 10,5 | | | | | | | 34,2 | 48,3 | 59,2 | 68,4 | 76,4 | 83,7 | 90,5 | 115 | |
| AF 200 | 18,0 | 11,0 | | | | | | | 45,6 | 64,5 | 79,0 | 91,2 | 102 | 112 | 121 | 120 | |
| AF 250 | 19,5 | 14,0 | | | | | | | 57,0 | 80,7 | 98,8 | 114,1 | 128 | 140 | 151 | 120 | |

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SPRAY CHARACTERISTICS

- Uniform hollow-cone spray pattern.
- Atomisation becomes finer at higher pressure and wider spray angles.

CONSTRUCTION AND MATERIALS

- Right angle configuration.
- Two piece design (body and cap) with no internal vanes.
- Swirl chamber designed with counterbore for improved spray quality.
- Available in Polypropylene and Nylon.
- 3/8" NPT Male and Female only.
- Tolerance on flow rates is $\pm 10\%$.

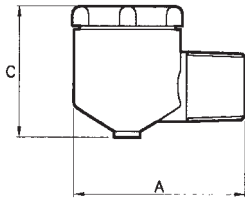
ORDER EXAMPLE

29203-4 3/8" WRM Polypropylene.

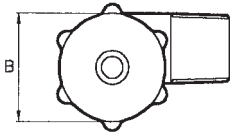


DIMENSIONS AND WEIGHTS

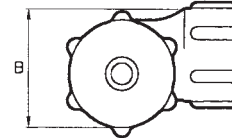
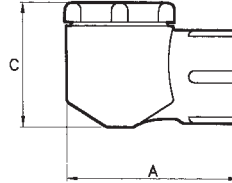
| Thread Size | Nozzle Type | Dimensions (mm) | | | Weight (g) |
|-------------|-------------|-----------------|------|------|------------|
| | | A | B | C | |
| 3/8 NPT | WRM or WRF | 41,7 | 29,8 | 26,2 | 28,4 |



WRM (MALE)



WRF (FEMALE)



Maximum Recommended Pressure: 7 Bar.G.
Maximum Recommended Temperature: 80°C.

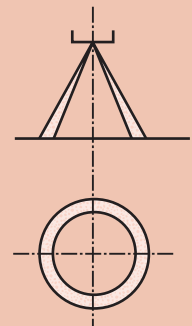
CAPACITY CHART

| NOZZLE PART NUMBERS | | | | APPROX. ORIFICE DIA. | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | | SPRAY ANGLE (°) AT Bar.G. | |
|---------------------|----------|----------|----------|----------------------|-------|-----------------------------------|------|------|------|------|------|------|-----|---------------------------|--|
| Polypropylene | | Nylon | | Outlet | Inlet | 0,7 | 1,5 | 3 | 4 | 5 | 6 | 7 | 0,7 | 3,0 | |
| Male | Female | Male | Female | | | | | | | | | | | | |
| 29203-25 | 29204-25 | 29203-46 | 29204-46 | 3,5 | 3,7 | 2,3 | 3,4 | 4,7 | 5,5 | 6,1 | 6,7 | 7,3 | 70 | 75 | |
| 29203-37 | 29204-37 | 29203-59 | 29204-59 | 3,5 | 4,9 | 2,7 | 3,9 | 5,5 | 6,4 | 7,1 | 7,8 | 8,5 | 75 | 80 | |
| 29203-26 | 29204-26 | 29203-47 | 29204-47 | 5,3 | 3,7 | 3,1 | 4,3 | 6,3 | 7,3 | 8,2 | 9,0 | 9,7 | 85 | 90 | |
| 29203-27 | 29204-27 | 29203-48 | 29204-48 | 3,5 | 8,3 | 3,8 | 5,5 | 7,6 | 9,5 | 10,2 | 11,2 | 12,1 | 65 | 70 | |
| 292031-1 | 29204-1 | 29203-13 | 29204-12 | 5,3 | 4,9 | 4,6 | 6,7 | 9,5 | 10,9 | 12,2 | 13,4 | 14,5 | 90 | 95 | |
| 29203-2 | 29204-2 | 29203-14 | 29204-13 | 5,3 | 6,7 | 5,7 | 8,3 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 85 | 90 | |
| 29203-34 | 29204-34 | 29203-49 | 29204-49 | 12,3 | 3,7 | 5,7 | 8,3 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 155 | 155 | |
| 29203-28 | 29204-28 | 29203-50 | 29204-50 | 8,7 | 4,9 | 6,5 | 9,5 | 13,8 | 16,0 | 17,8 | 19,6 | 21,1 | 100 | 105 | |
| 29203-3 | 29204-3 | 29203-15 | 29204-14 | 5,3 | 8,3 | 6,9 | 9,9 | 14,2 | 16,4 | 18,3 | 20,1 | 21,7 | 80 | 85 | |
| 29203-29 | 29204-29 | 29203-51 | 29204-51 | 5,5 | 9,3 | 7,6 | 11,1 | 15,2 | 19,0 | 21,4 | 22,4 | 24,2 | 55 | 60 | |
| 29203-4 | 29204-4 | 29203-16 | 29204-15 | 7,1 | 6,7 | 8,4 | 12,2 | 17,4 | 20,1 | 22,4 | 24,6 | 26,5 | 70 | 80 | |
| 29203-5 | 29204-5 | 29203-17 | 29204-16 | 10,3 | 4,9 | 8,4 | 12,2 | 17,4 | 20,1 | 22,4 | 24,6 | 26,5 | 85 | 95 | |
| 29203-6 | 29204-6 | 29203-18 | 29204-17 | 7,1 | 8,3 | 9,5 | 13,8 | 19,7 | 22,8 | 25,7 | 24,9 | 30,2 | 65 | 70 | |
| 29203-7 | 29204-7 | 29203-19 | 29204-18 | 12,3 | 4,9 | 9,5 | 13,8 | 19,7 | 22,8 | 25,5 | 27,9 | 30,2 | 140 | 130 | |
| 29203-44 | 29204-44 | 29203-52 | 29204-52 | 7,0 | 9,3 | 10,7 | 15,4 | 22,0 | 25,5 | 28,6 | 31,2 | 33,8 | 45 | 50 | |
| 29203-30 | 29204-30 | 29203-53 | 29204-53 | 8,7 | 6,7 | 11,1 | 15,8 | 22,5 | 26,0 | 29,0 | 31,8 | 34,4 | 85 | 90 | |
| 29203-31 | 29204-31 | 29203-54 | 29204-54 | 7,1 | 9,3 | 11,4 | 16,6 | 23,6 | 27,4 | 30,6 | 33,5 | 36,2 | 60 | 60 | |
| 29203-40 | 29204-40 | None | None | 5,5 | 11,9 | 11,4 | 16,6 | 23,6 | 27,4 | 30,6 | 33,5 | 36,2 | 45 | 45 | |
| 29203-32 | 29204-32 | 29203-55 | 29204-55 | 10,3 | 6,7 | 13,4 | 19,8 | 27,6 | 31,9 | 35,7 | 39,1 | 42,2 | 65 | 65 | |
| 29203-8 | 29204-8 | 29203-20 | 29204-19 | 10,3 | 6,7 | 13,4 | 19,8 | 27,6 | 31,9 | 35,7 | 39,1 | 42,2 | 80 | 90 | |
| 29203-33 | 29204-33 | 29203-56 | 29204-56 | 8,7 | 9,3 | 14,5 | 20,9 | 29,6 | 34,2 | 38,3 | 47,9 | 45,2 | 80 | 85 | |
| 29203-9 | 29204-9 | 29203-21 | 29204-20 | 10,3 | 8,3 | 15,3 | 22,5 | 31,6 | 36,5 | 40,8 | 44,7 | 48,2 | 75 | 85 | |
| 29203-10 | 29204-10 | 29203-22 | 29204-46 | 12,3 | 6,7 | 15,3 | 22,5 | 31,6 | 36,5 | 40,8 | 44,7 | 48,2 | 135 | 125 | |
| 29203-35 | 29204-35 | 29203-57 | 29204-57 | 10,3 | 8,3 | 17,2 | 25,3 | 35,6 | 41,0 | 45,9 | 50,2 | 27,3 | 60 | 60 | |
| 29203-45 | 29204-45 | 29203-58 | 29204-58 | 10,3 | 9,3 | 19,1 | 28,0 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 45 | 50 | |
| 29203-12 | 29204-24 | 29203-24 | 29204-23 | 11,1 | 9,3 | 19,1 | 28,0 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 65 | 70 | |
| 29203-11 | 29204-11 | 29203-23 | 29204-22 | 12,3 | 8,3 | 19,1 | 28,0 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 130 | 115 | |

HOLLOW CONE SPRAY

TYPE WR

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Web:www.delavan.co.uk





SPRAY CHARACTERISTICS

- Uniform hollow-cone wide angle spray pattern.
- Atomisation becomes finer at higher pressure and wider spray angles.

CONSTRUCTION AND MATERIALS

- Right angle configuration.
- Two piece design (body and cap) with no internal vanes.
- Swirl chamber designed with counterbore for improved spray quality.
- Available in Nylon only.
- Available in 1/4" and 3/4" Male NPT thread only.
- Tolerance on flow rates is $\pm 10\%$.

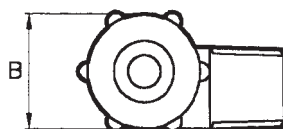
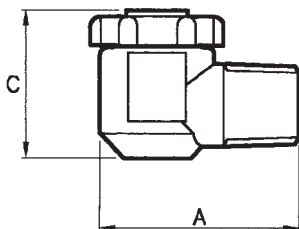
ORDER EXAMPLE

1/4" WRW 10.

3/4" WRW 200.

DIMENSIONS AND WEIGHTS

| Thread Size | Nozzle Type | Dimensions (mm) | | | Weight (g) |
|-------------|-------------|-----------------|------|------|------------|
| | | A | B | C | |
| 1/4 NPT | WRW | 33,3 | 19,1 | 24,6 | 6,5 |
| 3/4 NPT | WRW | 69,1 | 40,0 | 47,2 | 70,0 |

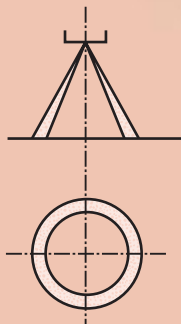


Maximum Recommended Pressure: 7 Bar.G.
Maximum Recommended Temperature: 80°C.

CAPACITY CHART

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | | NPT THREAD SIZE | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | SPRAY ANGLE (°) AT 3 Bar.G. |
|---------------|---------------------------|-------|-----------------|-----|-----------------------------------|------|------|------|------|------|------|-----------------------------|
| | Outlet | Inlet | 1/4 | 3/4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| WRW 2 | 1,6 | 1,6 | | | 0,45 | 0,64 | 0,79 | 0,91 | 1,0 | 1,1 | 1,2 | 115 |
| WRW 4 | 2,5 | 2,1 | | | 0,92 | 1,3 | 1,6 | 1,8 | 2,0 | 2,2 | 2,4 | 115 |
| WRW 5 | 2,5 | 2,6 | | | 1,1 | 1,6 | 2,0 | 2,3 | 2,5 | 2,8 | 3,0 | 110 |
| WRW 6 | 2,5 | 3,1 | | | 1,3 | 1,9 | 2,4 | 2,7 | 3,1 | 3,4 | 3,6 | 110 |
| WRW 10 | 3,5 | 3,5 | | | 2,3 | 3,2 | 3,9 | 4,6 | 5,1 | 5,6 | 6,0 | 110 |
| WRW 15 | 4,0 | 3,9 | | | 3,4 | 4,8 | 5,9 | 6,8 | 7,6 | 8,4 | 9,0 | 110 |
| WRW 20 | 5,6 | 3,9 | | | 4,5 | 6,4 | 7,9 | 9,1 | 10,2 | 11,2 | 12,1 | 110 |
| WRW 20 | 8,3 | 3,8 | | | 4,56 | 6,45 | 7,9 | 9,12 | 10,2 | 11,2 | 12,1 | 140 |
| WRW 30 | 9,3 | 4,9 | | | 6,84 | 9,67 | 11,8 | 13,7 | 15,3 | 16,7 | 18,1 | 140 |
| WRW 40 | 9,3 | 6,2 | | | 9,12 | 12,9 | 15,8 | 18,2 | 20,4 | 22,4 | 24,1 | 140 |
| WRW 60 | 10,3 | 7,9 | | | 13,7 | 19,3 | 23,7 | 27,4 | 30,6 | 33,4 | 36,2 | 140 |
| WRW 80 | 15,9 | 7,1 | | | 18,2 | 25,8 | 31,5 | 36,5 | 40,8 | 44,6 | 48,3 | 140 |
| WRW 100 | 15,9 | 8,2 | | | 22,8 | 32,2 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 140 |
| WRW 120 | 17,4 | 8,6 | | | 27,3 | 38,7 | 47,4 | 54,7 | 61,2 | 67,0 | 72,4 | 140 |
| WRW 160 | 20,6 | 9,6 | | | 36,5 | 51,6 | 63,2 | 73,0 | 81,6 | 89,4 | 96,5 | 140 |
| WRW 200 | 20,6 | 10,7 | | | 45,6 | 64,5 | 79,0 | 91,2 | 102 | 112 | 121 | 140 |
| WRW 240 | 20,6 | 12,1 | | | 54,7 | 77,4 | 94,7 | 109 | 122 | 134 | 145 | 140 |

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Web:www.delavan.co.uk



SPRAY CHARACTERISTICS

- Hollow cone spray producing uniform spray distribution.
- Coarse atomisation with the elimination of finer droplets.
- Nominal spray angle of 120°-140°.

CONSTRUCTION AND MATERIALS

- Right angle configuration.
- Two piece design (body and cap) with no internal vanes.
- Patented dual swirl chamber to produce "RAINDROP" type spray.
- Aerated droplets for the cleaning and purification of water.
- Wide open passages for reduced clogging.
- Available in 1/4" and 3/4" NPT Male thread only.
- Available in Nylon and Stainless Steel only.

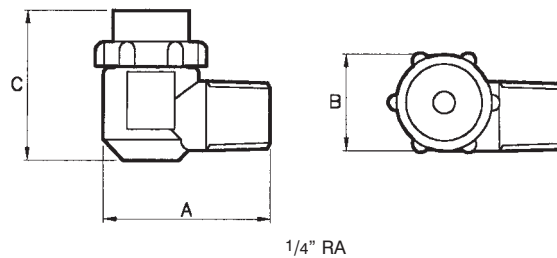
ORDER EXAMPLE

3/4" RA 80 Nylon.



DIMENSIONS AND WEIGHTS - STAINLESS STEEL

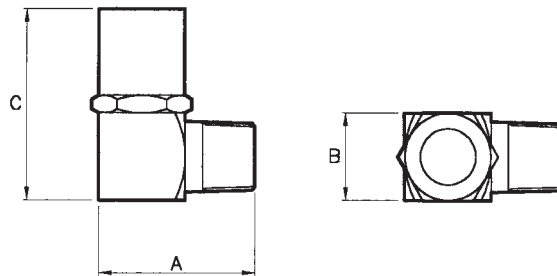
| Thread Size | Nozzle Number | Dimensions (mm) | | | Weight (g) |
|-------------|---------------|-----------------|----|-----|------------|
| | | A | B | C | |
| 1/4 | 2 | 29 | 16 | 21 | 43 |
| 1/4 | 4, 5, 6 | 29 | 16 | 26 | 45 |
| 1/4 | 8, 10 | 29 | 16 | 33 | 45 |
| 3/4 | 20 | 54 | 32 | 63 | 332 |
| 3/4 | 30 | 54 | 32 | 60 | 329 |
| 3/4 | 50 | 54 | 32 | 69 | 335 |
| 3/4 | 80, 100 | 54 | 32 | 85 | 690 |
| 3/4 | 160, 200, 280 | 54 | 35 | 107 | 850 |



1/4" RA

DIMENSIONS AND WEIGHTS - NYLON

| Thread Size | Nozzle Number | Dimensions (mm) | | | Weight (g) |
|-------------|---------------|-----------------|----|----|------------|
| | | A | B | C | |
| 1/4 | 2 | 33 | 19 | 25 | 7 |
| 1/4 | 4, 5, 6 | 33 | 19 | 30 | 7 |
| 1/4 | 8, 10 | 33 | 19 | 38 | 7 |
| 3/4 | 20 | 69 | 42 | 70 | 70 |
| 3/4 | 30 | 69 | 42 | 70 | 70 |
| 3/4 | 50 | 69 | 42 | 70 | 70 |
| 3/4 | 80, 100 | 69 | 42 | 79 | 70 |
| 3/4 | 160, 200, 280 | 69 | 42 | 92 | 70 |



3/4" RA

Maximum Recommended Pressure:
14 Bar.G. (Metal), 7 Bar.G. (Nylon).
Maximum Recommended Temperature: 80°C (Nylon).

CAPACITY CHART

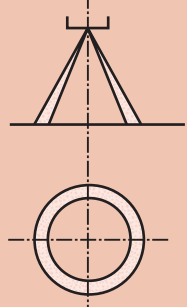
| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | | NPT THREAD SIZE | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | SPRAY ANGLE (°) AT 3 Bar.G. |
|---------------|---------------------------|-------|-----------------|-----|-----------------------------------|------|------|------|------|------|------|-----------------------------|
| | Outlet | Inlet | 1/4 | 3/4 | 1,5 | 2 | 3 | 4 | 5 | 6 | 7 | |
| RA 2 | 1,2 | 2,0 | | | 0,55 | 0,64 | 0,79 | 0,91 | 1,0 | 1,1 | 1,2 | 120 |
| RA 4 | 2,4 | 2,0 | | | 1,1 | 1,3 | 1,6 | 1,8 | 2,0 | 2,2 | 2,4 | 120 |
| RA 5 | 2,4 | 2,8 | | | 1,4 | 1,6 | 2,0 | 2,3 | 2,5 | 2,8 | 3,0 | 120 |
| RA 6 | 2,4 | 3,2 | | | 1,7 | 1,9 | 2,4 | 2,7 | 3,1 | 3,4 | 3,6 | 120 |
| RA 8 | 4,0 | 2,4 | | | 2,3 | 2,6 | 3,2 | 3,6 | 4,1 | 4,5 | 4,8 | 120 |
| RA 10 | 4,0 | 3,2 | | | 2,8 | 3,2 | 3,9 | 4,6 | 5,1 | 5,6 | 6,0 | 120 |
| RA 20 | 6,0 | 5,6 | | | 5,5 | 6,4 | 7,9 | 9,1 | 10,2 | 11,2 | 12,1 | 140 |
| RA 30 | 9,1 | 5,6 | | | 8,3 | 9,7 | 11,8 | 13,7 | 15,3 | 16,8 | 18,1 | 140 |
| RA 50 | 10,3 | 7,1 | | | 13,8 | 16,1 | 19,7 | 22,8 | 25,5 | 27,9 | 30,2 | 140 |
| RA 80 | 15,9 | 7,5 | | | 22,5 | 25,8 | 31,6 | 36,5 | 40,8 | 44,7 | 48,2 | 140 |
| RA 100 | 15,9 | 8,3 | | | 28,0 | 32,2 | 39,5 | 45,6 | 51,0 | 55,8 | 60,3 | 140 |
| RA 160 | 20,7 | 10,3 | | | 44,6 | 51,6 | 63,2 | 72,9 | 81,5 | 89,3 | 96,5 | 140 |
| RA 200 | 20,7 | 11,5 | | | 55,7 | 64,5 | 79,0 | 91,2 | 102 | 112 | 121 | 140 |
| RA 280 | 21,0 | 13,5 | | | 78,2 | 90,3 | 111 | 128 | 143 | 156 | 169 | 140 |

NOTE: There are many other nozzle sizes between the 3/4" RA 20 and the 3/4" RA 280 and information is available from the factory.

HOLLOW CONE SPRAY

TYPE RA

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SPRAY CHARACTERISTICS

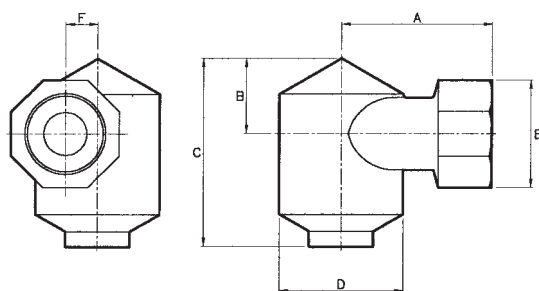
- Uniform distribution of spray droplets in hollow cone pattern.
- Droplet size is smaller than in full cone nozzles of equal capacity.
- Low pressure down to 0,15 Bar applications.

CONSTRUCTION AND MATERIALS

- One piece, cast body.
- No internal vanes or cores.
- One large, single inlet to swirl chamber allows excellent flow characteristics.
- Octagonal body inlet connection for easy installation eliminates distortion of orifice during installation.
- Thread sizes are Female BSPT.
- Cast Iron, Gunmetal and 316 Stainless Steel are standard.
- Other materials available to special order.

ORDER EXAMPLE

2" BE 112 Cast Iron.



DIMENSIONS AND WEIGHTS

| Thread Size | Dimensions (mm) | | | | | | Weight (kg) |
|-------------|-----------------|------|-----|------|-----|------|-------------|
| | A | B | C | D | E | F | |
| 1 1/4-1 1/2 | 88,9 | 44,5 | 111 | 73,0 | 64 | 19,0 | 1,7 |
| 2 | 98,4 | 60,3 | 140 | 88,9 | 76 | 19,0 | 3,4 |
| 3 | 127 | 88,9 | 222 | 146 | 102 | 38,1 | 9,8 |
| 4 | 152 | 121 | 279 | 178 | 133 | 38,1 | 20,0 |

Maximum Recommended
Pressure: 14 Bar.G.

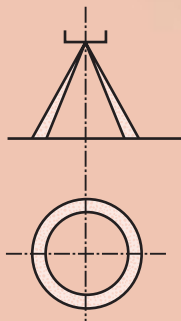
CAPACITY CHART

| NOZZLE NUMBER | APPROX. ORIFICE DIA. (mm) | BSPT THREAD SIZE | | | | | | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | | SPRAY ANGLE (°) AT Bar.G. | | |
|---------------|---------------------------|------------------|-------|---|---|---|------|-----------------------------------|------|------|------|------|------|------|-----|---------------------------|-----|----|
| | | 1 1/4 | 1 1/2 | 2 | 3 | 4 | ,15 | ,3 | ,5 | ,7 | 1 | 1,5 | 2 | 3 | 4 | ,15 | ,7 | 2 |
| | | BE 23 | 16 | | | | | | 33,2 | 45,0 | 56,0 | 64,0 | 77,0 | 92,3 | 107 | 130 | 150 | 55 |
| BE 28 | 19 | | | | | | 37,9 | 52,1 | 65,6 | 75,5 | 91,5 | 109 | 128 | 152 | 175 | 60 | 65 | 70 |
| BE 36 | 22 | | | | | | 50,9 | 66,3 | 84,8 | 98,4 | 118 | 142 | 163 | 198 | 228 | 70 | 70 | 75 |
| BE 43 | 25 | | | | | | 59,2 | 79,5 | 101 | 117 | 140 | 168 | 192 | 237 | 268 | 75 | 78 | 83 |
| BE 49 | 29 | | | | | | 68,7 | 90,0 | 116 | 135 | 160 | 193 | 223 | 272 | 321 | 75 | 80 | 85 |
| BE 54 | 32 | | | | | | 75,8 | 102 | 128 | 149 | 180 | 213 | 254 | 313 | 353 | 75 | 87 | 90 |
| BE 63 | 25 | | | | | | 91,2 | 123 | 159 | 188 | 210 | 249 | 281 | 341 | 402 | 60 | 70 | 70 |
| BE 75 | 29 | | | | | | 104 | 152 | 200 | 226 | 243 | 296 | 339 | 417 | 504 | 75 | 80 | 82 |
| BE 88 | 32 | | | | | | 123 | 180 | 230 | 256 | 283 | 346 | 393 | 492 | 598 | 75 | 80 | 85 |
| BE 100 | 35 | | | | | | 156 | 208 | 262 | 274 | 324 | 393 | 442 | 549 | 661 | 80 | 80 | 85 |
| BE 112 | 38 | | | | | | 180 | 227 | 284 | 306 | 362 | 440 | 473 | 587 | 705 | 80 | 80 | 87 |
| BE 122 | 41 | | | | | | 199 | 246 | 306 | 332 | 402 | 483 | 554 | 682 | 813 | 80 | 80 | 80 |
| BE 144 | 44 | | | | | | 208 | 256 | 317 | 371 | 442 | 568 | 665 | 814 | 938 | 85 | 85 | 90 |
| BE 109 | 38 | | | | | | 161 | 213 | 268 | 302 | 357 | 431 | 513 | - | - | 75 | 80 | 85 |
| BE 140 | 44 | | | | | | 199 | 260 | 334 | 384 | 455 | 554 | 625 | - | - | 80 | 85 | 87 |
| BE 169 | 51 | | | | | | 232 | 308 | 394 | 462 | 558 | 672 | 768 | - | - | 80 | 85 | 90 |
| BE 186 | 56 | | | | | | 256 | 336 | 437 | 512 | 607 | 734 | 848 | - | - | 80 | 90 | 90 |
| BE 228 | 51 | | | | | | 308 | 421 | 547 | 650 | 759 | 900 | 991 | - | - | 65 | 75 | 80 |
| BE 276 | 57 | | | | | | 365 | 502 | 634 | 755 | 875 | 1089 | 1259 | - | - | 70 | 77 | 82 |
| BE 326 | 64 | | | | | | 426 | 582 | 749 | 878 | 1036 | 1288 | 1518 | - | - | 77 | 82 | 85 |
| BE 384 | 70 | | | | | | 483 | 668 | 853 | 1002 | 1205 | 1515 | 1830 | - | - | 75 | 85 | 87 |
| BE 438 | 76 | | | | | | 540 | 758 | 962 | 1144 | 1384 | 1728 | 2098 | - | - | 77 | 85 | 87 |
| BE 493 | 83 | | | | | | 597 | 843 | 1061 | 1281 | 1545 | 1941 | 2366 | - | - | 77 | 87 | 90 |
| BE 540 | 89 | | | | | | 672 | 919 | 1176 | 1423 | 1714 | 2131 | 2545 | - | - | 80 | 90 | 90 |
| BE 613 | 95 | | | | | | 734 | 1027 | 1334 | 1578 | 1920 | 2415 | 2857 | - | - | 83 | 90 | 90 |

TYPE BE

HOLLOW CONE SPRAY

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Web: www.delavan.co.uk



SPRAY CHARACTERISTICS

- Produces a hollow cone spray pattern with uniform distribution and excellent atomisation.
- Will operate at very low differential pressures.
- Spray angles widen as the spray pressure increases.
- Has a narrower droplet spectrum than full cone nozzles of the same capacity.

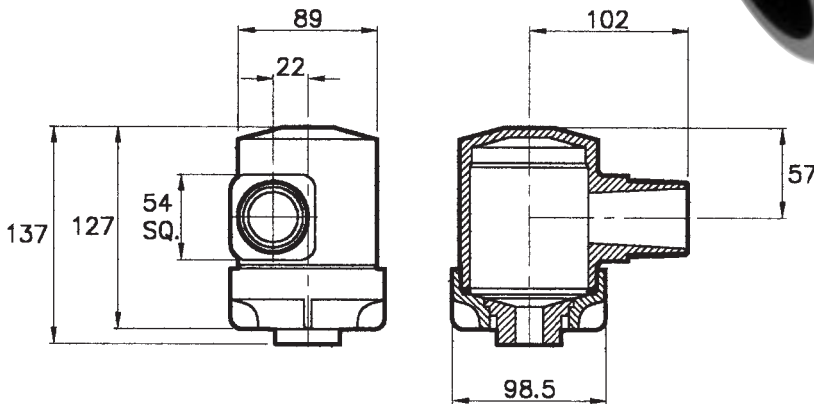
CONSTRUCTION AND MATERIALS

- Moulded in Glass filled Polypropylene.
- Clog resistant design with no internal vanes or cores.
- Incorporates a removable screwed cap, with 'O' ring seal for ease of cleaning of the swirl chamber and orifice assembly.
- 1 1/2" WRA has an adaptor inlet to suit quick couplers.
- 1 1/2" WRS has a 1 1/2" Male BSPT thread inlet.
- Pressed in orifice can be changed to alter the flow capacity.

ORDER EXAMPLE

1 1/2" WRA 49 (Adaptor Inlet).

1 1/2" WRS 88 (Threaded Inlet).



Maximum Recommended
Pressure: 7 Bar.G.

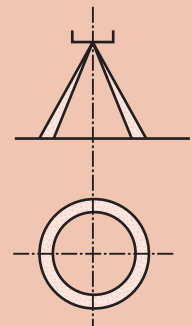
CAPACITY CHART

| NOZZLE NUMBERS | | APPROX OUTLET ORIFICE SIZE (mm) | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | | NOMINAL SPRAY ANGLE (°) AT 0,7 Bar.G. |
|----------------|----------|------------------------------------------|-----------------------------------|-----|-----|-----|-----|-----|-----|------------------------------------------------|
| ADAPTOR | THREADED | | 0,2 | 0,3 | 0,5 | 0,7 | 1,0 | 1,5 | 2,0 | |
| WRA 14 | WRS 14 | 10,0 | 20 | 25 | 32 | 38 | 45 | 55 | 62 | 50 |
| WRA 18 | WRS 18 | 11,9 | 26 | 32 | 41 | 48 | 57 | 69 | 80 | 50 |
| WRA 21 | WRS 21 | 13,1 | 30 | 37 | 47 | 56 | 66 | 80 | 92 | 60 |
| WRA 23 | WRS 23 | 14,3 | 34 | 41 | 53 | 62 | 74 | 90 | 103 | 60 |
| WRA 28 | WRS 28 | 15,9 | 40 | 49 | 63 | 74 | 88 | 107 | 122 | 65 |
| WRA 36 | WRS 36 | 19,0 | 51 | 63 | 81 | 96 | 114 | 139 | 160 | 70 |
| WRA 43 | WRS 43 | 22,2 | 61 | 75 | 96 | 114 | 136 | 166 | 190 | 80 |
| WRA 49 | WRS 49 | 25,4 | 70 | 86 | 111 | 131 | 156 | 191 | 219 | 80 |
| WRA 54 | WRS 54 | 27,0 | 78 | 95 | 122 | 144 | 172 | 210 | 241 | 85 |
| WRA 63 | WRS 63 | 30,2 | 90 | 110 | 142 | 168 | 200 | 244 | 281 | 85 |
| WRA 75 | WRS 75 | 35,0 | 108 | 132 | 170 | 201 | 240 | 293 | 338 | 90 |
| WRA 88 | WRS 88 | 41,3 | 126 | 154 | 198 | 234 | 279 | 340 | 392 | 95 |
| WRA 100 | WRS 100 | 46,0 | 142 | 174 | 225 | 266 | 317 | 388 | 447 | 95 |
| WRA 112 | WRS 112 | 50,8 | 161 | 197 | 253 | 299 | 357 | 437 | 501 | 100 |

HOLLOW CONE SPRAY

TYPE WRA-WRS
WHIRLRAIN

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TYPE WRA-WRS RAINDROP

HOLLOW CONE SPRAY



SPRAY CHARACTERISTICS

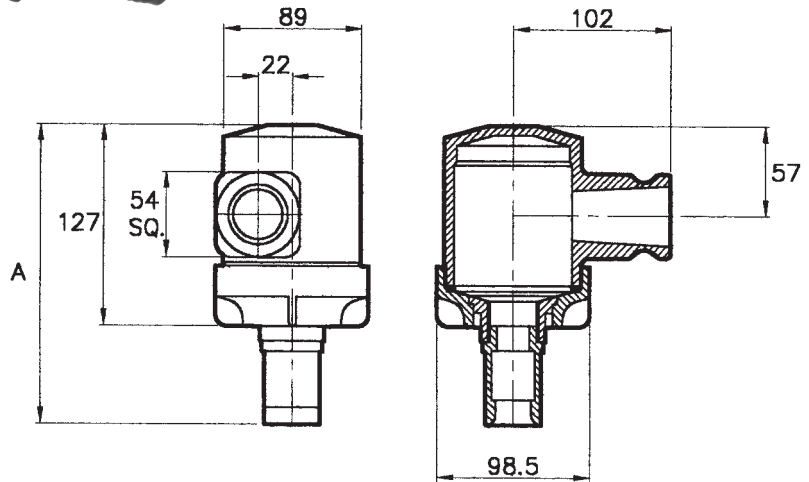
- Produces a wide hollow cone spray pattern with uniform distribution of large aerated droplets.
- The "Raindrop" feature significantly reduces the amount of driftable "fines" (under 100 microns).
- Will operate at low differential pressures.
- Spray angles widen as the spray pressure increases.

CONSTRUCTION AND MATERIALS

- Moulded in Glass filled Polypropylene.
- Clog resistant design with no internal vanes or cores.
- Incorporates a removable screwed cap, with 'O' ring seal for ease of cleaning of the swirl chamber and orifice assembly.
- 1½" WRA has an adaptor inlet to suit quick couplers.
- 1½" WRS has a 1½" Male BSPT thread inlet.
- Pressed in orifice and "Raindrop" cap can be changed to alter the flow capacity.

ORDER EXAMPLE

- 1½" WRS 30-RD (Threaded Inlet).
- 1½" WRD 75-RD (Adaptor Inlet).



Maximum Recommended
Pressure: 7 Bar.G.

CAPACITY CHART

| NOZZLE NUMBERS | | MINIMUM ORIFICE SIZE (mm) | "A" (mm) | FLOW RATE IN LITRES/MIN AT Bar.G. | | | | | | NOMINAL SPRAY ANGLE (°) AT 1,5 Bar.G. | |
|----------------|-----------|---------------------------|----------|-----------------------------------|-----|-----|-----|-----|-----|---------------------------------------|-----|
| ADAPTOR | THREADED | | | 0,5 | 0,7 | 1,0 | 1,5 | 2,0 | 2,5 | | 3,0 |
| WRA 12-RD | WRS 12-RD | 6,4 | 168 | 28 | 33 | 39 | 47 | 53 | 60 | 65 | 120 |
| WRA 14-RD | WRS 14-RD | 9,1 | 168 | 32 | 38 | 45 | 55 | 62 | 71 | 77 | 125 |
| WRA 16-RD | WRS 16-RD | 10,3 | 167 | 36 | 43 | 51 | 63 | 72 | 81 | 88 | 130 |
| WRA 30-RD | WRS 30-RD | 15,9 | 177 | 68 | 81 | 96 | 118 | 136 | 152 | 166 | 130 |
| WRA 32-RD | WRS 32-RD | 19,0 | 177 | 72 | 86 | 102 | 126 | 145 | 162 | 177 | 135 |
| WRA 40-RD | WRS 40-RD | 20,7 | 190 | 91 | 108 | 129 | 158 | 182 | 203 | 222 | 135 |
| WRA 49-RD | WRS 49-RD | 24,0 | 175 | 112 | 132 | 158 | 194 | 224 | 250 | 274 | 110 |
| WRA 63-RD | WRS 63-RD | 26,0 | 175 | 144 | 170 | 203 | 249 | 287 | 321 | 352 | 110 |
| WRA 75-RD | WRS 75-RD | 33,3 | 193 | 169 | 201 | 240 | 293 | 338 | 378 | 414 | 100 |

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