

Spray Nozzles

➤ Global Product Guide version 2

The most frequently specified nozzles for general industrial applications

Welcome to Delavan

meeting the challenges of new industries and new markets

Delavan is proud to be part of the Goodrich Corporation. Since the company was founded in 1935, the Delavan name has always stood for quality, flexibility and reliability. Today Delavan Spray Technologies is a world leader in the design and manufacture of high quality nozzles and fluid handling systems.

Operating from dedicated manufacturing and design facilities in the UK and USA, Delavan supplies more than 30,000 components to thousands of customers in virtually every imaginable manufacturing and processing industry. With distributors in more than 60 countries around the world, Delavan products, expertise and quality are all available globally.

Specialist design teams can also provide bespoke design, manufacture and installation of everything from a single nozzle to a complete fluid handling system. From metal finishing to paper production, from the chemical industry to food processing, from brewing to the mining, steel, automotive, oil heating and water industries...the name on the world's finest nozzles and fluid handling system is Delavan.



Delavan Spray Technologies Widnes, United Kingdom

Whichever nozzle you choose, you can be sure of its quality. Delavan's quality control procedures ensure that both incoming materials and outgoing orders are routinely checked to ensure they meet rigorous quality standards. We can also adapt our manufacturing processes to meet the precise demands of recognised standards in many other industries around the world.

This brochure has been designed as an overview and features the majority of our most commonly used industrial products. Please note that this is not an exhaustive list of our products and further information can be found on our website or by contacting the office.

Delavan now also offer a range of specialist product brochures including Spray Drying, Steel Industry, Variable Coating Nozzle (VCN) and Swirl Air.



Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

INTRODUCTION

This page gives a basic introduction to nozzle technology. To help you make the best use of Delavan products and services we have produced a full 40 page guide to spray nozzle technology. This is available on our web site and is designed to take you through the fundamentals of spray technology step by step.

TYPES OF NOZZLE

In addition there are variations on these sprays for specific applications. Please refer to the Application Guide section on our website.

These are:-

- a) Flat sprays
- b) Hollow cone sprays
- c) Solid cone sprays
- d) Air atomising sprays

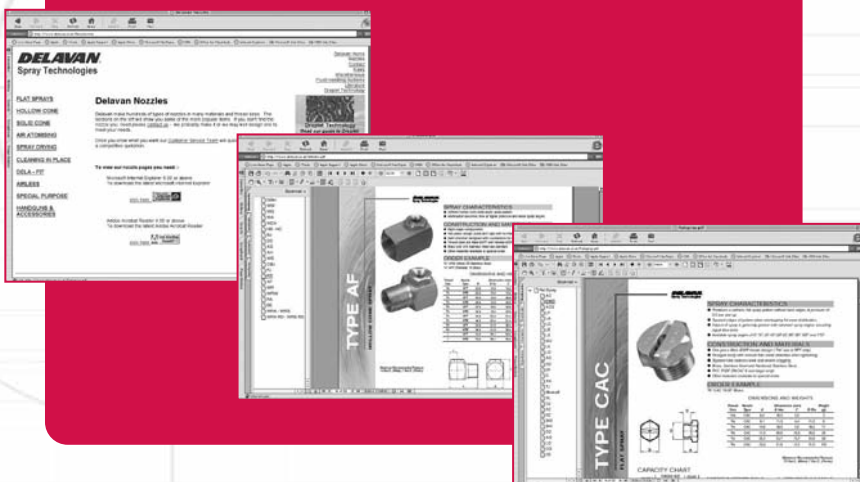
In addition there are variations on these sprays for specific applications. Refer to the Application Guide section.

Delavan produces a vast range of spray nozzles with many variations on each basic type. Your choice of nozzle will depend on several key factors. These are:

1. Flow rate (capacity)
2. Operating pressure
3. Spray pattern
4. Spray angle
5. Liquid to be sprayed
6. Quality of atomisation
7. Material of manufacture

To help you with your choice of spray nozzle, each of the above key factors is discussed in detail on our website.

www.delavan.co.uk



A SELECTION OF TYPICAL SPRAY PATTERNS

FLAT SPRAY

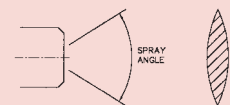
An elliptical orifice formed by the intersection of a 'V' groove with a hemispherical cavity.



Nozzle Diagram

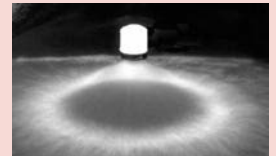


Spray Diagram

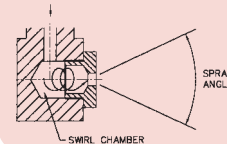


HOLLOW CONE

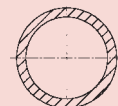
A circular exit orifice which is preceded by a swirl chamber with a tangential inlet.



Nozzle Diagram



Spray Diagram

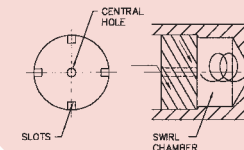


SOLID CONE

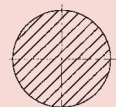
A circular exit orifice which is preceded by a swirl chamber with a multi-slotted in-line distributor and central line.



Nozzle Diagram



Spray Diagram

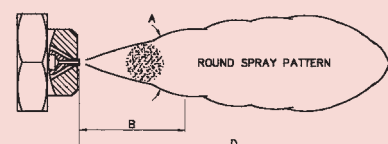


AIR ATOMISING

These are produced by using air as the atomising agent and sprays are generally of the external (siphon or pressure) and internal (pressure) mix design.



Spray Diagram



Nozzle Range & Index

The following two pages give a brief overview of all the Delavan Industrial spray nozzles and accessories. The products highlighted in red are illustrated further in the brochure on the pages indicated.

Information on all our products can be found on our website at www.delavan.co.uk. Don't forget WE ARE HERE TO HELP – If you need more detailed information or advice then Delavan personnel are always available to answer your questions.

FLAT SPRAY NOZZLES

| | Nozzle Type | Spray Angles | Basic Description | |
|-----------------|-------------|--------------|---|---------|
| FLAT SPRAY | AC | 0° – 90° | 1/8"-1" Male BSPT thread, 1/4" and 3/8" Female BSPP thread. | Page 6 |
| | CAC | 0° – 90° | 1/16" NPT, 1/4" to 3/4" BSPP Male thread. More compact than AC type. | Page 6 |
| | LF | 0° – 110° | Flanged tip design for use with standard threaded bodies and caps. | Page 6 |
| | LA | 0° – 90° | Large flanged tip design for use with threaded/welded bodies and cap. | Page 6 |
| | LC | 0° – 110° | Robust flanged tip design for use with standard threaded bodies and caps. | |
| | LD | 0° – 90° | Flanged tip design with dovetail connection. Uses special bodies for positive alignment. | Page 6 |
| | AD | 0° – 90° | Flanged tip design with dovetail connection. Uses special bodies for positive alignment. | Page 6 |
| | ED | 45° – 90° | Flat disc with 5/8" UNF thread for direct fitting into pipe walls. | |
| | EF | 45° – 90° | Flat disc as ED, but for use with standard bodies and caps. | |
| | D | 90° – 140° | Flanged tip design for use with standard threaded bodies and caps. | Page 11 |
| | AN | 90° – 140° | 1/8"-1" Male BSPT thread. | Page 11 |
| SPECIAL PURPOSE | Blow-off | 55° – 100° | Flanged tip design for use with standard threaded bodies and caps. | |
| | SL | 80° – 115° | Flanged tip design for use with standard threaded bodies and caps. | |
| | DJ | 80° – 115° | 1/4"-1/2" Male BSPT thread. | |
| HIGH PRESSURE | AZ | 0° – 50° | 1/8"-1/4" Male BSPT thread. | Page 11 |
| | BZ | 30° | 1/4"-1/2" Male BSPT thread. | |
| | DD | 25° and 32° | 3/4" and 1" Male NPT thread and welding bodies. Dovetail connection for positive alignment of orifice. | |
| | AQ | 25° – 95° | 1/4" Male BSPT thread. Tungsten Carbide orifice insert. | |
| | LQ | 25° – 95° | Flanged tip design with dovetail connection. Uses special bodies for positive alignment.. | |
| | DQ | 25° and 32° | 3/4" and 1" Male NPT thread and welding bodies. Dovetail connection for positive alignment of orifice. Tungsten Carbide orifice insert. | |
| | DE | 25° and 32° | 3/4" and 1" Male NPT thread. Unique connection for positive alignment of orifice. Tungsten Carbide orifice insert. | |

HOLLOW CONE NOZZLES

| | Nozzle Type | Spray Angles | Basic Description | |
|-------------|-------------|-------------------------|---|---------|
| HOLLOW CONE | WM | 80° | 1/4" BSPT Male thread. | Page 15 |
| | WDA | 30°,45°,60°,70°,80°,90° | 9/16" UNEF thread for use with special Male and Female BSP threaded adaptors. | Page 15 |
| | HC | 70° | Flanged tip design for use with standard bodies and caps. | Page 15 |
| | DC | 20° – 110° | Two piece nozzle design for use with standard bodies and caps. | |
| | AG | 65° – 75° | 3/8"-3/4" BSPT Male thread. | |
| | AH | 100° – 115° | 3/8"-3/4" BSPT Male thread. | |
| | WS | 75° | 1/8"-3/4" NPT Male and Female threads | Page 18 |
| | PJ | 90°,120°,150°,180°,210° | 1/4"-3/4" BSPT Male threads. | |
| | AE | 70° – 90° | 1/8"-1" BSPT Male and BSPP Female threads. | Page 18 |
| | AF | 100° – 120° | 1/8"-1" BSPT Male and BSPP Female threads. | Page 18 |
| | WRW | 110° – 140° | 1/4" and 3/4" NPT Male threads. | Page 18 |
| | RA | 120° – 140° | 1/4" and 3/4" NPT Male threads. | Page 18 |
| | BE | 55° – 90° | 1 1/4"-4" BSPT Female threads. | Page 22 |

Contact our Helpline or your local distributor for further information
 Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
 E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

SOLID CONE NOZZLES

| Nozzle Type | Spray Angles | Basic Description | |
|-------------|-------------------------|---|---------|
| | | | |
| WDB | 30°,45°,60°,70°,80°,90° | 9/16" UNEF thread for use with special Male and Female BSP threaded adaptors. | Page 23 |
| BL | 45°,60°,90° | 1/8" BSPT Male thread. | Page 23 |
| BF | 60°,90°,120° | Flanged tip design for use with standard bodies and caps. | Page 23 |
| BI | 35° – 100° | 1/8"-1" BSPT Male and BSPP Female threads. | Page 26 |
| BN | 85° – 130° | 1/8"-1" BSPT Male and BSPP Female threads. | Page 26 |
| CJM | 30° | 1/8"-2" BSPT Male threads. | |
| CJF | 30° | 1/8"-1" BSPP Female and 1 1/4"-4" BSPT Female threads. | |
| CM | 45° – 110° | 1 1/4"-8" BSPT Female threads. | Page 30 |
| BY | 70° – 130° | 1 1/4"-3" BSPT Female threads. | Page 30 |
| CA | 45° – 98° | 1"-4" BSPT Female threads. | |
| BC | 50°,65°,80°,90°,120° | 3/8" BSPP Female thread. | |
| BX | 50°,65°,80°,90°,120° | 3/8" BSPP Female thread. | |
| BQ | 35° – 100° | 1/8"-1" BSPT Male and BSPP Female threads. | Page 26 |
| BT | 85° – 130° | 1/8"-1" BSPT Male and BSPP Female threads. | Page 26 |
| CBI | 35° – 100° | 1/8"-1" BSPP Male threads. More compact than BI type. | |
| CBN | 85° – 130° | 1/8"-1" BSPP Male threads. More compact than BN type. | |
| CBQ | 35° – 100° | 1/8"-1" BSPP Male threads. More compact than BQ type. | |
| CBT | 85° – 130° | 1/8"-1" BSPP Male threads. More compact than BT type. | |
| RBI | 35° – 100° | 1/8"-1" BSPT Male and BSPP Female threads. Right angle design. | |
| RBN | 85° – 130° | 1/8"-1" BSPT Male and BSPP Female threads. Right angle design. | |
| NBI | 41° – 100° | 1/8"-1" BSPT Male and BSPP Female threads. Right angle design. | |
| NBN | 110° – 128° | 1/8"-1" BSPT Male and BSPP Female threads. Right angle design. | |
| MCN | 60 – 120° | 1/8"-1" BSPT / NPT Male threads | |

ACCESSORIES

| Item Type | Basic Description | |
|--|---|--|
| NOZZLE BODIES | 1/8"-3/8" BSPT Male and BSPP Female threads for use with flanged and dovetail type nozzles. | |
| NOZZLE CAPS | 3/8" BSPP and 1 1/16"-16 UN threaded for use with the above bodies. | |
| HNS - HEADER NOZZLE SOCKETS | 1/8"-1" BSPP Female threaded sockets for use with threaded nozzles. | |
| EYELET BODIES | 1/2"-1 1/2" N.B. Eyelets with various outlet connections for nozzles. | |
| ADJUSTABLE JOINTS | 1/8"-1" Male/Female adjustable joint with various angles of inclination. | |
| TIP FILTERS | Flanged filters with various mesh sizes for use with the above. | |
| PIPE SUPPORT CLIPS & CLAMPS | Clips 1 1/4" and 1 1/2". Clamps 1/2" - 1 1/2" | |
| ADAPTORS | 1/8"-1" BSPT Male and BSPP Female x 90° adaptor for use with threaded nozzles.. | |

SPECIAL PURPOSE

| Nozzle Type | Spray Angles | Basic Description |
|--------------|--------------|-----------------------------|
| AJ150 | 0° | 1/4" BSPT thread |
| BB | 0° | 3/8"-3/4" BSPT Male thread. |

All nozzles depicted in this brochure are subject to a manufacturing tolerance of +/- 5% of rated capacity and within +/- 5° of rated spray angle when tested with water.

When ordering remember to to specify the following:- Nozzle number from chart, Thread size and type (if applicable), Nozzle number, Spray angle (if applicable), and Material

Order example:- **1/2 BSPT** **AC** **15** **50** **BRASS**
 Thread size and type Nozzle name Nozzle size Spray angle Material

Contact our Helpline or your local distributor for further information
 Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
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Flat Spray Nozzles

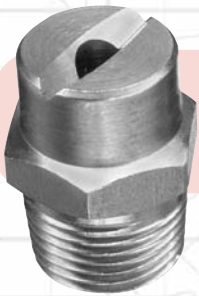
Producing a uniform flat fan shaped pattern with tapering edges

TYPE AC SPRAY PATTERN



TYPICAL APPLICATIONS

Asphalt or tar laying, bottle washing, coal and gravel washing, degreasing, dishwashing, foam control, industrial washers, metal cleaning-rinsing and washing, spray coating, vehicle washing, water misting and water fountains.

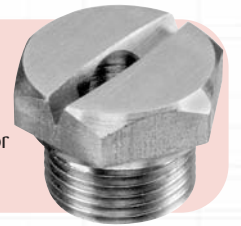


AC Type Nozzle

One-piece male pipe thread design available in flow sizes from 2 – 600 with spray angles of 0, 25, 40, 50, 65, 80, 90°. Available in BSPT and NPT threads.

CAC Type Nozzle

Compact, one-piece male pipe thread design available in flow sizes from 2 – 300 with spray angles of 0, 25, 40, 50, 65, 80, 90°. See chart for thread sizes (1/16" size is NPT only).



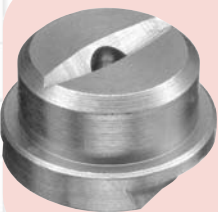
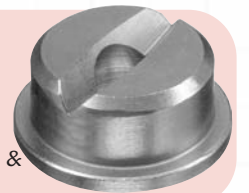
LF Type Nozzle

Flanged tip design for use with standard threaded bodies and caps, available in flow sizes from 2 – 50 with spray angles of 0, 25, 40, 50, 65, 80, 90, 100 and 110°.

Body thread sizes 1/8", 1/4" & 3/8". See Accessories section.

LA Type

Large flanged tip design for use with threaded/welded bodies and caps, available in flow sizes from 10 – 200 with spray angles of 0, 25, 40, 50, 65, 80, 90°. Body thread sizes 1/2" & 3/4". See Accessories section.



AD Type Nozzle

Large dovetailed tip design for use with special threaded/welded bodies and caps, providing positive alignment. Available in flow sizes from 10 – 200 with spray angles of 0, 25, 40, 50, 65, 80, 90°. Orifice is offset 15° to axis of dovetail plus welded body in Stainless Steel. See Accessories section.

LD Type

Dovetailed tip design for use with special threaded/welded bodies and caps, providing positive alignment. Available in flow sizes from 2 – 50 with spray angles of 0, 25, 40, 50, 65, 80, 90°. Orifice is offset 5° to axis of dovetail plus welded body in Stainless Steel. See Accessories section.



Unless otherwise stated, all nozzles and tips are available in Brass and Stainless Steel as standard.

Contact our Helpline or your local distributor for further information
 Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
 E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Type AC

| Nozzle number | Thread Sizes - Male Only | | | | | | Available Spray Angles | | | | | |
|---------------|--------------------------|-------|-------|-------|-------|----|------------------------|-----|-----|-----|-----|-----|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M 3/4 | M1 | 0° | 25° | 50° | 65° | 80° | 90° |
| 2 | x | x | | | | | x | x | x | x | x | x |
| 3 | x | x | | | | | x | x | x | x | x | x |
| 4 | x | x | | | | | x | x | x | x | x | x |
| 5 | x | x | | | | | x | x | x | x | x | x |
| 6 | x | x | | | | | x | x | x | x | x | x |
| 7 | x | x | | | | | x | x | x | x | x | x |
| 8 | x | x | | | | | x | x | x | x | x | x |
| 10 | x | x | | | | | x | x | x | x | x | x |
| 15 | x | x | | | | | x | x | x | x | x | x |
| 20 | x | x | | | | | x | x | x | x | x | x |
| 25 | | x | | | | | x | x | x | x | x | x |
| 30 | | x | | | | | x | x | x | x | x | x |
| 40 | | x | | | | | x | x | x | x | x | x |
| 50 | | x | x | | | | x | x | x | x | x | x |
| 60 | | x | x | | | | x | x | x | x | x | x |
| 70 | | x | x | | | | x | x | x | x | x | x |
| 80 | | | x | x | | | x | x | x | x | x | x |
| 100 | | | x | x | | | x | x | x | x | x | x |
| 125 | | | x | x | x | | x | x | x | x | x | x |
| 150 | | | | x | x | | x | x | x | x | x | x |
| 200 | | | | | x | | x | x | x | x | x | x |
| 250 | | | | | | x | x | x | x | x | x | x |
| 300 | | | | | | x | x | x | x | x | x | x |
| 400 | | | | | | | x | x | x | x | x | x |
| 500 | | | | | | | x | x | x | x | x | x |
| 600 | | | | | | | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | 1 | 2 | 3 | 4 | 5 | 7 | 10 | 15 | 30 | 40 | 60 | 80 | 100 | 145 |
| 2 | 0.46 | 0.65 | 0.80 | 0.89 | 0.99 | 1.24 | 1.43 | 0.12 | 0.17 | 0.20 | 0.24 | 0.26 | 0.33 | 0.40 |
| 3 | 0.68 | 0.97 | 1.18 | 1.36 | 1.53 | 1.81 | 2.23 | 0.18 | 0.26 | 0.30 | 0.36 | 0.40 | 0.48 | 0.58 |
| 4 | 0.90 | 1.27 | 1.56 | 1.83 | 2.03 | 2.36 | 2.86 | 0.24 | 0.34 | 0.40 | 0.48 | 0.54 | 0.63 | 0.76 |
| 5 | 1.15 | 1.62 | 1.99 | 2.28 | 2.55 | 3.02 | 3.62 | 0.30 | 0.43 | 0.50 | 0.60 | 0.67 | 0.80 | 0.96 |
| 6 | 1.37 | 1.94 | 2.37 | 2.72 | 3.07 | 3.61 | 4.46 | 0.36 | 0.51 | 0.60 | 0.72 | 0.81 | 0.95 | 1.14 |
| 7 | 1.59 | 2.25 | 2.75 | 3.21 | 3.54 | 4.21 | 5.36 | 0.42 | 0.59 | 0.70 | 0.85 | 0.94 | 1.11 | 1.34 |
| 8 | 1.83 | 2.59 | 3.17 | 3.66 | 3.98 | 5.03 | 5.80 | 0.48 | 0.68 | 0.80 | 0.97 | 1.05 | 1.33 | 1.60 |
| 10 | 2.27 | 3.21 | 3.93 | 4.46 | 5.19 | 5.95 | 7.14 | 0.60 | 0.85 | 1.00 | 1.18 | 1.37 | 1.57 | 1.89 |
| 15 | 3.44 | 4.21 | 6.16 | 6.70 | 7.78 | 9.15 | 10.71 | 0.91 | 1.11 | 1.50 | 1.77 | 2.06 | 2.42 | 2.92 |
| 20 | 4.46 | 6.25 | 8.05 | 9.37 | 9.94 | 12.35 | 14.73 | 1.18 | 1.65 | 2.00 | 2.48 | 2.63 | 3.26 | 3.93 |
| 25 | 5.80 | 8.03 | 9.94 | 11.38 | 12.75 | 15.09 | 18.08 | 1.53 | 2.12 | 2.50 | 3.01 | 3.37 | 3.99 | 4.81 |
| 30 | 6.70 | 9.82 | 11.84 | 13.84 | 15.13 | 17.84 | 21.43 | 1.77 | 2.59 | 3.00 | 3.66 | 4.00 | 4.71 | 5.67 |
| 40 | 9.37 | 12.05 | 15.62 | 18.30 | 20.57 | 24.25 | 28.57 | 2.48 | 3.18 | 4.00 | 4.83 | 5.43 | 6.41 | 7.72 |
| 50 | 11.61 | 16.07 | 19.89 | 22.77 | 25.50 | 30.19 | 36.16 | 3.07 | 4.25 | 5.00 | 6.02 | 6.74 | 7.98 | 9.61 |
| 60 | 13.84 | 19.20 | 23.67 | 27.23 | 30.69 | 36.14 | 43.30 | 3.66 | 5.07 | 6.00 | 7.19 | 8.11 | 9.55 | 11.51 |
| 70 | 16.07 | 22.77 | 27.46 | 32.14 | 35.88 | 42.54 | 50.45 | 4.25 | 6.02 | 7.00 | 8.49 | 9.48 | 11.24 | 13.54 |
| 80 | 18.75 | 25.45 | 31.72 | 36.61 | 41.06 | 48.03 | 57.14 | 4.95 | 6.72 | 8.00 | 9.67 | 10.85 | 12.69 | 15.29 |
| 100 | 22.77 | 31.70 | 39.30 | 45.53 | 51.00 | 60.38 | 72.32 | 6.02 | 8.37 | 10.00 | 12.03 | 13.47 | 15.95 | 19.22 |
| 125 | 28.46 | 39.62 | 49.12 | 56.91 | 63.75 | 75.48 | 90.40 | 7.52 | 7.83 | 12.50 | 15.03 | 16.84 | 19.94 | 24.02 |
| 150 | 34.37 | 48.21 | 59.19 | 68.31 | 76.50 | 90.10 | 108.00 | 9.08 | 12.74 | 15.00 | 18.04 | 20.21 | 23.81 | 28.69 |
| 200 | 45.53 | 64.28 | 79.07 | 91.10 | 102.00 | 120.30 | 143.80 | 12.03 | 16.98 | 20.00 | 24.06 | 26.95 | 31.78 | 38.29 |
| 250 | 58.84 | 80.36 | 98.50 | 113.40 | 127.50 | 150.00 | 179.90 | 15.54 | 21.23 | 25.00 | 29.96 | 33.68 | 39.63 | 47.75 |
| 300 | 68.30 | 96.87 | 118.40 | 136.60 | 152.60 | 180.70 | 215.60 | 18.04 | 25.59 | 30.00 | 36.09 | 40.31 | 47.74 | 57.52 |
| 400 | 90.60 | 128.60 | 157.70 | 182.10 | 204.00 | 241.10 | 287.90 | 23.94 | 33.97 | 40.00 | 48.12 | 53.89 | 63.69 | 76.73 |
| 500 | 114.00 | 161.30 | 197.50 | 228.00 | 254.90 | 301.60 | 360.50 | 30.12 | 42.61 | 50.00 | 60.23 | 67.34 | 79.68 | 96.00 |
| 600 | 136.80 | 193.50 | 237.00 | 273.70 | 306.00 | 362.10 | 432.80 | 36.14 | 51.12 | 60.00 | 72.31 | 80.84 | 95.66 | 115.25 |

Spray Nozzles

Flat Spray Nozzles

Type LF



| Nozzle number | Thread Sizes | | |
|---------------|--------------|-------|-------|
| | M 1/8 | M 1/4 | M 3/8 |
| 2 | x | x | x |
| 3 | x | x | x |
| 4 | x | x | x |
| 5 | x | x | x |
| 6 | x | x | x |
| 8 | x | x | x |
| 10 | x | x | x |
| 15 | x | x | x |
| 20 | x | x | x |
| 25 | x | x | x |
| 30 | x | x | x |
| 40 | x | x | x |
| 50 | x | x | x |

| Nozzle number | Available Spray Angles | | | | | |
|---------------|------------------------|-----|-----|-----|-----|-----|
| | 0° | 25° | 50° | 65° | 80° | 90° |
| 2 | x | x | x | x | x | x |
| 3 | x | x | x | x | x | x |
| 4 | x | x | x | x | x | x |
| 5 | x | x | x | x | x | x |
| 6 | x | x | x | x | x | x |
| 8 | x | x | x | x | x | x |
| 10 | x | x | x | x | x | x |
| 15 | x | x | x | x | x | x |
| 20 | x | x | x | x | x | x |
| 25 | x | x | x | x | x | x |
| 30 | x | x | x | x | x | x |
| 40 | x | x | x | x | x | x |
| 50 | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 7 | 10 |
| 2 | 0.46 | 0.65 | 0.80 | 0.89 | 0.99 | 1.24 | 1.43 |
| 3 | 0.68 | 0.97 | 1.18 | 1.36 | 1.53 | 1.81 | 2.23 |
| 4 | 0.90 | 1.27 | 1.56 | 1.83 | 2.03 | 2.36 | 2.86 |
| 5 | 1.15 | 1.62 | 1.99 | 2.28 | 2.55 | 3.02 | 3.62 |
| 6 | 1.37 | 1.94 | 2.37 | 2.72 | 3.07 | 3.61 | 4.46 |
| 7 | 1.59 | 2.25 | 2.75 | 3.21 | 3.54 | 4.21 | 5.36 |
| 8 | 1.83 | 2.59 | 3.17 | 3.66 | 3.98 | 5.03 | 5.80 |
| 10 | 2.27 | 3.21 | 3.93 | 4.46 | 5.19 | 5.95 | 7.14 |
| 15 | 3.44 | 4.21 | 6.16 | 6.70 | 7.78 | 9.15 | 10.71 |
| 20 | 4.46 | 6.25 | 8.05 | 9.37 | 9.94 | 12.35 | 14.73 |
| 25 | 5.80 | 8.03 | 9.94 | 11.38 | 12.75 | 15.09 | 18.08 |
| 30 | 6.70 | 9.82 | 11.84 | 13.84 | 15.13 | 17.84 | 21.43 |
| 40 | 9.37 | 12.05 | 15.62 | 18.30 | 20.57 | 24.25 | 28.57 |
| 50 | 11.61 | 16.07 | 19.89 | 22.77 | 25.50 | 30.19 | 36.16 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|--------------------------------|------|------|------|------|------|------|
| | 15 | 30 | 40 | 60 | 80 | 100 | 145 |
| 2 | 0.12 | 0.17 | 0.20 | 0.24 | 0.26 | 0.33 | 0.40 |
| 3 | 0.18 | 0.26 | 0.30 | 0.36 | 0.40 | 0.48 | 0.58 |
| 4 | 0.24 | 0.34 | 0.40 | 0.48 | 0.54 | 0.63 | 0.76 |
| 5 | 0.30 | 0.43 | 0.50 | 0.60 | 0.67 | 0.80 | 0.96 |
| 6 | 0.36 | 0.51 | 0.60 | 0.72 | 0.81 | 0.95 | 1.14 |
| 7 | 0.42 | 0.59 | 0.70 | 0.85 | 0.94 | 1.11 | 1.34 |
| 8 | 0.48 | 0.68 | 0.80 | 0.97 | 1.05 | 1.33 | 1.60 |
| 10 | 0.60 | 0.85 | 1.00 | 1.18 | 1.37 | 1.57 | 1.89 |
| 15 | 0.91 | 1.11 | 1.50 | 1.77 | 2.06 | 2.42 | 2.92 |
| 20 | 1.18 | 1.65 | 2.00 | 2.48 | 2.63 | 3.26 | 3.93 |
| 25 | 1.53 | 2.12 | 2.50 | 3.01 | 3.37 | 3.99 | 4.81 |
| 30 | 1.77 | 2.59 | 3.00 | 3.66 | 4.00 | 4.71 | 5.67 |
| 40 | 2.48 | 3.18 | 4.00 | 4.83 | 5.43 | 6.41 | 7.72 |
| 50 | 3.07 | 4.25 | 5.00 | 6.02 | 6.74 | 7.98 | 9.61 |

Type AD



| Nozzle number | Thread Sizes | |
|---------------|--------------|-------|
| | M 1/2 | M 3/4 |
| 10 | x | x |
| 15 | x | x |
| 20 | x | x |
| 25 | x | x |
| 30 | x | x |
| 40 | x | x |
| 50 | x | x |
| 60 | x | x |
| 70 | x | x |
| 80 | x | x |
| 100 | x | x |
| 120 | x | x |
| 150 | x | x |
| 200 | x | x |

| Nozzle number | Available Spray Angles | | | | | |
|---------------|------------------------|-----|-----|-----|-----|-----|
| | 0° | 25° | 50° | 65° | 80° | 90° |
| 10 | x | x | x | x | x | x |
| 15 | x | x | x | x | x | x |
| 20 | x | x | x | x | x | x |
| 25 | x | x | x | x | x | x |
| 30 | x | x | x | x | x | x |
| 40 | x | x | x | x | x | x |
| 50 | x | x | x | x | x | x |
| 60 | x | x | x | x | x | x |
| 70 | x | x | x | x | x | x |
| 80 | x | x | x | x | x | x |
| 100 | x | x | x | x | x | x |
| 120 | x | x | x | x | x | x |
| 150 | x | x | x | x | x | x |
| 200 | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | |
|---------------|------------------------------------|-------|-------|-------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 7 | 10 |
| 10 | 2.27 | 3.21 | 3.93 | 4.46 | 5.19 | 5.95 | 7.14 |
| 15 | 3.44 | 4.21 | 6.16 | 6.70 | 7.78 | 9.15 | 10.71 |
| 20 | 4.46 | 6.25 | 8.05 | 9.37 | 9.94 | 12.35 | 14.73 |
| 25 | 5.80 | 8.03 | 9.94 | 11.38 | 12.75 | 15.09 | 18.08 |
| 30 | 6.70 | 9.82 | 11.84 | 13.84 | 15.13 | 17.84 | 21.43 |
| 40 | 9.37 | 12.05 | 15.62 | 18.30 | 20.57 | 24.25 | 28.57 |
| 50 | 11.61 | 16.07 | 19.89 | 22.77 | 25.50 | 30.19 | 36.16 |
| 60 | 13.84 | 19.20 | 23.67 | 27.23 | 30.69 | 36.14 | 43.30 |
| 70 | 16.07 | 22.77 | 27.46 | 32.14 | 35.88 | 42.54 | 50.45 |
| 80 | 18.75 | 25.45 | 31.72 | 36.61 | 41.06 | 48.03 | 57.14 |
| 100 | 22.77 | 31.70 | 39.30 | 45.53 | 51.00 | 60.38 | 72.32 |
| 120 | 27.30 | 38.90 | 47.40 | 54.73 | 61.10 | 72.40 | 86.30 |
| 150 | 34.37 | 48.21 | 59.19 | 68.31 | 76.50 | 90.10 | 108.00 |
| 200 | 45.53 | 64.28 | 79.07 | 91.10 | 102.00 | 120.30 | 143.80 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 15 | 30 | 40 | 60 | 80 | 100 | 145 |
| 10 | 0.60 | 0.85 | 1.00 | 1.18 | 1.37 | 1.57 | 1.89 |
| 15 | 0.91 | 1.11 | 1.50 | 1.77 | 2.06 | 2.42 | 2.92 |
| 20 | 1.18 | 1.65 | 2.00 | 2.48 | 2.63 | 3.26 | 3.93 |
| 25 | 1.53 | 2.12 | 2.50 | 3.01 | 3.37 | 3.99 | 4.81 |
| 30 | 1.77 | 2.59 | 3.00 | 3.66 | 4.00 | 4.71 | 5.67 |
| 40 | 2.48 | 3.18 | 4.00 | 4.83 | 5.43 | 6.41 | 7.72 |
| 50 | 3.07 | 4.25 | 5.00 | 6.02 | 6.74 | 7.98 | 9.61 |
| 60 | 3.66 | 5.07 | 6.00 | 7.19 | 8.11 | 9.55 | 11.51 |
| 70 | 4.25 | 6.02 | 7.00 | 8.49 | 9.48 | 11.24 | 13.54 |
| 80 | 4.95 | 6.72 | 8.00 | 9.67 | 10.85 | 12.69 | 15.29 |
| 100 | 6.02 | 8.37 | 10.00 | 12.03 | 13.47 | 15.95 | 19.22 |
| 120 | 7.35 | 10.39 | 12.00 | 14.70 | 17.00 | 19.00 | 22.88 |
| 150 | 9.08 | 12.74 | 15.00 | 18.04 | 20.21 | 23.81 | 28.69 |
| 200 | 12.03 | 16.98 | 20.00 | 24.06 | 26.95 | 31.78 | 38.29 |



Type CAC

| Nozzle number | 1/16" NPT | 1/8" BSPP | Thread Sizes - Male Only | | | | Available Spray Angles | | | | | |
|---------------|-----------|-----------|--------------------------|-------|-------|-------|------------------------|-----|-----|-----|-----|-----|
| | | | M 1/4 | M 3/8 | M 1/2 | M 3/4 | 0° | 25° | 50° | 65° | 80° | 90° |
| 2 | x | x | x | | | | x | x | x | x | x | x |
| 3 | x | x | x | | | | x | x | x | x | x | x |
| 4 | x | x | x | | | | x | x | x | x | x | x |
| 5 | x | x | x | | | | x | x | x | x | x | x |
| 6 | x | x | x | | | | x | x | x | x | x | x |
| 7 | x | x | x | | | | x | x | x | x | x | x |
| 8 | x | x | x | | | | x | x | x | x | x | x |
| 10 | x | x | x | | | | x | x | x | x | x | x |
| 15 | x | x | x | | | | x | x | x | x | x | x |
| 20 | x | x | x | | | | x | x | x | x | x | x |
| 25 | | | | x | | | x | x | x | x | x | x |
| 30 | | | | x | | | x | x | x | x | x | x |
| 40 | | | | x | | | x | x | x | x | x | x |
| 50 | | | | x | | | x | x | x | x | x | x |
| 60 | | | | x | | | x | x | x | x | x | x |
| 70 | | | | x | | | x | x | x | x | x | x |
| 80 | | | | | x | x | x | x | x | x | x | x |
| 100 | | | | | x | x | x | x | x | x | x | x |
| 125 | | | | | x | x | x | x | x | x | x | x |
| 150 | | | | | | x | x | x | x | x | x | x |
| 200 | | | | | | x | x | x | x | x | x | x |
| 250 | | | | | | | x | x | x | x | x | x |
| 300 | | | | | | | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|--------|--------|--------|--------|--------|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 7 | 10 | | 15 | 30 | 40 | 60 | 80 | 100 | 145 |
| 2 | 0.46 | 0.65 | 0.80 | 0.89 | 0.99 | 1.24 | 1.43 | 2 | 0.12 | 0.17 | 0.20 | 0.24 | 0.26 | 0.33 | 0.40 |
| 3 | 0.68 | 0.97 | 1.18 | 1.36 | 1.53 | 1.81 | 2.23 | 3 | 0.18 | 0.26 | 0.30 | 0.36 | 0.40 | 0.48 | 0.58 |
| 4 | 0.90 | 1.27 | 1.56 | 1.83 | 2.03 | 2.36 | 2.86 | 4 | 0.24 | 0.34 | 0.40 | 0.48 | 0.54 | 0.63 | 0.76 |
| 5 | 1.15 | 1.62 | 1.99 | 2.28 | 2.55 | 3.02 | 3.62 | 5 | 0.30 | 0.43 | 0.50 | 0.60 | 0.67 | 0.80 | 0.96 |
| 6 | 1.37 | 1.94 | 2.37 | 2.72 | 3.07 | 3.61 | 4.46 | 6 | 0.36 | 0.51 | 0.60 | 0.72 | 0.81 | 0.95 | 1.14 |
| 7 | 1.59 | 2.25 | 2.75 | 3.21 | 3.54 | 4.21 | 5.36 | 7 | 0.42 | 0.59 | 0.70 | 0.85 | 0.94 | 1.11 | 1.34 |
| 8 | 1.83 | 2.59 | 3.17 | 3.66 | 3.98 | 5.03 | 5.80 | 8 | 0.48 | 0.68 | 0.80 | 0.97 | 1.05 | 1.33 | 1.60 |
| 10 | 2.27 | 3.21 | 3.93 | 4.46 | 5.19 | 5.95 | 7.14 | 10 | 0.60 | 0.85 | 1.00 | 1.18 | 1.37 | 1.57 | 1.89 |
| 15 | 3.44 | 4.21 | 6.16 | 6.70 | 7.78 | 9.15 | 10.71 | 15 | 0.91 | 1.11 | 1.50 | 1.77 | 2.06 | 2.42 | 2.92 |
| 20 | 4.46 | 6.25 | 8.05 | 9.37 | 9.94 | 12.35 | 14.73 | 20 | 1.18 | 1.65 | 2.00 | 2.48 | 2.63 | 3.26 | 3.93 |
| 25 | 5.80 | 8.03 | 9.94 | 11.38 | 12.75 | 15.09 | 18.08 | 25 | 1.53 | 2.12 | 2.50 | 3.01 | 3.37 | 3.99 | 4.81 |
| 30 | 6.70 | 9.82 | 11.84 | 13.84 | 15.13 | 17.84 | 21.43 | 30 | 1.77 | 2.59 | 3.00 | 3.66 | 4.00 | 4.71 | 5.67 |
| 40 | 9.37 | 12.05 | 15.62 | 18.30 | 20.57 | 24.25 | 28.57 | 40 | 2.48 | 3.18 | 4.00 | 4.83 | 5.43 | 6.41 | 7.72 |
| 50 | 11.61 | 16.07 | 19.89 | 22.77 | 25.50 | 30.19 | 36.16 | 50 | 3.07 | 4.25 | 5.00 | 6.02 | 6.74 | 7.98 | 9.61 |
| 60 | 13.84 | 19.20 | 23.67 | 27.23 | 30.69 | 36.14 | 43.30 | 60 | 3.66 | 5.07 | 6.00 | 7.19 | 8.11 | 9.55 | 11.51 |
| 70 | 16.07 | 22.77 | 27.46 | 32.14 | 35.88 | 42.54 | 50.45 | 70 | 4.25 | 6.02 | 7.00 | 8.49 | 9.48 | 11.24 | 13.54 |
| 80 | 18.75 | 25.45 | 31.72 | 36.61 | 41.06 | 48.03 | 57.14 | 80 | 4.95 | 6.72 | 8.00 | 9.67 | 10.85 | 12.69 | 15.29 |
| 100 | 22.77 | 31.70 | 39.30 | 45.53 | 51.00 | 60.38 | 72.32 | 100 | 6.02 | 8.37 | 10.00 | 12.03 | 13.47 | 15.95 | 19.22 |
| 125 | 28.46 | 39.62 | 49.12 | 56.91 | 63.75 | 75.48 | 90.40 | 125 | 7.52 | 7.83 | 12.50 | 15.03 | 16.84 | 19.94 | 24.02 |
| 150 | 34.37 | 48.21 | 59.19 | 68.31 | 76.50 | 90.10 | 108.00 | 150 | 9.08 | 12.74 | 15.00 | 18.04 | 20.21 | 23.81 | 28.69 |
| 200 | 45.53 | 64.28 | 79.07 | 91.10 | 102.00 | 120.30 | 143.80 | 200 | 12.03 | 16.98 | 20.00 | 24.06 | 26.95 | 31.78 | 38.29 |
| 250 | 58.84 | 80.36 | 98.50 | 113.40 | 127.50 | 150.00 | 179.90 | 250 | 15.54 | 21.23 | 25.00 | 29.96 | 33.68 | 39.63 | 47.75 |
| 300 | 68.30 | 96.87 | 118.40 | 136.60 | 152.60 | 180.70 | 215.60 | 300 | 18.04 | 25.59 | 30.00 | 36.09 | 40.31 | 47.74 | 57.52 |

Spray Nozzles

Flat Spray Nozzles

Type LA



| Nozzle number | Thread Sizes | | Available Spray Angles | | | | | |
|---------------|--------------|-------|------------------------|-----|-----|-----|-----|-----|
| | M 1/2 | M 3/4 | 0° | 25° | 50° | 65° | 80° | 90° |
| 20 | x | x | x | x | x | x | x | x |
| 30 | x | x | x | x | x | x | x | x |
| 40 | x | x | x | x | x | x | x | x |
| 60 | x | x | x | x | x | x | x | x |
| 80 | x | x | x | x | x | x | x | x |
| 100 | x | x | x | x | x | x | x | x |
| 150 | x | x | x | x | x | x | x | x |
| 200 | x | x | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|-------|-------|--------|--------|--------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 7 | 10 | 15 | 30 | 40 | 60 | 80 | 100 | 145 |
| 10 | 2.27 | 3.21 | 3.93 | 4.46 | 5.19 | 5.95 | 7.14 | 0.60 | 0.85 | 1.00 | 1.18 | 1.37 | 1.57 | 1.89 |
| 15 | 3.44 | 4.21 | 6.16 | 6.70 | 7.78 | 9.15 | 10.71 | 0.91 | 1.11 | 1.50 | 1.77 | 2.06 | 2.42 | 2.92 |
| 20 | 4.46 | 6.25 | 8.05 | 9.37 | 9.94 | 12.35 | 14.73 | 1.18 | 1.65 | 2.00 | 2.48 | 2.63 | 3.26 | 3.93 |
| 25 | 5.80 | 8.03 | 9.94 | 11.38 | 12.75 | 15.09 | 18.08 | 1.53 | 2.12 | 2.50 | 3.01 | 3.37 | 3.99 | 4.81 |
| 30 | 6.70 | 9.82 | 11.84 | 13.84 | 15.13 | 17.84 | 21.43 | 1.77 | 2.59 | 3.00 | 3.66 | 4.00 | 4.71 | 5.67 |
| 40 | 9.37 | 12.05 | 15.62 | 18.30 | 20.57 | 24.25 | 28.57 | 2.48 | 3.18 | 4.00 | 4.83 | 5.43 | 6.41 | 7.72 |
| 50 | 11.61 | 16.07 | 19.89 | 22.77 | 25.50 | 30.19 | 36.16 | 3.07 | 4.25 | 5.00 | 6.02 | 6.74 | 7.98 | 9.61 |
| 60 | 13.84 | 19.20 | 23.67 | 27.23 | 30.69 | 36.14 | 43.30 | 3.66 | 5.07 | 6.00 | 7.19 | 8.11 | 9.55 | 11.51 |
| 70 | 16.07 | 22.77 | 27.46 | 32.14 | 35.88 | 42.54 | 50.45 | 4.25 | 6.02 | 7.00 | 8.49 | 9.48 | 11.24 | 13.54 |
| 80 | 18.75 | 25.45 | 31.72 | 36.61 | 41.06 | 48.03 | 57.14 | 4.95 | 6.72 | 8.00 | 9.67 | 10.85 | 12.69 | 15.29 |
| 100 | 22.77 | 31.70 | 39.30 | 45.53 | 51.00 | 60.38 | 72.32 | 6.02 | 8.37 | 10.00 | 12.03 | 13.47 | 15.95 | 19.22 |
| 120 | 27.30 | 38.90 | 47.40 | 54.73 | 61.10 | 72.40 | 86.30 | 7.35 | 10.39 | 12.00 | 14.70 | 17.00 | 19.00 | 22.88 |
| 150 | 34.37 | 48.21 | 59.19 | 68.31 | 76.50 | 90.10 | 108.00 | 9.08 | 12.74 | 15.00 | 18.04 | 20.21 | 23.81 | 28.69 |
| 200 | 45.53 | 64.28 | 79.07 | 91.10 | 102.00 | 120.30 | 143.80 | 12.03 | 16.98 | 20.00 | 24.06 | 26.95 | 31.78 | 38.29 |

Type LD



| Nozzle number | Thread Sizes | | | Available Spray Angles | | | | | |
|---------------|--------------|-------|-------|------------------------|-----|-----|-----|-----|-----|
| | M 1/8 | M 1/4 | M 3/8 | 0° | 25° | 50° | 65° | 80° | 90° |
| 2 | x | x | x | x | x | x | x | x | x |
| 4 | x | x | x | x | x | x | x | x | x |
| 6 | x | x | x | x | x | x | x | x | x |
| 8 | x | x | x | x | x | x | x | x | x |
| 10 | x | x | x | x | x | x | x | x | x |
| 15 | x | x | x | x | x | x | x | x | x |
| 20 | x | x | x | x | x | x | x | x | x |
| 25 | x | x | x | x | x | x | x | x | x |
| 40 | x | x | x | x | x | x | x | x | x |
| 50 | x | x | x | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|-------|--------------------------------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 7 | 10 | 15 | 30 | 40 | 60 | 80 | 100 | 145 |
| 2 | 0.46 | 0.65 | 0.80 | 0.89 | 0.99 | 1.24 | 1.43 | 0.12 | 0.17 | 0.20 | 0.24 | 0.26 | 0.33 | 0.40 |
| 3 | 0.68 | 0.97 | 1.18 | 1.36 | 1.53 | 1.81 | 2.23 | 0.18 | 0.26 | 0.30 | 0.36 | 0.40 | 0.48 | 0.58 |
| 4 | 0.90 | 1.27 | 1.56 | 1.83 | 2.03 | 2.36 | 2.86 | 0.24 | 0.34 | 0.40 | 0.48 | 0.54 | 0.63 | 0.76 |
| 5 | 1.15 | 1.62 | 1.99 | 2.28 | 2.55 | 3.02 | 3.62 | 0.30 | 0.43 | 0.50 | 0.60 | 0.67 | 0.80 | 0.96 |
| 6 | 1.37 | 1.94 | 2.37 | 2.72 | 3.07 | 3.61 | 4.46 | 0.36 | 0.51 | 0.60 | 0.72 | 0.81 | 0.95 | 1.14 |
| 7 | 1.59 | 2.25 | 2.75 | 3.21 | 3.54 | 4.21 | 5.36 | 0.42 | 0.59 | 0.70 | 0.85 | 0.94 | 1.11 | 1.34 |
| 8 | 1.83 | 2.59 | 3.17 | 3.66 | 3.98 | 5.03 | 5.80 | 0.48 | 0.68 | 0.80 | 0.97 | 1.05 | 1.33 | 1.60 |
| 10 | 2.27 | 3.21 | 3.93 | 4.46 | 5.19 | 5.95 | 7.14 | 0.60 | 0.85 | 1.00 | 1.18 | 1.37 | 1.57 | 1.89 |
| 15 | 3.44 | 4.21 | 6.16 | 6.70 | 7.78 | 9.15 | 10.71 | 0.91 | 1.11 | 1.50 | 1.77 | 2.06 | 2.42 | 2.92 |
| 20 | 4.46 | 6.25 | 8.05 | 9.37 | 9.94 | 12.35 | 14.73 | 1.18 | 1.65 | 2.00 | 2.48 | 2.63 | 3.26 | 3.93 |
| 25 | 5.80 | 8.03 | 9.94 | 11.38 | 12.75 | 15.09 | 18.08 | 1.53 | 2.12 | 2.50 | 3.01 | 3.37 | 3.99 | 4.81 |
| 40 | 9.37 | 12.05 | 15.62 | 18.30 | 20.57 | 24.25 | 28.57 | 2.48 | 3.18 | 4.00 | 4.83 | 5.43 | 6.41 | 7.72 |
| 50 | 11.61 | 16.07 | 19.89 | 22.77 | 25.50 | 30.19 | 36.16 | 3.07 | 4.25 | 5.00 | 6.02 | 6.74 | 7.98 | 9.61 |

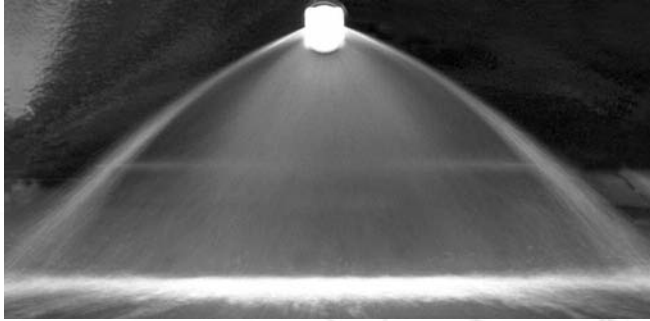
Spray Nozzles

Flooding Nozzles

Deflector type design
producing a wide
flat spray pattern
at low pressures

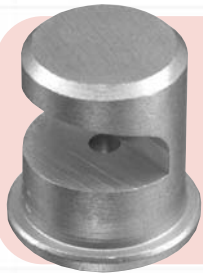
DELAVAN.
Spray Technologies
www.delavan.co.uk

TYPE AN SPRAY PATTERN



TYPICAL APPLICATIONS

Asphalt or tar laying, bottle washing, coal and gravel washing, degreasing, dishwashing, foam control, industrial washers, metal cleaning-rinsing and washing, spray coating, vehicle washing, water misting and water fountains.



D Type

Flanged tip design for use with standard threaded bodies and caps, available in flow sizes from 0.5 – 30 with a nominal spray angle of 90° - 140° depending on flow size and pressure. Spray exits at a 75° angle from the inlet orifice. Body thread sizes 1/8", 1/4" & 3/8".

AN Type Nozzle

One-piece male pipe thread design available in flow sizes from 0.5 – 300 with a nominal spray angle of 90° - 140° depending on flow size and pressure. Spray exits at a 75° angle from the inlet orifice. Available in BSPT and NPT threads.



Spray Nozzles

Pressure Washer Nozzle

Producing a uniformed flat
fan pattern with high impact



AZ Type Nozzle

One-piece male pipe thread design available in flow sizes from 4 – 50 and spray angles of 0, 15, 25, 40, and 50°. Available in BSPT and NPT threads.

Unless otherwise stated, all nozzles and tips are available in Brass and Stainless Steel as standard.

Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Spray Nozzles

Flooding Nozzles

Type D



| Nozzle number | Thread Sizes | | | | Non Slotted | Spray angle (°) at 1.5-bar |
|---------------|--------------|-------|-------|---------|-------------|----------------------------|
| | M 1/8 | M 1/4 | M 3/8 | Slotted | | |
| 1 | x | x | x | x | x | 110 |
| 1.5 | x | x | x | x | x | 115 |
| 2 | x | x | x | x | x | 115 |
| 2.5 | x | x | x | x | x | 115 |
| 3 | x | x | x | x | x | 120 |
| 5 | x | x | x | x | x | 130 |
| 7.5 | x | x | x | x | x | 140 |
| 10 | x | x | x | x | x | 145 |
| 15 | x | x | x | x | x | 125 |
| 18 | x | x | x | x | x | 140 |
| 20 | x | x | x | x | x | 140 |
| 25 | x | x | x | x | x | 140 |
| 30 | x | x | x | x | x | 130 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|-------|---------------|--------------------------------|------|------|------|------|------|------|
| | 0.5 | 0.7 | 1 | 1.5 | 2 | 3 | 4 | | 7 | 10 | 15 | 20 | 30 | 40 | 60 |
| 1 | - | 0.38 | 0.46 | 0.56 | 0.65 | 0.79 | 0.91 | 1 | - | 0.10 | 0.12 | 0.14 | 0.17 | 0.20 | 0.25 |
| 1.5 | 0.48 | 0.57 | 0.68 | 0.84 | 0.97 | 1.18 | 1.37 | 1.5 | 0.12 | 0.15 | 0.18 | 0.21 | 0.26 | 0.30 | 0.37 |
| 2 | 0.65 | 0.76 | 0.91 | 1.12 | 1.29 | 1.57 | 1.82 | 2 | 0.17 | 0.20 | 0.24 | 0.28 | 0.35 | 0.40 | 0.49 |
| 2.5 | 0.81 | 0.95 | 1.14 | 1.40 | 1.61 | 1.96 | 2.28 | 2.5 | 0.20 | 0.25 | 0.30 | 0.35 | 0.43 | 0.50 | 0.61 |
| 3 | 0.97 | 1.14 | 1.38 | 1.66 | 1.92 | 2.37 | 2.72 | 3 | 0.25 | 0.30 | 0.37 | 0.42 | 0.52 | 0.60 | 0.74 |
| 5 | 1.61 | 1.92 | 2.28 | 2.79 | 3.21 | 3.94 | 4.42 | 5 | 0.42 | 0.50 | 0.61 | 0.71 | 0.87 | 1.00 | 1.23 |
| 7.5 | 2.40 | 2.84 | 3.39 | 4.36 | 4.91 | 5.92 | 6.70 | 7.5 | 0.63 | 0.75 | 0.92 | 1.10 | 1.30 | 1.50 | 1.84 |
| 10 | 3.23 | 3.81 | 4.46 | 5.49 | 6.29 | 7.91 | 9.38 | 10 | 0.84 | 1.00 | 1.20 | 1.40 | 1.70 | 2.00 | 2.45 |
| 15 | 4.99 | 5.67 | 6.70 | 8.24 | 9.64 | 11.80 | 13.80 | 15 | 1.30 | 1.50 | 1.80 | 2.10 | 2.60 | 3.00 | 3.68 |
| 18 | 5.70 | 6.86 | 8.17 | 9.94 | 11.60 | 14.20 | 16.40 | 18 | 1.50 | 1.80 | 2.20 | 2.50 | 3.10 | 3.60 | 4.41 |
| 20 | 6.56 | 7.59 | 8.93 | 11.00 | 13.00 | 15.70 | 18.30 | 20 | 1.70 | 2.00 | 2.40 | 2.80 | 3.50 | 4.00 | 4.90 |
| 25 | 8.09 | 9.61 | 11.60 | 13.80 | 16.10 | 19.73 | 22.80 | 25 | 2.10 | 2.50 | 3.10 | 3.50 | 4.30 | 5.00 | 6.13 |
| 30 | 9.70 | 11.40 | 13.80 | 16.60 | 19.00 | 23.70 | 27.20 | 30 | 2.50 | 3.00 | 3.70 | 4.20 | 5.10 | 6.00 | 7.35 |

Type AN

| Nozzle number | Thread Sizes (BSPT) - Male Only | | | | | | Spray angle at 1.5-bar | Nozzle number | Thread Sizes (BSPT) - Male Only | | | | | | Spray angle (°) at 1.5-bar |
|---------------|---------------------------------|-------|-------|-------|-------|-----|------------------------|---------------|---------------------------------|-------|-------|-------|-------|-----|----------------------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M 3/4 | M 1 | | | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M 3/4 | M 1 | |
| 1 | x | | | | | | 110 | 120 | | | | x | x | | 130 |
| 1.5 | x | | | | | | 115 | 150 | | | | x | x | | 135 |
| 2 | x | | | | | | 115 | 180 | | | | x | x | | 150 |
| 2.5 | x | x | | | | | 115 | 200 | | | | x | x | | 140 |
| 3 | x | x | | | | | 120 | 210 | | | | x | x | | 140 |
| 5 | x | x | | | | | 130 | 250 | | | | | x | | 145 |
| 7.5 | x | x | | | | | 140 | 300 | | | | | | x | 150 |
| 10 | x | x | | | | | 145 | | | | | | | | |
| 15 | x | x | | | | | 125 | | | | | | | | |
| 18 | x | x | | | | | 140 | | | | | | | | |
| 20 | x | x | x | x | | | 140 | | | | | | | | |
| 25 | | x | x | x | | | 140 | | | | | | | | |
| 30 | | x | x | x | | | 130 | | | | | | | | |
| 35 | | x | x | x | | | 135 | | | | | | | | |
| 40 | | | x | x | | | 140 | | | | | | | | |
| 45 | | | x | x | | | 140 | | | | | | | | |
| 50 | | | x | x | x | | 140 | | | | | | | | |
| 60 | | | x | x | x | | 140 | | | | | | | | |
| 70 | | | x | x | x | | 140 | | | | | | | | |
| 75 | | | x | x | x | | 140 | | | | | | | | |
| 80 | | | x | x | x | | 140 | | | | | | | | |
| 90 | | | | x | x | | 140 | | | | | | | | |
| 100 | | | | x | x | | 145 | | | | | | | | |
| 108 | | | | x | x | | 140 | | | | | | | | |



Flow Rate per Nozzle

| Flow Rate in Litres / Min at Bar G | | | | | | | | Flow Rate in GAL / Min at PSIG | | | | | | | |
|------------------------------------|-------|--------|--------|--------|--------|--------|--------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Nozzle number | 0.5 | 0.7 | 1 | 1.5 | 2 | 3 | 4 | Nozzle number | 7 | 10 | 15 | 20 | 30 | 40 | 60 |
| 1 | - | 0.38 | 0.46 | 0.56 | 0.65 | 0.79 | 0.91 | 1 | - | 0.10 | 0.12 | 0.14 | 0.17 | 0.20 | 0.25 |
| 1.5 | 0.48 | 0.57 | 0.68 | 0.84 | 0.97 | 1.18 | 1.37 | 1.5 | 0.12 | 0.15 | 0.18 | 0.21 | 0.26 | 0.30 | 0.37 |
| 2 | 0.65 | 0.76 | 0.91 | 1.12 | 1.29 | 1.57 | 1.82 | 2 | 0.17 | 0.20 | 0.24 | 0.28 | 0.35 | 0.40 | 0.49 |
| 2.5 | 0.81 | 0.95 | 1.14 | 1.40 | 1.61 | 1.96 | 2.28 | 2.5 | 0.20 | 0.25 | 0.30 | 0.35 | 0.43 | 0.50 | 0.61 |
| 3 | 0.97 | 1.14 | 1.38 | 1.66 | 1.92 | 2.37 | 2.72 | 3 | 0.25 | 0.30 | 0.37 | 0.42 | 0.52 | 0.60 | 0.74 |
| 5 | 1.61 | 1.92 | 2.28 | 2.79 | 3.21 | 3.94 | 4.42 | 5 | 0.42 | 0.50 | 0.61 | 0.71 | 0.87 | 1.00 | 1.23 |
| 7.5 | 2.40 | 2.84 | 3.39 | 4.36 | 4.91 | 5.92 | 6.70 | 7.5 | 0.63 | 0.75 | 0.92 | 1.10 | 1.30 | 1.50 | 1.84 |
| 10 | 3.23 | 3.81 | 4.46 | 5.49 | 6.29 | 7.91 | 9.38 | 10 | 0.84 | 1.00 | 1.20 | 1.40 | 1.70 | 2.00 | 2.45 |
| 15 | 4.99 | 5.67 | 6.70 | 8.24 | 9.64 | 11.80 | 13.80 | 15 | 1.30 | 1.50 | 1.80 | 2.10 | 2.60 | 3.00 | 3.68 |
| 18 | 5.70 | 6.86 | 8.17 | 9.94 | 11.60 | 14.20 | 16.40 | 18 | 1.50 | 1.80 | 2.20 | 2.50 | 3.10 | 3.60 | 4.41 |
| 20 | 6.56 | 7.59 | 8.93 | 11.00 | 13.00 | 15.70 | 18.30 | 20 | 1.70 | 2.00 | 2.40 | 2.80 | 3.50 | 4.00 | 4.90 |
| 25 | 8.09 | 9.61 | 11.60 | 13.80 | 16.10 | 19.73 | 22.80 | 25 | 2.10 | 2.50 | 3.10 | 3.50 | 4.30 | 5.00 | 6.13 |
| 30 | 9.70 | 11.40 | 13.80 | 16.60 | 19.00 | 23.70 | 27.20 | 30 | 2.50 | 3.00 | 3.70 | 4.20 | 5.10 | 6.00 | 7.35 |
| 35 | 16.60 | 13.30 | 15.60 | 19.40 | 22.70 | 27.50 | 32.10 | 35 | 3.00 | 3.50 | 4.20 | 4.90 | 6.10 | 7.00 | 8.58 |
| 40 | 12.70 | 15.20 | 18.30 | 22.40 | 25.70 | 31.50 | 36.40 | 40 | 3.30 | 4.00 | 4.90 | 5.70 | 6.90 | 8.00 | 9.80 |
| 45 | 14.50 | 17.10 | 20.40 | 25.00 | 28.90 | 35.40 | 40.90 | 45 | 3.83 | 4.51 | 5.39 | 6.60 | 7.63 | 9.35 | 10.80 |
| 50 | 16.20 | 19.00 | 22.70 | 28.00 | 32.00 | 39.40 | 46.40 | 50 | 4.20 | 5.00 | 6.10 | 7.10 | 8.60 | 10.00 | 12.25 |
| 60 | 19.20 | 22.90 | 27.20 | 33.60 | 38.70 | 47.30 | 54.60 | 60 | 5.00 | 6.00 | 7.30 | 8.50 | 10.40 | 12.00 | 14.71 |
| 70 | 22.60 | 26.70 | 31.90 | 39.10 | 45.10 | 55.30 | 63.80 | 70 | 5.97 | 7.05 | 8.42 | 10.32 | 11.91 | 14.60 | 16.84 |
| 75 | 24.20 | 28.60 | 34.20 | 41.80 | 48.30 | 59.20 | 68.40 | 75 | 6.30 | 7.50 | 9.20 | 10.60 | 13.00 | 15.00 | 18.38 |
| 80 | 25.90 | 30.50 | 36.40 | 44.60 | 51.30 | 63.10 | 72.90 | 80 | 6.70 | 8.00 | 9.80 | 11.30 | 13.80 | 16.00 | 19.61 |
| 90 | 29.00 | 34.30 | 41.00 | 50.20 | 58.00 | 71.00 | 82.00 | 90 | 7.66 | 9.05 | 10.82 | 13.25 | 15.31 | 18.74 | 21.65 |
| 100 | 32.30 | 38.10 | 45.40 | 55.60 | 64.30 | 78.90 | 91.10 | 100 | 8.40 | 10.00 | 12.20 | 14.10 | 17.30 | 20.00 | 24.51 |
| 108 | 34.80 | 41.20 | 49.20 | 60.30 | 69.60 | 85.30 | 98.50 | 108 | 9.19 | 10.88 | 12.99 | 15.92 | 18.37 | 22.52 | 26.00 |
| 120 | 38.50 | 45.70 | 54.60 | 67.00 | 77.30 | 94.70 | 109.00 | 120 | 10.00 | 12.00 | 14.70 | 17.00 | 20.80 | 24.00 | 29.41 |
| 150 | 48.50 | 57.20 | 68.40 | 83.60 | 96.70 | 118.00 | 137.00 | 150 | 12.60 | 15.00 | 18.40 | 21.20 | 26.00 | 30.00 | 36.76 |
| 180 | 58.10 | 68.70 | 82.10 | 101.00 | 116.00 | 142.00 | 164.00 | 180 | 15.34 | 18.14 | 21.67 | 26.66 | 30.62 | 37.49 | 43.29 |
| 200 | 64.70 | 76.20 | 90.70 | 111.00 | 129.00 | 158.00 | 182.00 | 200 | 16.80 | 20.00 | 24.40 | 28.20 | 34.60 | 40.00 | 49.02 |
| 210 | 67.30 | 80.10 | 95.60 | 117.00 | 135.00 | 166.00 | 191.00 | 210 | 17.50 | 21.00 | 25.70 | 29.60 | 36.30 | 42.00 | 51.47 |
| 250 | 79.40 | 94.00 | 112.00 | 138.00 | 159.00 | 195.00 | 225.00 | 250 | 20.96 | 24.82 | 29.57 | 36.43 | 41.97 | 51.48 | 59.40 |
| 300 | 95.30 | 113.00 | 135.00 | 165.00 | 191.00 | 234.00 | 270.00 | 300 | 25.16 | 29.83 | 35.64 | 43.56 | 50.42 | 61.77 | 71.28 |

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Pressure Washer Nozzle

Producing a uniformed flat fan pattern with high impact

Type AZ



| Nozzle number | Orifice Dia mm | Thread Sizes | | Available Spray Angles | | | | |
|---------------|----------------|--------------|-------|------------------------|-----|-----|-----|-----|
| | | M 1/8 | M 1/4 | 0° | 15° | 25° | 40° | 50° |
| 4 | 1.25 | x | x | x | x | x | x | x |
| 4.5 | 1.30 | x | x | x | x | x | x | x |
| 5 | 1.40 | x | x | x | x | x | x | x |
| 5.5 | 1.45 | x | x | x | x | x | x | x |
| 6 | 1.50 | x | x | x | x | x | x | x |
| 6.5 | 1.60 | x | x | x | x | x | x | x |
| 7 | 1.65 | x | x | x | x | x | x | x |
| 7.5 | 1.70 | x | x | x | x | x | x | x |
| 8 | 1.75 | x | x | x | x | x | x | x |
| 8.5 | 1.80 | x | x | x | x | x | x | x |
| 9 | 1.90 | x | x | x | x | x | x | x |
| 10 | 2.00 | x | x | x | x | x | x | x |
| 15 | 2.40 | x | x | x | x | x | x | x |
| 20 | 2.80 | x | x | x | x | x | x | x |
| 30 | 3.60 | x | x | x | x | x | x | x |
| 40 | 4.00 | | x | x | x | x | x | x |
| 50 | 4.40 | | x | x | x | x | x | x |

Flow Rate per Nozzle

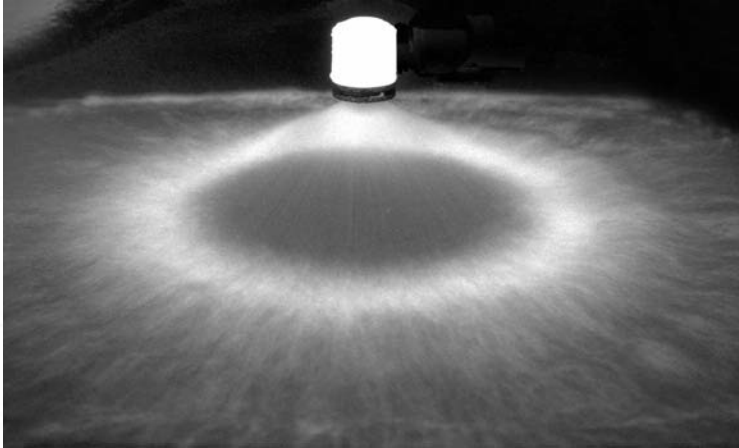
| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|-------|-------|--|
| | 15 | 20 | 25 | 35 | 40 | 50 | 60 | 70 | |
| 4 | 3.50 | 4.10 | 4.60 | 5.40 | 5.80 | 6.50 | 7.10 | 7.60 | |
| 4.5 | 4.00 | 4.60 | 5.10 | 6.10 | 6.50 | 7.30 | 8.00 | 8.60 | |
| 5 | 4.40 | 5.10 | 5.70 | 6.70 | 7.20 | 8.10 | 8.80 | 9.50 | |
| 5.5 | 4.90 | 5.60 | 6.30 | 7.40 | 7.90 | 8.90 | 9.70 | 10.50 | |
| 6 | 5.30 | 6.10 | 6.80 | 8.10 | 8.70 | 9.70 | 10.60 | 11.40 | |
| 6.5 | 5.70 | 6.60 | 7.40 | 8.80 | 9.40 | 10.50 | 11.50 | 12.40 | |
| 7 | 6.20 | 7.10 | 8.00 | 9.40 | 10.10 | 11.30 | 12.40 | 13.40 | |
| 7.5 | 6.60 | 7.60 | 8.60 | 10.10 | 10.80 | 12.10 | 13.20 | 14.30 | |
| 8 | 7.10 | 8.20 | 9.10 | 10.80 | 11.50 | 12.90 | 14.10 | 15.30 | |
| 8.5 | 7.50 | 8.70 | 9.70 | 11.50 | 12.30 | 13.70 | 15.00 | 16.20 | |
| 9 | 8.00 | 9.20 | 10.30 | 12.10 | 13.00 | 14.50 | 16.00 | 17.20 | |
| 10 | 8.80 | 10.20 | 11.40 | 13.50 | 14.40 | 16.10 | 17.70 | 19.10 | |
| 15 | 13.20 | 15.30 | 17.10 | 20.20 | 21.60 | 24.20 | 26.50 | 28.60 | |
| 20 | 17.70 | 20.40 | 22.80 | 27.00 | 28.80 | 32.20 | 35.30 | 38.10 | |
| 30 | 24.50 | 30.60 | 34.20 | 40.50 | 43.30 | 48.40 | 53.00 | 57.20 | |
| 40 | 35.30 | 40.80 | 45.60 | 54.00 | 57.70 | 64.50 | 70.60 | 76.30 | |
| 50 | 44.10 | 51.00 | 57.00 | 67.40 | 72.00 | 80.60 | 88.30 | 95.40 | |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | | | |
|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|--|
| | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 1000 | |
| 4 | 0.92 | 1.08 | 1.22 | 1.43 | 1.53 | 1.72 | 1.88 | 2.01 | |
| 4.5 | 1.06 | 1.22 | 1.35 | 1.61 | 1.72 | 1.93 | 2.11 | 2.27 | |
| 5 | 1.16 | 1.35 | 1.51 | 1.77 | 1.90 | 2.14 | 2.32 | 2.51 | |
| 5.5 | 1.29 | 1.48 | 1.66 | 1.95 | 2.09 | 2.35 | 2.56 | 2.77 | |
| 6 | 1.40 | 1.61 | 1.80 | 2.14 | 2.30 | 2.56 | 2.80 | 3.01 | |
| 6.5 | 1.51 | 1.74 | 1.95 | 2.32 | 2.48 | 2.77 | 3.04 | 3.28 | |
| 7 | 1.64 | 1.88 | 2.11 | 2.48 | 2.67 | 2.99 | 3.28 | 3.54 | |
| 7.5 | 1.74 | 2.01 | 2.27 | 2.67 | 2.85 | 3.20 | 3.49 | 3.78 | |
| 8 | 1.88 | 2.17 | 2.40 | 2.85 | 3.04 | 3.41 | 3.72 | 4.04 | |
| 8.5 | 1.98 | 2.30 | 2.56 | 3.04 | 3.25 | 3.62 | 3.96 | 4.28 | |
| 9 | 2.11 | 2.43 | 2.72 | 3.20 | 3.43 | 3.83 | 4.23 | 4.54 | |
| 10 | 2.32 | 2.69 | 3.01 | 3.57 | 3.80 | 4.25 | 4.68 | 5.05 | |
| 15 | 3.49 | 4.04 | 4.52 | 5.34 | 5.71 | 6.39 | 7.00 | 7.56 | |
| 20 | 4.68 | 5.39 | 6.02 | 7.13 | 7.61 | 8.51 | 9.33 | 10.07 | |
| 30 | 6.47 | 8.08 | 9.03 | 10.70 | 11.44 | 12.79 | 14.00 | 15.11 | |
| 40 | 9.33 | 10.78 | 12.05 | 14.27 | 15.24 | 17.04 | 18.65 | 20.17 | |
| 50 | 11.65 | 13.47 | 15.06 | 17.81 | 19.02 | 21.29 | 23.33 | 25.20 | |

Small Hollow Cone Nozzles

Producing fine atomisation with no central distribution*

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.

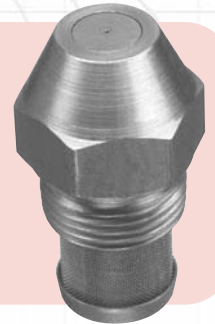


HC Type

Flanged tip design for use with standard threaded bodies and caps, available in flow sizes from 1 – 26 with nominal spray angle of 70°.

WDA Type Nozzle

Basic nozzle thread 9/16" – 24 UNEF, with optional adaptors providing 1/8" and 1/4" pipe threads. Flow sizes from 0.5 to 35 with spray angles of 30°, 45°, 60°, 70°, 80° and 90°. Nozzle consists of five parts, body, orifice disc, distributor, retainer and strainer (used up to WDA 14).



WM Type Nozzle

Male threaded nozzle only available in 1/4" BSPT as standard. See chart for available flow sizes. Standard spray angles of 80°.



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E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Small Hollow Cone Nozzles

Type WDA



| Nozzle number | Thread Sizes | | | Available Spray Angles | | | | | |
|---------------|--------------|-------|-------|------------------------|-----|-----|-----|-----|-----|
| | F 1/8 | M 1/8 | F 1/4 | 30° | 45° | 60° | 70° | 80° | 90° |
| 0.5 | x | x | x | | | x | x | x | x |
| 0.75 | x | x | x | | | x | x | x | x |
| 1 | x | x | x | x | x | x | x | x | x |
| 1.5 | x | x | x | x | x | x | x | x | x |
| 2 | x | x | x | x | x | x | x | x | x |
| 2.5 | x | x | x | x | x | x | x | x | x |
| 3 | x | x | x | x | x | x | x | x | x |
| 4 | x | x | x | x | x | x | x | x | x |
| 5 | x | x | x | x | x | x | x | x | x |
| 6 | x | x | x | x | x | x | x | x | x |
| 8 | x | x | x | x | x | x | x | x | x |
| 10 | x | x | x | x | x | x | x | x | x |
| 12 | x | x | x | x | x | x | x | x | x |
| 14 | x | x | x | x | x | x | x | x | x |
| 16 | x | x | x | x | x | x | x | x | x |
| 18 | x | x | x | x | x | x | x | x | x |
| 20 | x | x | x | x | x | x | x | x | x |
| 24 | x | x | x | x | x | x | x | x | x |
| 30 | x | x | x | x | x | x | x | x | x |
| 35 | x | x | x | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Hour at Bar G | | | | | | | | Nozzle number | Flow Rate in GAL / Hour at PSIG | | | | | | |
|---------------|-------------------------------------|-------|--------|--------|--------|--------|--------|--------|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|
| | 2 | 3 | 5 | 7 | 10 | 15 | 20 | 35 | | 40 | 75 | 100 | 125 | 150 | 300 | 500 |
| 0.5 | - | - | 1.45 | 1.72 | 2.05 | 2.51 | 2.87 | 3.82 | 0.5 | - | 0.39 | 0.45 | 0.50 | 0.55 | 0.77 | 1.00 |
| 0.75 | - | - | 2.16 | 2.56 | 3.05 | 3.74 | 4.32 | 5.72 | 0.75 | - | 0.58 | 0.67 | 0.75 | 0.82 | 1.16 | 1.50 |
| 1 | - | - | 2.87 | 3.40 | 4.10 | 5.02 | 5.77 | 7.63 | 1 | - | 0.77 | 0.89 | 1.00 | 1.10 | 1.55 | 2.00 |
| 1.5 | - | - | 4.32 | 5.11 | 6.15 | 7.53 | 8.64 | 11.40 | 1.5 | - | 1.16 | 1.34 | 1.50 | 1.65 | 2.32 | 3.00 |
| 2 | - | - | 5.77 | 6.83 | 8.19 | 10.00 | 11.60 | 15.30 | 2 | - | 1.55 | 1.79 | 2.00 | 2.20 | 3.10 | 4.00 |
| 2.5 | - | - | 7.19 | 8.55 | 10.20 | 12.50 | 14.50 | 19.10 | 2.5 | - | 1.93 | 2.24 | 2.50 | 2.74 | 3.88 | 5.00 |
| 3 | - | - | 8.64 | 10.20 | 12.30 | 15.10 | 17.30 | 22.90 | 3 | - | 2.32 | 2.68 | 3.00 | 3.30 | 4.65 | 6.00 |
| 4 | - | 8.69 | 11.50 | 13.70 | 16.40 | 20.10 | 23.10 | 30.50 | 4 | 2.20 | 3.10 | 3.60 | 4.00 | 4.40 | 6.20 | 8.00 |
| 5 | - | 11.10 | 14.50 | 17.20 | 20.50 | 25.10 | 28.70 | 38.20 | 5 | 2.80 | 3.90 | 4.50 | 5.00 | 5.50 | 7.70 | 10.00 |
| 6 | - | 14.20 | 17.50 | 20.60 | 24.60 | 30.10 | 34.60 | 45.80 | 6 | 3.60 | 4.70 | 5.40 | 6.00 | 6.60 | 9.30 | 12.00 |
| 8 | - | 17.80 | 23.10 | 27.50 | 33.10 | 40.60 | 46.20 | 61.10 | 8 | 4.50 | 6.20 | 7.20 | 8.00 | 8.90 | 12.40 | 16.00 |
| 10 | 17.90 | 22.10 | 28.70 | 34.00 | 41.00 | 50.20 | 57.70 | 76.30 | 10 | 5.60 | 7.70 | 8.90 | 10.00 | 11.00 | 15.50 | 20.00 |
| 12 | 21.60 | 26.90 | 34.60 | 40.80 | 49.20 | 60.20 | 69.30 | 91.60 | 12 | 6.80 | 9.30 | 10.70 | 12.00 | 13.20 | 18.60 | 24.00 |
| 14 | 25.30 | 31.20 | 40.20 | 47.70 | 57.00 | 69.80 | 80.80 | 107.00 | 14 | 7.90 | 10.80 | 12.50 | 14.00 | 15.30 | 21.70 | 28.00 |
| 16 | 29.01 | 35.60 | 46.20 | 54.60 | 65.20 | 79.80 | 92.40 | 122.00 | 16 | 9.00 | 12.40 | 14.30 | 16.00 | 17.50 | 24.80 | 32.00 |
| 18 | 32.80 | 39.90 | 51.80 | 61.40 | 73.40 | 89.90 | 104.00 | 137.00 | 18 | 10.10 | 13.90 | 16.10 | 18.00 | 19.70 | 27.90 | 36.00 |
| 20 | 36.50 | 44.60 | 57.80 | 68.30 | 81.60 | 99.90 | 115.00 | 153.00 | 20 | 11.30 | 15.50 | 17.90 | 20.00 | 21.90 | 31.00 | 40.00 |
| 24 | 45.80 | 53.30 | 69.30 | 82.10 | 98.00 | 120.00 | 139.00 | 183.00 | 24 | 13.50 | 18.60 | 21.50 | 24.00 | 26.30 | 37.20 | 48.00 |
| 30 | 54.40 | 66.80 | 86.40 | 102.00 | 123.00 | 150.00 | 173.00 | 229.00 | 30 | 16.90 | 23.20 | 25.80 | 30.00 | 32.90 | 46.50 | 60.00 |
| 35 | 64.10 | 78.20 | 101.00 | 120.00 | 143.00 | 175.00 | 202.00 | 267.00 | 35 | 19.80 | 27.20 | 31.40 | 35.00 | 38.40 | 54.30 | 70.00 |

Contact our Helpline or your local distributor for further information
 Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
 E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Type HC



| Nozzle number | Thread Sizes | | | Spray angle (°) at 2.7 bar |
|---------------|--------------|-----|-----|----------------------------|
| | 1/8 | 1/4 | 3/8 | |
| 1 | x | x | x | 70° |
| 1.25 | x | x | x | 70° |
| 1.5 | x | x | x | 70° |
| 2 x | x | x | | 70° |
| 2.5 | x | x | x | 70° |
| 3 | x | x | x | 70° |
| 4 | x | x | x | 70° |
| 5 | x | x | x | 70° |
| 6 | x | x | x | 70° |
| 8 | x | x | x | 70° |
| 10 | x | x | x | 70° |
| 12 | x | x | x | 70° |
| 14 | x | x | x | 70° |
| 18 | x | x | x | 70° |
| 22 | x | x | x | 70° |
| 26 | x | x | x | 70° |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Hour at Bar G | | | | | |
|---------------|-------------------------------------|--------|--------|--------|--------|--------|
| | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 3.23 | 3.95 | 4.56 | 5.10 | 5.58 | 6.03 |
| 1.25 | 4.03 | 4.93 | 5.70 | 6.37 | 6.98 | 7.54 |
| 1.5 | 4.84 | 5.92 | 6.84 | 7.64 | 8.37 | 9.04 |
| 2 | 6.45 | 7.89 | 9.12 | 10.20 | 11.20 | 12.10 |
| 2.5 | 8.05 | 9.57 | 11.40 | 12.70 | 14.00 | 15.10 |
| 3 | 9.65 | 11.80 | 13.70 | 15.30 | 16.70 | 18.00 |
| 4 | 12.90 | 15.80 | 18.20 | 20.40 | 22.30 | 24.10 |
| 5 | 16.10 | 19.70 | 22.80 | 25.50 | 27.90 | 30.10 |
| 6 | 19.30 | 23.70 | 27.30 | 30.60 | 33.50 | 36.20 |
| 8 | 25.80 | 31.60 | 36.50 | 40.80 | 44.70 | 48.30 |
| 10 | 32.20 | 39.50 | 45.60 | 51.00 | 55.80 | 60.30 |
| 12 | 38.60 | 47.40 | 54.70 | 61.10 | 67.00 | 72.40 |
| 14 | 45.10 | 55.30 | 63.80 | 71.30 | 78.10 | 84.40 |
| 18 | 58.00 | 71.00 | 82.00 | 91.70 | 100.00 | 108.00 |
| 22 | 71.00 | 86.80 | 100.00 | 112.00 | 123.00 | 133.00 |
| 26 | 84.00 | 103.00 | 119.00 | 132.00 | 145.00 | 157.00 |

| Nozzle number | Flow Rate in GAL / Hour at PSIG | | | | | | |
|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|
| | 40 | 75 | 100 | 125 | 150 | 300 | 500 |
| 1 | 1.00 | 1.40 | 1.60 | 1.80 | 2.00 | 2.80 | 3.60 |
| 1.25 | 1.30 | 1.70 | 2.10 | 2.30 | 2.50 | 3.60 | 4.60 |
| 1.5 | 1.50 | 2.10 | 2.40 | 2.70 | 2.90 | 4.10 | 5.30 |
| 2 | 2.00 | 2.70 | 3.20 | 3.50 | 3.90 | 5.50 | 7.10 |
| 2.5 | 2.50 | 3.40 | 4.00 | 4.40 | 4.90 | 6.90 | 8.90 |
| 3 | 3.00 | 4.10 | 4.70 | 5.30 | 5.90 | 8.30 | 10.70 |
| 4 | 4.00 | 5.40 | 6.40 | 7.00 | 7.80 | 11.00 | 14.20 |
| 5 | 5.00 | 6.80 | 7.90 | 8.90 | 9.80 | 13.80 | 17.80 |
| 6 | 6.00 | 8.20 | 9.50 | 10.60 | 11.70 | 16.60 | 21.40 |
| 8 | 8.00 | 11.00 | 12.60 | 14.20 | 15.60 | 22.10 | 28.50 |
| 10 | 10.00 | 13.70 | 15.80 | 17.70 | 19.50 | 27.60 | 35.60 |
| 12 | 12.00 | 16.40 | 19.00 | 21.20 | 23.40 | 33.10 | 42.70 |
| 14 | 14.00 | 19.20 | 22.10 | 24.80 | 27.30 | 38.60 | 49.80 |
| 18 | 18.00 | 24.60 | 28.40 | 31.90 | 35.10 | 49.70 | 64.10 |
| 22 | 22.00 | 30.10 | 34.90 | 39.00 | 42.90 | 60.70 | 78.30 |
| 26 | 26.00 | 35.50 | 41.30 | 46.00 | 50.70 | 71.70 | 92.50 |

Type WM



| Nozzle number | Thread Sizes BSPT 1/4 | Spray Angle |
|---------------|-----------------------|-------------|
| WM 108 | x | 80° |
| WM 208 | x | 80° |
| WM 308 | x | 80° |
| WM 508 | x | 80° |
| WM 1008 | x | 80° |
| WM 2008 | x | 80° |
| WM 3508 | x | 80° |

Flow Rate per Nozzle

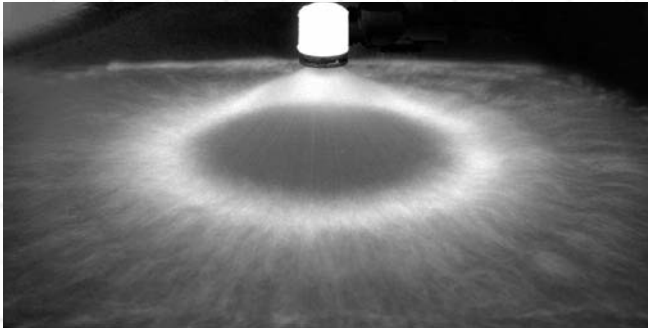
| Nozzle number | Flow Rate in Litres / Hour at Bar G | | | | | | |
|---------------|-------------------------------------|-------|--------|--------|--------|--------|--------|
| | 1.5 | 2 | 3 | 4 | 6 | 7 | 8 |
| WM 108 | - | - | 3.08 | 3.53 | 4.36 | 4.57 | 5.04 |
| WM 208 | 4.73 | 5.36 | 6.39 | 7.37 | 8.76 | 9.15 | 9.37 |
| WM 308 | 6.87 | 8.04 | 9.47 | 10.60 | 12.80 | 13.70 | 14.40 |
| WM 508 | 10.89 | 12.70 | 15.20 | 17.40 | 21.10 | 22.90 | 24.50 |
| WM 1008 | 21.31 | 24.60 | 30.10 | 34.60 | 42.60 | 45.70 | 49.10 |
| WM 2008 | 43.60 | 49.10 | 59.20 | 69.20 | 85.20 | 91.50 | 97.30 |
| WM 3508 | 75.80 | 86.60 | 104.20 | 117.20 | 144.90 | 160.10 | 175.00 |

| Nozzle number | Flow Rate in GAL / Hour at PSIG | | | | | |
|---------------|---------------------------------|-------|-------|-------|-------|-------|
| | 30 | 40 | 60 | 90 | 100 | 115 |
| WM 108 | - | 0.80 | 0.90 | 1.10 | 1.20 | 1.30 |
| WM 208 | 1.40 | 1.70 | 2.00 | 2.30 | 2.40 | 2.50 |
| WM 308 | 2.10 | 2.50 | 2.80 | 3.40 | 3.60 | 3.80 |
| WM 508 | 3.40 | 4.00 | 4.60 | 5.60 | 6.10 | 6.50 |
| WM 1008 | 6.50 | 8.00 | 9.10 | 11.30 | 12.10 | 13.00 |
| WM 2008 | 13.00 | 15.70 | 18.30 | 22.50 | 24.20 | 25.70 |
| WM 3508 | 22.90 | 27.50 | 31.00 | 38.30 | 42.30 | 46.20 |

Hollow Cone Nozzles

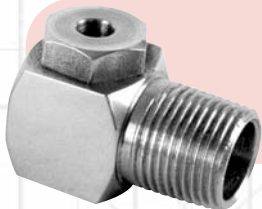
Producing fine atomisation with no central distribution*

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.

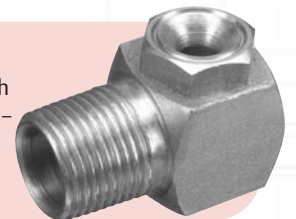


AE Type Nozzle

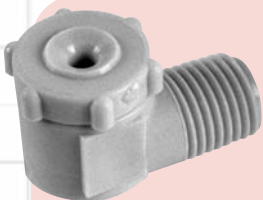
Two piece right angle design (body and cap) with no internal vanes. Available in flow sizes from 2 – 350 with a nominal spray angle of 70° - 90° depending on flow size and pressure.

AF Type Nozzle

Two piece right angle design (body and cap) with no internal vanes. Available in flow sizes from 2 – 250 with a nominal spray angle of 100° - 120° depending on flow size and pressure.



Limited Sizes



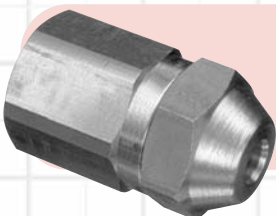
WRW Type Nozzle

WRW 2 – 240 available. Two piece design (body and cap) with no internal vanes. Right angle configuration. Available spray angles of 110, 115 and 140° depending upon flow size and pressure. WRW 2 – 20 available in 1/4" NPT male thread only and WRW 20 – 240 available in 3/4" NPT male thread only. Available in Nylon only.

Limited Sizes

RA ^{*Special design} Type Nozzle

Two piece right angle design (body and cap) with no internal vanes. Available in flow sizes from 2 – 280 with a nominal spray angle of 120° - 140° depending on flow size and pressure. Patented dual swirl chamber produces "Raindrop" type spray. Available in Nylon only.

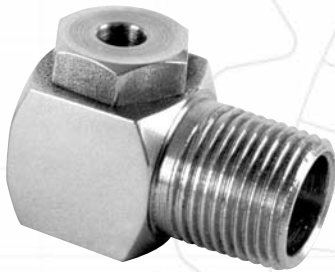


WS Type Nozzle

Three part construction, body, core and adaptor. Available in flow sizes from 2 – 100. Nominal spray angle 75°. Available in NPT male or female thread only.

Unless otherwise stated, all nozzles and tips are available in Brass and Stainless Steel as standard.

Type AE



| Nozzle number | Thread Sizes - Male Only | | | | | | Spray angle (°) at 1.5 bar |
|---------------|--------------------------|-------|-------|-------|-------|-----|----------------------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M 3/4 | M 1 | |
| 2 | x | x | | | | | 70 |
| 4 | x | x | | | | | 70 |
| 6 | x | x | | | | | 70 |
| 10 | x | x | x | | | | 70 |
| 15 | x | x | x | | | | 70 |
| 20 | x | x | x | | | | 70 |
| 25 | | x | x | | | | 70 |
| 30 | | x | x | | | | 70 |
| 40 | | | | x | | | 65 |
| 50 | | | | x | | | 75 |
| 60 | | | | x | | | 75 |
| 80 | | | | x | x | | 65 |
| 100 | | | | x | x | | 75 |
| 125 | | | | x | x | | 85 |
| 150 | | | | | x | x | 95 |
| 200 | | | | | x | x | 80 |
| 250 | | | | | | x | 70 |
| 300 | | | | | | x | 75 |
| 350 | | | | | | x | 80 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | | |
|---------------|------------------------------------|--------|--------|--------|--------|--------|--------|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 15 | 30 | 40 | 60 | 70 | 90 | 100 | |
| 2 | 0.46 | 0.64 | 0.79 | 0.91 | 1.00 | 1.10 | 1.20 | 2 | 0.12 | 0.17 | 0.21 | 0.24 | 0.26 | 0.29 | 0.32 | |
| 4 | 0.92 | 1.30 | 1.60 | 1.80 | 2.00 | 2.20 | 2.40 | 4 | 0.24 | 0.34 | 0.42 | 0.48 | 0.53 | 0.58 | 0.63 | |
| 6 | 1.30 | 1.90 | 2.40 | 2.70 | 3.10 | 3.40 | 3.60 | 6 | 0.34 | 0.50 | 0.63 | 0.71 | 0.82 | 0.90 | 0.95 | |
| 10 | 2.30 | 3.20 | 3.90 | 4.60 | 5.10 | 5.60 | 6.00 | 10 | 0.61 | 0.85 | 1.03 | 1.22 | 1.35 | 1.48 | 1.59 | |
| 15 | 3.40 | 4.80 | 5.90 | 6.80 | 7.60 | 8.40 | 9.00 | 15 | 0.90 | 1.27 | 1.56 | 1.80 | 2.01 | 2.22 | 2.38 | |
| 20 | 4.50 | 6.40 | 7.90 | 9.10 | 10.20 | 11.20 | 12.10 | 20 | 1.19 | 1.69 | 2.09 | 2.40 | 2.69 | 2.96 | 3.20 | |
| 25 | 5.70 | 8.10 | 9.90 | 11.40 | 12.70 | 14.00 | 15.10 | 25 | 1.51 | 2.14 | 2.62 | 3.01 | 3.36 | 3.70 | 3.99 | |
| 30 | 6.90 | 9.70 | 11.80 | 13.70 | 15.30 | 16.80 | 18.10 | 30 | 1.82 | 2.56 | 3.12 | 3.62 | 4.04 | 4.44 | 4.78 | |
| 40 | 9.10 | 12.90 | 15.80 | 18.20 | 20.40 | 22.30 | 24.10 | 40 | 2.40 | 3.40 | 4.20 | 4.80 | 5.40 | 5.90 | 6.40 | |
| 50 | 11.40 | 16.10 | 19.70 | 22.80 | 25.50 | 27.90 | 30.20 | 50 | 3.00 | 4.30 | 5.20 | 6.00 | 6.70 | 7.40 | 8.00 | |
| 60 | 13.60 | 19.30 | 23.70 | 27.30 | 30.60 | 33.50 | 36.20 | 60 | 3.60 | 5.10 | 6.30 | 7.20 | 8.10 | 8.90 | 9.60 | |
| 80 | 18.20 | 25.80 | 31.60 | 36.50 | 40.80 | 44.70 | 48.20 | 80 | 4.80 | 6.80 | 8.40 | 9.70 | 10.80 | 11.80 | 12.70 | |
| 100 | 22.80 | 32.20 | 29.50 | 45.60 | 50.90 | 55.80 | 60.30 | 100 | 6.00 | 8.50 | 9.80 | 12.00 | 12.96 | 14.70 | 15.90 | |
| 125 | 28.50 | 40.30 | 49.40 | 57.00 | 63.70 | 69.80 | 75.40 | 125 | 7.50 | 10.70 | 13.10 | 15.10 | 16.80 | 18.40 | 19.90 | |
| 150 | 34.20 | 48.30 | 59.20 | 68.40 | 76.40 | 83.70 | 90.50 | 150 | 9.00 | 12.80 | 15.60 | 18.10 | 20.20 | 22.10 | 23.90 | |
| 200 | 45.60 | 64.50 | 79.00 | 91.20 | 102.00 | 112.00 | 121.00 | 200 | 12.10 | 17.00 | 20.90 | 24.10 | 27.00 | 29.60 | 32.00 | |
| 250 | 57.00 | 80.70 | 98.80 | 114.10 | 128.00 | 140.00 | 151.00 | 250 | 15.10 | 21.30 | 26.14 | 30.10 | 33.80 | 37.00 | 39.90 | |
| 300 | 68.40 | 96.80 | 119.00 | 137.00 | 153.00 | 168.00 | 181.00 | 300 | 18.10 | 25.60 | 31.40 | 36.20 | 40.40 | 44.40 | 47.80 | |
| 350 | 79.80 | 113.00 | 138.00 | 160.00 | 179.00 | 196.00 | 211.00 | 350 | 21.10 | 29.90 | 36.50 | 42.30 | 47.30 | 51.80 | 55.70 | |

Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Hollow Cone Nozzles

Type WRW



| Nozzle number | Thread Sizes (NPT) - Male Only | | Spray angle (°) at 3-bar |
|---------------|--------------------------------|-------|--------------------------|
| | M 1/4 | M 3/4 | |
| 2 | x | | 115 |
| 4 | x | | 115 |
| 5 | x | | 110 |
| 6 | x | | 110 |
| 10 | x | | 110 |
| 15 | x | | 110 |
| 20 | x | x | 110 |
| 20 | | x | 110 |
| 30 | | x | 140 |
| 40 | | x | 140 |
| 60 | | x | 140 |
| 80 | | x | 140 |
| 100 | | x | 140 |
| 120 | | x | 140 |
| 160 | | x | 140 |
| 200 | | x | 140 |
| 240 | | x | 140 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | |
|---------------|------------------------------------|-------|-------|--------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 0.46 | 0.64 | 0.79 | 0.91 | 1.00 | 1.10 | 1.20 |
| 4 | 0.92 | 1.30 | 1.60 | 1.80 | 2.00 | 2.20 | 2.40 |
| 5 | 1.10 | 1.60 | 2.00 | 2.30 | 2.50 | 2.80 | 3.00 |
| 6 | 1.30 | 1.90 | 2.40 | 2.70 | 3.10 | 3.40 | 3.60 |
| 10 | 2.30 | 3.20 | 3.90 | 4.60 | 5.10 | 5.60 | 6.00 |
| 15 | 3.40 | 4.80 | 5.90 | 6.80 | 7.60 | 8.40 | 9.00 |
| 20 | 4.50 | 6.40 | 7.96 | 9.10 | 10.20 | 11.20 | 12.10 |
| 30 | 6.90 | 9.70 | 11.80 | 13.70 | 15.30 | 16.80 | 18.10 |
| 40 | 9.10 | 12.90 | 15.80 | 18.20 | 20.40 | 22.30 | 24.10 |
| 60 | 13.60 | 19.30 | 23.70 | 27.30 | 30.60 | 33.50 | 36.20 |
| 80 | 18.20 | 25.80 | 31.60 | 36.50 | 40.80 | 44.70 | 48.20 |
| 100 | 22.80 | 32.20 | 39.50 | 45.60 | 51.00 | 55.80 | 60.30 |
| 120 | 27.30 | 38.70 | 47.40 | 54.70 | 61.20 | 67.00 | 72.40 |
| 160 | 36.50 | 51.60 | 63.20 | 73.00 | 81.60 | 89.40 | 96.50 |
| 200 | 45.60 | 64.50 | 79.00 | 91.20 | 102.00 | 112.00 | 121.00 |
| 240 | 54.70 | 77.40 | 94.70 | 109.00 | 122.00 | 134.00 | 145.00 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 15 | 30 | 40 | 60 | 70 | 90 | 100 |
| 2 | 0.12 | 0.17 | 0.21 | 0.24 | 0.26 | 0.29 | 0.32 |
| 4 | 0.24 | 0.34 | 0.42 | 0.49 | 0.53 | 0.60 | 0.63 |
| 5 | 0.29 | 0.42 | 0.53 | 0.61 | 0.66 | 0.74 | 0.79 |
| 6 | 0.34 | 0.50 | 0.63 | 0.71 | 0.82 | 0.90 | 0.95 |
| 10 | 0.61 | 0.85 | 1.03 | 1.22 | 1.35 | 1.48 | 1.59 |
| 15 | 0.90 | 1.27 | 1.56 | 1.80 | 2.01 | 2.22 | 2.38 |
| 20 | 1.19 | 1.69 | 2.09 | 2.40 | 2.69 | 2.96 | 3.20 |
| 30 | 1.82 | 2.56 | 3.12 | 3.62 | 4.04 | 4.44 | 4.78 |
| 40 | 2.40 | 3.40 | 4.20 | 4.80 | 5.40 | 5.90 | 6.40 |
| 60 | 3.60 | 5.10 | 6.30 | 7.20 | 8.10 | 8.90 | 9.60 |
| 80 | 4.80 | 6.80 | 8.40 | 9.70 | 10.80 | 11.80 | 12.70 |
| 100 | 6.00 | 8.50 | 9.80 | 12.00 | 12.96 | 14.70 | 15.90 |
| 120 | 7.21 | 10.22 | 12.51 | 14.44 | 16.16 | 17.69 | 19.11 |
| 160 | 9.64 | 13.62 | 16.68 | 19.27 | 21.54 | 23.60 | 25.48 |
| 200 | 12.10 | 17.00 | 20.90 | 24.10 | 27.00 | 29.60 | 32.00 |
| 240 | 14.44 | 20.43 | 25.00 | 28.78 | 32.21 | 35.37 | 38.28 |

Type WS



| Nozzle number | Thread Sizes (NPT) - Male Only | | | | | Spray angle (°) at 3-bar |
|---------------|--------------------------------|-------|-------|-------|------|--------------------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M3/4 | |
| 2 | x | | | | | 75 |
| 4 | x | | | | | 75 |
| 6 | x | x | x | | | 75 |
| 8 | | x | x | | | 75 |
| 10 | x | x | x | | | 75 |
| 15 | | x | x | x | | 75 |
| 20 | | | x | x | | 75 |
| 30 | | | | x | | 75 |
| 40 | | | | x | | 75 |
| 50 | | | | x | x | 75 |
| 60 | | | | x | x | 75 |
| 80 | | | | | x | 75 |
| 100 | | | | | x | 75 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 0.46 | 0.64 | 0.79 | 0.91 | 1.00 | 1.10 | 1.2 |
| 4 | 0.92 | 1.30 | 1.60 | 1.80 | 2.00 | 2.20 | 2.4 |
| 6 | 1.30 | 1.90 | 2.40 | 2.70 | 3.10 | 3.40 | 3.6 |
| 8 | 1.88 | 2.60 | 3.20 | 3.60 | 4.10 | 4.50 | 4.8 |
| 10 | 2.30 | 3.20 | 3.90 | 4.60 | 5.10 | 5.60 | 6 |
| 15 | 3.40 | 4.80 | 5.90 | 6.80 | 7.60 | 8.40 | 9 |
| 20 | 4.50 | 6.40 | 7.96 | 9.10 | 10.20 | 11.20 | 12.1 |
| 30 | 6.90 | 9.70 | 11.80 | 13.70 | 15.30 | 16.80 | 18.1 |
| 40 | 9.10 | 12.90 | 15.80 | 18.20 | 20.40 | 22.30 | 24.1 |
| 50 | 11.40 | 16.10 | 19.70 | 22.80 | 25.50 | 27.90 | 30.2 |
| 60 | 13.60 | 19.30 | 23.70 | 27.30 | 30.60 | 33.50 | 36.2 |
| 80 | 18.20 | 25.80 | 31.60 | 36.50 | 40.80 | 44.70 | 48.2 |
| 100 | 22.8 | 32.2 | 39.5 | 45.6 | 51 | 55.8 | 60.3 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|--------------------------------|------|------|------|-------|-------|-------|
| | 15 | 30 | 40 | 60 | 70 | 90 | 100 |
| 2 | 0.12 | 0.17 | 0.21 | 0.24 | 0.26 | 0.29 | 0.32 |
| 4 | 0.24 | 0.34 | 0.42 | 0.48 | 0.53 | 0.85 | 0.93 |
| 6 | 0.34 | 0.50 | 0.63 | 0.71 | 0.82 | 0.90 | 0.95 |
| 8 | 0.50 | 0.69 | 0.84 | 0.95 | 1.08 | 1.19 | 1.27 |
| 10 | 0.61 | 0.85 | 1.03 | 1.22 | 1.50 | 1.48 | 1.59 |
| 15 | 0.90 | 1.27 | 1.56 | 1.80 | 2.01 | 2.22 | 2.38 |
| 20 | 1.19 | 1.69 | 2.09 | 2.40 | 2.69 | 2.96 | 3.20 |
| 30 | 1.82 | 2.56 | 3.12 | 3.62 | 4.04 | 4.44 | 4.78 |
| 40 | 2.40 | 3.40 | 4.20 | 4.80 | 5.40 | 5.90 | 6.40 |
| 50 | 3.00 | 4.30 | 5.20 | 6.00 | 6.70 | 7.40 | 8.00 |
| 60 | 3.60 | 5.10 | 6.30 | 7.20 | 8.10 | 8.90 | 9.60 |
| 80 | 4.80 | 6.80 | 8.40 | 9.70 | 10.80 | 11.80 | 12.70 |
| 100 | 6 | 8.5 | 9.8 | 12 | 12.96 | 14.7 | 15.9 |

Type AF



| Nozzle number | Thread Sizes (BSPT) - Male Only | | | | | | Spray angle (°) at 3-bar |
|---------------|---------------------------------|-------|-------|-------|------|----|--------------------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M3/4 | M1 | |
| 2 | x | x | | | | | 100 |
| 4 | x | x | | | | | 100 |
| 6 | x | x | | | | | 100 |
| 10 | x | x | | | | | 100 |
| 15 | x | x | x | | | | 100 |
| 20 | | | x | | | | 100 |
| 25 | | | x | | | | 110 |
| 30 | | | x | | | | 110 |
| 50 | | | x | x | | | 115 |
| 80 | | | | x | | | 115 |
| 100 | | | | x | x | | 115 |
| 150 | | | | | x | x | 115 |
| 200 | | | | | | x | 120 |
| 250 | | | | | | x | 120 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|-------|-------|--------|--------|--------|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 15 | 30 | 40 | 60 | 70 | 90 | 100 |
| 2 | 0.46 | 0.64 | 0.79 | 0.91 | 1.00 | 1.10 | 1.20 | 2 | 0.12 | 0.17 | 0.21 | 0.24 | 0.26 | 0.29 | 0.32 |
| 4 | 0.92 | 1.30 | 1.60 | 1.80 | 2.00 | 2.20 | 2.40 | 4 | 0.24 | 0.34 | 0.42 | 0.48 | 0.53 | 0.58 | 0.63 |
| 6 | 1.30 | 1.90 | 2.40 | 2.70 | 3.10 | 3.40 | 3.60 | 6 | 0.34 | 0.50 | 0.63 | 0.71 | 0.82 | 0.90 | 0.95 |
| 10 | 2.30 | 3.20 | 3.90 | 4.60 | 5.10 | 5.60 | 6.00 | 10 | 0.61 | 0.85 | 1.03 | 1.22 | 1.35 | 1.48 | 1.59 |
| 15 | 3.40 | 4.80 | 5.90 | 6.80 | 7.60 | 8.40 | 9.00 | 15 | 0.90 | 1.27 | 1.56 | 1.80 | 2.01 | 2.22 | 2.38 |
| 20 | 4.50 | 6.40 | 7.90 | 9.10 | 10.20 | 11.20 | 12.10 | 20 | 1.19 | 1.69 | 2.09 | 2.40 | 2.69 | 2.96 | 3.20 |
| 25 | 5.70 | 8.10 | 9.90 | 11.40 | 12.70 | 14.00 | 15.10 | 25 | 1.51 | 2.14 | 2.62 | 3.01 | 3.36 | 3.70 | 3.99 |
| 30 | 6.90 | 9.70 | 11.80 | 13.70 | 15.30 | 16.80 | 18.10 | 30 | 1.82 | 2.56 | 3.12 | 3.62 | 4.04 | 4.44 | 4.78 |
| 50 | 11.40 | 16.10 | 19.70 | 22.80 | 25.50 | 27.90 | 30.20 | 50 | 3.00 | 4.30 | 5.20 | 6.00 | 6.70 | 7.40 | 8.00 |
| 80 | 18.20 | 25.80 | 31.60 | 36.50 | 40.80 | 44.70 | 48.20 | 80 | 4.80 | 6.80 | 8.40 | 9.70 | 10.80 | 11.80 | 12.70 |
| 100 | 22.80 | 32.20 | 29.50 | 45.60 | 50.90 | 55.80 | 60.30 | 100 | 6.00 | 8.50 | 9.80 | 12.00 | 12.96 | 14.70 | 15.90 |
| 150 | 34.20 | 48.30 | 59.20 | 68.40 | 76.40 | 83.70 | 90.50 | 150 | 9.00 | 12.80 | 15.60 | 18.10 | 20.20 | 22.10 | 23.90 |
| 200 | 45.60 | 64.50 | 79.00 | 91.20 | 102.00 | 112.00 | 121.00 | 200 | 12.10 | 17.00 | 20.90 | 24.10 | 27.00 | 29.60 | 32.00 |

Type RA



| Nozzle number | Thread Size (NPT) - Male Only | | Spray angle (°) |
|---------------|-------------------------------|------|-----------------|
| | Stamp number | M3/4 | |
| 20 | 36662-1 | x | 140 |
| 30 | 36662-2 | x | 140 |
| 50 | 36662-3 | x | 140 |
| 80 | 36662-4 | x | 140 |
| 100 | 36662-5 | x | 140 |
| 160 | 36662-6 | x | 140 |
| 200 | 36662-7 | x | 140 |
| 280 | 36662-33 | x | 140 |

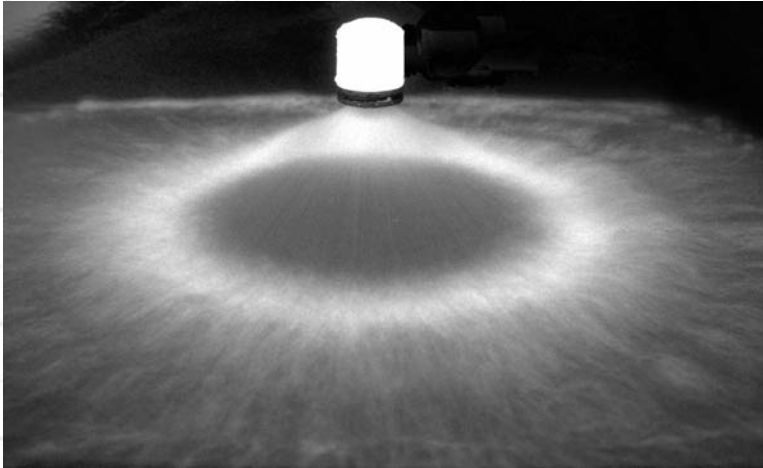
Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|--------|--------|--------|--------|--------|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 15 | 30 | 40 | 60 | 70 | 90 | 100 |
| 20 | 4.50 | 6.40 | 7.96 | 9.10 | 10.20 | 11.20 | 12.10 | 20 | 1.19 | 1.69 | 2.09 | 2.40 | 2.69 | 2.96 | 3.20 |
| 30 | 6.90 | 9.70 | 11.80 | 13.70 | 15.30 | 16.80 | 18.10 | 30 | 1.82 | 2.56 | 3.12 | 3.62 | 4.04 | 4.44 | 4.78 |
| 50 | 11.40 | 16.10 | 19.70 | 22.80 | 25.50 | 27.90 | 30.20 | 50 | 3.00 | 4.30 | 5.20 | 6.00 | 6.70 | 7.40 | 8.00 |
| 80 | 18.20 | 25.80 | 31.60 | 36.50 | 40.80 | 44.70 | 48.20 | 80 | 4.80 | 6.80 | 8.40 | 9.70 | 10.80 | 11.80 | 12.70 |
| 100 | 22.80 | 32.20 | 39.50 | 45.60 | 51.00 | 55.80 | 60.30 | 100 | 6.00 | 8.50 | 9.80 | 12.00 | 12.96 | 14.70 | 15.90 |
| 160 | 36.50 | 51.60 | 63.20 | 73.00 | 81.60 | 89.40 | 96.50 | 160 | 9.64 | 13.62 | 16.68 | 19.27 | 21.54 | 23.60 | 25.48 |
| 200 | 45.60 | 64.50 | 79.00 | 91.20 | 102.00 | 112.00 | 121.00 | 200 | 12.10 | 17.00 | 20.90 | 24.10 | 27.00 | 29.60 | 32.00 |
| 280 | 64.10 | 90.30 | 111.00 | 128.00 | 143.00 | 156.00 | 169.00 | 280 | 16.92 | 23.84 | 29.30 | 33.79 | 37.75 | 41.18 | 44.61 |

Large Hollow Cone Nozzles

Producing uniform atomisation with no central distribution

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.

BE Type Nozzle

One piece cast body in a right angle design. Nominal spray angle of 55° to 90° dependant upon flow size and pressure. (See chart for details). Materials are Stainless Steel as standard.

Type BE

| Nozzle number | Thread Sizes | | | Spray angle (°) at 0.7-bar |
|---------------|--------------|----------|------|----------------------------|
| | F 1/4" | F 1.1/2" | F 2" | |
| 23 | x | x | | 62 |
| 28 | x | x | | 65 |
| 36 | x | x | | 70 |
| 43 | x | x | | 78 |
| 49 | x | x | | 80 |
| 54 | x | x | | 87 |
| 63 | | | x | 70 |
| 75 | | | x | 80 |
| 88 | | | x | 80 |
| 100 | | | x | 80 |
| 112 | | | x | 80 |
| 122 | | | x | 80 |
| 144 | | | x | 85 |



Flow Rate per Nozzle

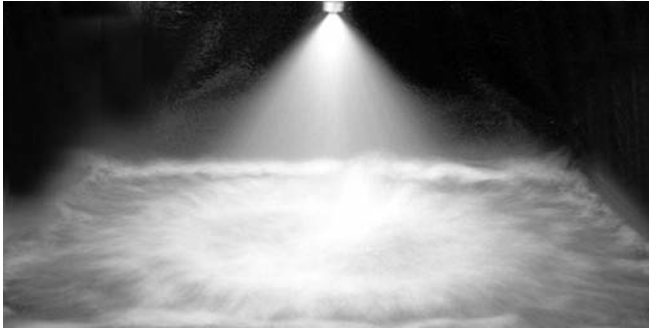
| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | | |
|---------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 0.15 | 0.3 | 0.5 | 0.7 | 1 | 1.5 | 2 | 3 | 4.0 |
| 23 | 33.20 | 45.00 | 56.00 | 64.00 | 77.00 | 92.30 | 107.00 | 130.00 | 150.00 |
| 28 | 37.90 | 52.10 | 65.60 | 75.50 | 91.50 | 109.00 | 128.00 | 152.00 | 175.00 |
| 36 | 50.90 | 66.30 | 84.80 | 98.40 | 118.00 | 142.00 | 163.00 | 198.00 | 228.00 |
| 43 | 59.20 | 79.50 | 101.00 | 117.00 | 140.00 | 168.00 | 192.00 | 237.00 | 268.00 |
| 49 | 68.70 | 90.00 | 116.00 | 135.00 | 160.00 | 193.00 | 223.00 | 272.00 | 321.00 |
| 54 | 75.80 | 102.00 | 128.00 | 149.00 | 180.00 | 213.00 | 254.00 | 313.00 | 353.00 |
| 63 | 91.20 | 123.00 | 159.00 | 188.00 | 210.00 | 249.00 | 281.00 | 341.00 | 402.00 |
| 75 | 104.00 | 152.00 | 200.00 | 226.00 | 243.00 | 296.00 | 339.00 | 417.00 | 504.00 |
| 88 | 123.00 | 180.00 | 230.00 | 256.00 | 283.00 | 346.00 | 393.00 | 492.00 | 598.00 |
| 100 | 156.00 | 208.00 | 262.00 | 274.00 | 324.00 | 393.00 | 442.00 | 549.00 | 661.00 |
| 112 | 180.00 | 227.00 | 284.00 | 306.00 | 362.00 | 440.00 | 473.00 | 587.00 | 705.00 |
| 122 | 199.00 | 246.00 | 306.00 | 332.00 | 402.00 | 483.00 | 554.00 | 682.00 | 813.00 |
| 144 | 208.00 | 256.00 | 317.00 | 371.00 | 442.00 | 568.00 | 665.00 | 814.00 | 938.00 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | | |
|---------------|--------------------------------|-------|--------|--------|--------|--------|--------|--|
| | 5 | 10 | 15 | 20 | 30 | 40 | 60 | |
| 23 | 12.30 | 16.80 | 20.70 | 23.40 | 28.80 | 33.00 | 40.20 | |
| 28 | 14.40 | 19.80 | 24.60 | 27.60 | 33.60 | 38.40 | 47.20 | |
| 36 | 18.60 | 25.80 | 31.80 | 36.00 | 43.80 | 50.10 | 61.20 | |
| 43 | 22.20 | 30.60 | 37.50 | 42.60 | 51.60 | 60.00 | 72.00 | |
| 49 | 25.50 | 35.40 | 42.90 | 48.90 | 60.00 | 69.00 | 86.40 | |
| 54 | 28.20 | 39.00 | 48.30 | 54.00 | 68.40 | 79.20 | 94.80 | |
| 63 | 34.80 | 49.20 | 56.40 | 63.00 | 75.60 | 86.40 | 108.00 | |
| 75 | 43.80 | 59.40 | 65.40 | 75.00 | 91.20 | 106.00 | 136.00 | |
| 88 | 50.40 | 67.20 | 76.20 | 87.60 | 106.00 | 125.00 | 161.00 | |
| 100 | 57.60 | 72.00 | 87.00 | 99.60 | 119.00 | 139.00 | 178.00 | |
| 112 | 62.40 | 80.40 | 97.20 | 112.00 | 127.00 | 149.00 | 190.00 | |
| 122 | 67.20 | 87.00 | 108.00 | 122.00 | 149.00 | 173.00 | 218.00 | |
| 144 | 69.60 | 97.20 | 119.00 | 144.00 | 179.00 | 206.00 | 252.00 | |

Small Solid Cone Nozzles

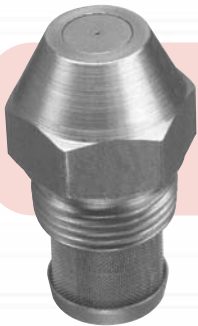
Producing uniform distribution with fine atomisation

TYPICAL SPRAY PATTERN



TYPICAL APPLICATIONS

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



WDB Type Nozzle

Basic nozzle thread 9/16" - 24 UNEF, with optional adaptors providing 1/8" and 1/4" pipe threads. Flow sizes from 0.5 to 20 with spray angles of 30°, 45°, 60°, 70°, 80° and 90°.

BF Type

Flanged tip design for use with standard bodies and caps sizes from 3 - 16. Spray angles of 60°, 90° and 120°.



BL Type Nozzle

One-piece body with removable screwed core, using allen key. Available only with 1/8" BSPT thread and in flow sizes from 3 - 20 with spray angles of 45°, 60° and 90°.

Unless otherwise stated, all nozzles and tips are available in Brass and Stainless Steel as standard.

Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Small Solid Cone Nozzles

Type WDB



| Nozzle number | Thread Sizes | | | Available Spray Angles | | | | | |
|---------------|--------------|-------|-------|------------------------|-----|-----|-----|-----|-----|
| | F1/8 | M 1/4 | F 1/4 | 30° | 45° | 60° | 70° | 80° | 90° |
| 0.5 | x | x | x | | | x | x | x | x |
| 0.75 | x | x | x | | | x | x | x | x |
| 1 | x | x | x | x | x | x | x | x | x |
| 1.5 | x | x | x | x | x | x | x | x | x |
| 2 | x | x | x | x | x | x | x | x | x |
| 2.5 | x | x | x | x | x | x | x | x | x |
| 3 | x | x | x | x | x | x | x | x | x |
| 4 | x | x | x | x | x | x | x | x | x |
| 5 | x | x | x | x | x | x | x | x | x |
| 6 | x | x | x | x | x | x | x | x | x |
| 8 | x | x | x | x | x | x | x | x | x |
| 10 | x | x | x | x | x | x | x | x | x |
| 12 | x | x | x | x | x | x | x | x | x |
| 14 | x | x | x | x | x | x | x | x | x |
| 16 | x | x | x | x | x | x | x | x | x |
| 18 | x | x | x | x | x | x | x | x | x |
| 20 | x | x | x | x | x | x | x | x | x |
| 24 | x | x | x | x | x | x | x | x | x |
| 30 | x | x | x | x | x | x | x | x | x |
| 35 | x | x | x | x | x | x | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Hour at Bar G | | | | | | | | Nozzle number | Flow Rate in GAL / Hour at PSIG | | | | | | |
|---------------|-------------------------------------|-------|--------|--------|--------|--------|--------|--------|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|
| | 2 | 3 | 5 | 7 | 10 | 15 | 20 | 35 | | 40 | 75 | 100 | 125 | 150 | 300 | 500 |
| 0.5 | - | - | 1.45 | 1.72 | 2.05 | 2.51 | 2.87 | 3.82 | 0.5 | - | 0.39 | 0.45 | 0.50 | 0.55 | 0.77 | 1.00 |
| 0.75 | - | - | 2.16 | 2.56 | 3.05 | 3.74 | 4.32 | 5.72 | 0.75 | - | 0.58 | 0.67 | 0.75 | 0.82 | 1.16 | 1.50 |
| 1 | - | - | 2.87 | 3.40 | 4.10 | 5.02 | 5.77 | 7.63 | 1 | - | 0.77 | 0.89 | 1.00 | 1.10 | 1.55 | 2.00 |
| 1.5 | - | - | 4.32 | 5.11 | 6.15 | 7.53 | 8.64 | 11.40 | 1.5 | - | 1.16 | 1.34 | 1.50 | 1.65 | 2.32 | 3.00 |
| 2 | - | - | 5.77 | 6.83 | 8.19 | 10.00 | 11.60 | 15.30 | 2 | - | 1.55 | 1.79 | 2.00 | 2.20 | 3.10 | 4.00 |
| 2.5 | - | - | 7.19 | 8.55 | 10.20 | 12.50 | 14.50 | 19.10 | 2.5 | - | 1.93 | 2.24 | 2.50 | 2.74 | 3.88 | 5.00 |
| 3 | - | - | 8.64 | 10.20 | 12.30 | 15.10 | 17.30 | 22.90 | 3 | - | 2.32 | 2.68 | 3.00 | 3.30 | 4.65 | 6.00 |
| 4 | - | 8.69 | 11.50 | 13.70 | 16.40 | 20.10 | 23.10 | 30.50 | 4 | 2.20 | 3.10 | 3.60 | 4.00 | 4.40 | 6.20 | 8.00 |
| 5 | - | 11.10 | 14.50 | 17.20 | 20.50 | 25.10 | 28.70 | 38.20 | 5 | 2.80 | 3.90 | 4.50 | 5.00 | 5.50 | 7.70 | 10.00 |
| 6 | - | 14.20 | 17.50 | 20.60 | 24.60 | 30.10 | 34.60 | 45.80 | 6 | 3.60 | 4.70 | 5.40 | 6.00 | 6.60 | 9.30 | 12.00 |
| 8 | - | 17.80 | 23.10 | 27.50 | 33.10 | 40.60 | 46.20 | 61.10 | 8 | 4.50 | 6.20 | 7.20 | 8.00 | 8.90 | 12.40 | 16.00 |
| 10 | 17.90 | 22.10 | 28.70 | 34.00 | 41.00 | 50.20 | 57.70 | 76.30 | 10 | 5.60 | 7.70 | 8.90 | 10.00 | 11.00 | 15.50 | 20.00 |
| 12 | 21.60 | 26.90 | 34.60 | 40.80 | 49.20 | 60.20 | 69.30 | 91.60 | 12 | 6.80 | 9.30 | 10.70 | 12.00 | 13.20 | 18.60 | 24.00 |
| 14 | 25.30 | 31.20 | 40.20 | 47.70 | 57.00 | 69.80 | 80.80 | 107.00 | 14 | 7.90 | 10.80 | 12.50 | 14.00 | 15.30 | 21.70 | 28.00 |
| 16 | 29.01 | 35.60 | 46.20 | 54.60 | 65.20 | 79.80 | 92.40 | 122.00 | 16 | 9.00 | 12.40 | 14.30 | 16.00 | 17.50 | 24.80 | 32.00 |
| 18 | 32.80 | 39.90 | 51.80 | 61.40 | 73.40 | 89.90 | 104.00 | 137.00 | 18 | 10.10 | 13.90 | 16.10 | 18.00 | 19.70 | 27.90 | 36.00 |
| 20 | 36.50 | 44.60 | 57.80 | 68.30 | 81.60 | 99.90 | 115.00 | 153.00 | 20 | 11.30 | 15.50 | 17.90 | 20.00 | 21.90 | 31.00 | 40.00 |
| 24 | 45.80 | 53.30 | 69.30 | 82.10 | 98.00 | 120.00 | 139.00 | 183.00 | 24 | 13.50 | 18.60 | 21.50 | 24.00 | 26.30 | 37.20 | 48.00 |
| 30 | 54.40 | 66.80 | 86.40 | 102.00 | 123.00 | 150.00 | 173.00 | 229.00 | 30 | 16.90 | 23.20 | 25.80 | 30.00 | 32.90 | 46.50 | 60.00 |
| 35 | 64.10 | 78.20 | 101.00 | 120.00 | 143.00 | 175.00 | 202.00 | 267.00 | 35 | 19.80 | 27.20 | 31.40 | 35.00 | 38.40 | 54.30 | 70.00 |

Contact our Helpline or your local distributor for further information
 Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
 E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Type BL



| Nozzle number | Thread M 1/8 | Available Spray Angles | |
|---------------|-----------------|------------------------|-----|
| | | 60° | 90° |
| 3 | x | x | x |
| 4 | x | x | x |
| 6 | x | x | x |
| 8 | x | x | x |
| 10 | x | x | x |
| 12 | x | x | x |
| 14 | x | x | x |
| 20 | x | x | x |
| 25 | x | x | x |
| 30 | x | x | x |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Hour at Bar G | | | | | | | | Nozzle number | Flow Rate in GAL / Hour at PSIG | | | | | | | |
|---------------|-------------------------------------|-------|--------|--------|--------|--------|--------|--------|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 0.7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 10 | 15 | 20 | 30 | 45 | 60 | 90 | 100 |
| 3 | 7.40 | 8.70 | 10.40 | 11.90 | 14.20 | 16.20 | 18.90 | 20.70 | 3 | 1.82 | 2.17 | 2.64 | 3.06 | 3.75 | 4.33 | 5.31 | 5.73 |
| 4 | 9.90 | 11.60 | 13.90 | 16.00 | 19.00 | 21.70 | 25.30 | 27.70 | 4 | 2.43 | 2.88 | 3.54 | 4.09 | 5.02 | 5.79 | 7.08 | 7.66 |
| 6 | 14.80 | 17.30 | 20.70 | 23.90 | 28.40 | 32.40 | 37.80 | 41.50 | 6 | 3.62 | 4.33 | 5.31 | 6.13 | 7.50 | 8.67 | 10.62 | 11.47 |
| 8 | 19.70 | 23.10 | 27.70 | 31.80 | 37.90 | 43.20 | 50.40 | 55.30 | 8 | 4.83 | 5.79 | 7.08 | 8.19 | 10.01 | 11.57 | 14.16 | 15.30 |
| 10 | 24.60 | 28.90 | 34.60 | 39.80 | 47.40 | 54.00 | 63.00 | 69.20 | 10 | 6.05 | 7.21 | 8.85 | 10.22 | 12.52 | 14.45 | 17.70 | 19.13 |
| 12 | 29.60 | 34.70 | 41.50 | 47.80 | 56.90 | 64.90 | 75.70 | 83.10 | 12 | 7.26 | 8.67 | 10.62 | 12.26 | 15.03 | 17.36 | 21.27 | 22.96 |
| 14 | 34.50 | 40.50 | 48.50 | 55.80 | 66.40 | 75.70 | 88.30 | 97.00 | 14 | 8.48 | 10.12 | 12.39 | 14.32 | 17.54 | 20.24 | 24.81 | 26.66 |
| 20 | 49.30 | 57.80 | 69.20 | 79.60 | 94.80 | 108.00 | 126.00 | 138.00 | 20 | 12.10 | 14.45 | 17.70 | 20.45 | 25.04 | 28.80 | 35.40 | 38.31 |
| 25 | 61.90 | 72.60 | 86.90 | 100.00 | 119.00 | 136.00 | 158.00 | 174.00 | 25 | 15.19 | 18.04 | 22.14 | 25.57 | 31.44 | 36.19 | 44.38 | 47.82 |
| 30 | 73.80 | 86.60 | 104.00 | 119.00 | 142.00 | 162.00 | 189.00 | 207.00 | 30 | 18.12 | 21.66 | 26.68 | 30.64 | 37.51 | 43.33 | 53.10 | 57.33 |

Type BF



| Nozzle number | Thread Sizes | | | Available Spray Angles | | |
|---------------|--------------|-------|-------|------------------------|-----|------|
| | M 1/8 | M 1/4 | M 3/8 | 60° | 90° | 120° |
| 3 | x | x | x | x | x | x |
| 4 | x | x | x | x | x | x |
| 5 | x | x | x | x | x | x |
| 6 | x | x | x | x | x | x |
| 8 | x | x | x | x | x | x |
| 10 | x | x | x | x | x | x |
| 12 | x | x | x | x | x | x |
| 16 | x | x | x | x | x | x |

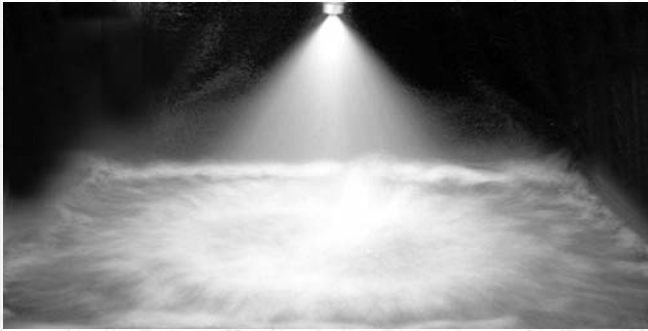
Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|------|------|------|-------|-------|-------|-------|-------|---------------|--------------------------------|------|------|------|------|------|------|
| | 0.35 | 0.7 | 1 | 1.5 | 2 | 3 | 4 | 5 | 7.0 | | 15 | 20 | 30 | 45 | 60 | 70 | 100 |
| 3 | 0.80 | 1.14 | 1.34 | 1.67 | 1.90 | 2.32 | 2.57 | 2.81 | 3.41 | 3 | 0.35 | 0.44 | 0.50 | 0.61 | 0.68 | 0.74 | 0.90 |
| 4 | 1.07 | 1.52 | 1.79 | 2.22 | 2.53 | 3.10 | 3.42 | 3.75 | 4.54 | 4 | 0.47 | 0.59 | 0.67 | 0.82 | 0.90 | 0.99 | 1.20 |
| 5 | 1.33 | 1.90 | 2.23 | 2.78 | 3.15 | 3.86 | 4.28 | 4.68 | 5.68 | 5 | 0.59 | 0.73 | 0.83 | 1.02 | 1.13 | 1.24 | 1.50 |
| 6 | 1.60 | 2.29 | 2.68 | 3.34 | 3.79 | 4.64 | 5.13 | 5.62 | 6.81 | 6 | 0.71 | 0.88 | 1.00 | 1.23 | 1.36 | 1.48 | 1.80 |
| 8 | 2.13 | 3.05 | 3.57 | 4.44 | 5.28 | 6.18 | 6.84 | 7.49 | 9.08 | 8 | 0.94 | 1.17 | 1.66 | 1.63 | 1.81 | 1.98 | 2.40 |
| 10 | 2.67 | 3.81 | 4.40 | 5.56 | 6.31 | 7.72 | 8.56 | 9.36 | 11.35 | 10 | 1.16 | 1.47 | 1.67 | 2.04 | 2.26 | 2.47 | 3.00 |
| 12 | 3.20 | 4.57 | 5.36 | 6.67 | 7.58 | 9.28 | 10.27 | 11.24 | 13.62 | 12 | 1.42 | 1.76 | 2.00 | 2.45 | 2.71 | 2.97 | 3.60 |
| 16 | 4.27 | 6.10 | 7.14 | 8.90 | 10.10 | 12.37 | 13.73 | 14.98 | 18.16 | 16 | 1.89 | 2.35 | 2.67 | 3.27 | 3.63 | 3.69 | 4.80 |

Solid Cone Nozzles

Producing uniform distribution across a wide pressure range

TYPICAL SPRAY PATTERN



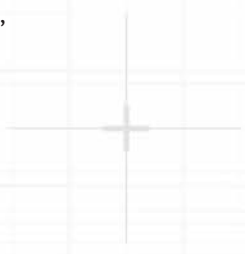
TYPICAL APPLICATIONS

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



BI Type Nozzle

BI 6 – 193 available. One-piece body with pressed in cross-milled core. Spray angles from 35° to 100° dependent upon flow size and pressure. See chart for available thread sizes.



BQ Type Nozzle

BQ 6 – 193 available. One-piece body with pressed in cross-milled core. Spray angles from 35° to 100° dependent upon flow size and pressure. See chart for available thread sizes. Produces a square pattern.



BN Type Nozzle

BN 6 – 200 available. One-piece body with pressed in cross-milled core. Spray angles from 85° to 135° dependent upon flow size and pressure. See chart for available thread sizes.



BT Type Nozzle

BT 6 – 200 available. One-piece body with pressed in cross-milled core. Spray angles from 85° to 135° dependent upon flow size and pressure. See chart for available thread sizes.



Unless otherwise stated, all nozzles and tips are available in Brass and Stainless Steel as standard.

Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Type BI



| Nozzle number | Thread Sizes (BSPT) - Male Only | | | | | | Spray angle (°) at 2-bar |
|---------------|---------------------------------|-------|-------|-------|------|----|--------------------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M3/4 | M1 | |
| 6 | x | x | | | | | 47 |
| 8 | x | x | | | | | 56 |
| 11 | x | x | | | | | 64 |
| 12 | x | x | | | | | 70 |
| 16 | | x | x | | | | 60 |
| 20 | | x | x | | | | 73 |
| 22 | | x | x | | | | 80 |
| 27 | | | x | x | | | 53 |
| 32 | | | x | x | | | 70 |
| 42 | | | | x | x | | 76 |
| 49 | | | | x | x | | 86 |
| 63 | | | | x | x | | 80 |
| 77 | | | | | x | | 73 |
| 89 | | | | | x | | 85 |
| 102 | | | | | x | | 97 |
| 105 | | | | | | x | 57 |
| 123 | | | | | | x | 73 |
| 162 | | | | | | x | 86 |
| 193 | | | | | | x | 10 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|--------|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 0.35 | 1 | 1.5 | 2 | 3 | 4 | 7.0 | | 5 | 15 | 20 | 30 | 40 | 60 | 100 |
| 6 | 0.88 | 1.50 | 1.88 | 2.18 | 2.65 | 2.87 | 3.54 | 6 | 0.23 | 0.40 | 0.47 | 0.58 | 0.66 | 0.76 | 0.91 |
| 8 | 1.30 | 2.28 | 2.84 | 3.23 | 4.00 | 4.55 | 5.72 | 8 | 0.34 | 0.60 | 0.71 | 0.85 | 1.00 | 1.20 | 1.48 |
| 11 | 1.63 | 2.87 | 3.62 | 4.05 | 4.87 | 5.36 | 6.74 | 11 | 0.42 | 0.76 | 0.90 | 1.07 | 1.21 | 1.42 | 1.74 |
| 12 | 2.09 | 3.41 | 4.09 | 4.55 | 5.30 | 5.91 | 7.58 | 12 | 0.54 | 0.90 | 1.02 | 1.20 | 1.32 | 1.56 | 1.96 |
| 16 | 2.50 | 4.41 | 5.30 | 6.14 | 7.27 | 8.00 | 10.04 | 16 | 0.65 | 1.16 | 1.32 | 1.62 | 1.81 | 2.11 | 2.59 |
| 20 | 3.11 | 5.46 | 6.50 | 7.54 | 9.06 | 10.00 | 12.63 | 20 | 0.80 | 1.44 | 1.62 | 1.99 | 2.26 | 2.64 | 3.25 |
| 22 | 3.58 | 6.24 | 7.51 | 8.32 | 9.78 | 10.91 | 14.24 | 22 | 0.92 | 1.64 | 1.87 | 2.20 | 2.44 | 2.88 | 3.67 |
| 27 | 4.23 | 7.42 | 9.01 | 10.10 | 12.32 | 13.64 | 17.47 | 27 | 1.09 | 1.96 | 2.24 | 2.68 | 3.07 | 3.60 | 4.50 |
| 32 | 5.81 | 8.88 | 10.81 | 12.32 | 14.44 | 15.96 | 20.40 | 32 | 1.50 | 2.34 | 2.70 | 3.24 | 3.59 | 4.20 | 5.28 |
| 42 | 6.74 | 11.82 | 14.44 | 15.96 | 19.29 | 21.41 | 27.37 | 42 | 1.74 | 3.12 | 3.60 | 4.20 | 4.80 | 5.64 | 7.08 |
| 49 | 8.17 | 14.24 | 16.36 | 18.69 | 23.13 | 25.05 | 32.52 | 49 | 2.11 | 3.76 | 4.08 | 4.92 | 5.76 | 6.60 | 8.40 |
| 63 | 10.20 | 17.07 | 20.50 | 23.84 | 28.89 | 32.22 | 41.31 | 63 | 2.64 | 4.50 | 5.16 | 6.30 | 7.20 | 8.53 | 10.70 |
| 77 | 12.32 | 20.50 | 23.94 | 29.09 | 34.95 | 36.68 | 49.29 | 77 | 3.18 | 5.40 | 6.36 | 7.69 | 8.70 | 10.20 | 12.70 |
| 89 | 13.94 | 23.74 | 29.39 | 33.63 | 40.00 | 44.54 | 56.26 | 89 | 3.60 | 5.24 | 7.32 | 8.88 | 9.96 | 11.80 | 14.50 |
| 102 | 14.95 | 27.37 | 33.73 | 36.68 | 46.26 | 50.00 | 64.54 | 102 | 3.84 | 7.20 | 8.40 | 10.20 | 11.50 | 13.20 | 16.70 |
| 105 | 16.26 | 27.78 | 33.73 | 39.79 | 48.18 | 52.32 | 67.37 | 105 | 4.20 | 7.32 | 8.40 | 10.50 | 12.00 | 13.80 | 17.40 |
| 123 | 19.49 | 34.64 | 42.32 | 46.56 | 57.77 | 63.63 | 80.40 | 123 | 5.04 | 9.12 | 10.60 | 12.30 | 14.40 | 16.80 | 20.80 |
| 162 | 25.55 | 44.64 | 53.03 | 61.41 | 72.22 | 79.08 | 101.00 | 162 | 6.60 | 11.80 | 13.20 | 16.20 | 18.00 | 21.00 | 26.20 |
| 193 | 28.79 | 50.10 | 60.70 | 73.23 | 87.57 | 99.08 | 128.27 | 193 | 7.44 | 13.20 | 15.10 | 19.30 | 22.60 | 26.20 | 33.00 |

Type BN



| Nozzle number | Thread Sizes (BSPT) - Male Only | | | | | | Spray angle (°) at 2-bar |
|---------------|---------------------------------|-------|-------|-------|------|----|--------------------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M3/4 | M1 | |
| 6 | x | x | | | | | 100 |
| 8 | x | x | | | | | 120 |
| 11 | x | x | | | | | 120 |
| 15 | | x | | | | | 110 |
| 18 | | x | | | | | 120 |
| 22 | | x | x | | | | 110 |
| 25 | | | x | | | | 120 |
| 32 | | | x | | | | 110 |
| 39 | | | x | | | | 120 |
| 46 | | | x | x | | | 112 |
| 48 | | | x | x | | | 120 |
| 59 | | | | x | | | 128 |
| 65 | | | | x | | | 110 |
| 73 | | | | x | | | 120 |
| 82 | | | | | x | | 112 |
| 94 | | | | | x | | 120 |
| 98 | | | | | x | | 120 |
| 136 | | | | | | x | 115 |
| 153 | | | | | | x | 120 |
| 200 | | | | | | x | 125 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|--------|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 0.35 | 1 | 1.5 | 2 | 3 | 4 | 7.0 | | 5 | 15 | 20 | 30 | 40 | 60 | 100 |
| 6 | 0.88 | 1.50 | 1.88 | 2.18 | 2.65 | 2.87 | 3.54 | 6 | 0.23 | 0.40 | 0.50 | 0.58 | 0.70 | 0.76 | 0.93 |
| 8 | 1.30 | 2.28 | 2.84 | 3.23 | 4.00 | 4.55 | 5.72 | 8 | 0.34 | 0.60 | 0.75 | 0.85 | 1.06 | 1.20 | 1.51 |
| 11 | 1.86 | 3.23 | 3.86 | 4.31 | 5.15 | 5.45 | 7.43 | 11 | 0.48 | 0.85 | 0.96 | 1.14 | 1.28 | 1.44 | 1.92 |
| 15 | 2.60 | 4.50 | 5.26 | 5.59 | 6.64 | 7.24 | 9.16 | 15 | 0.69 | 1.19 | 1.39 | 1.48 | 1.75 | 1.91 | 2.42 |
| 18 | 3.10 | 5.39 | 6.30 | 6.70 | 7.96 | 8.68 | 10.98 | 18 | 0.82 | 1.42 | 1.66 | 1.77 | 2.10 | 2.29 | 2.90 |
| 22 | 3.95 | 6.84 | 8.00 | 8.50 | 10.10 | 11.01 | 13.94 | 22 | 1.02 | 1.80 | 1.99 | 2.24 | 2.52 | 2.93 | 3.60 |
| 25 | 4.27 | 7.24 | 8.43 | 9.32 | 11.01 | 12.32 | 15.76 | 25 | 1.10 | 1.91 | 2.10 | 2.46 | 2.76 | 3.24 | 4.08 |
| 32 | 5.90 | 9.15 | 10.80 | 11.92 | 14.30 | 15.78 | 19.90 | 32 | 1.56 | 2.42 | 2.85 | 3.15 | 3.78 | 4.17 | 5.25 |
| 39 | 7.20 | 11.15 | 13.14 | 14.52 | 17.40 | 19.20 | 24.25 | 39 | 1.90 | 2.94 | 3.47 | 3.83 | 4.59 | 5.07 | 6.40 |
| 46 | 8.13 | 13.64 | 15.86 | 17.27 | 19.29 | 22.32 | 27.88 | 46 | 2.10 | 3.60 | 3.96 | 4.56 | 4.80 | 5.88 | 7.20 |
| 48 | 8.33 | 15.25 | 16.87 | 18.18 | 23.13 | 24.54 | 32.52 | 48 | 2.28 | 4.02 | 4.20 | 4.80 | 5.76 | 6.48 | 8.40 |
| 59 | 9.29 | 15.96 | 19.29 | 22.32 | 26.06 | 28.18 | 37.67 | 59 | 2.40 | 4.20 | 4.80 | 5.88 | 6.48 | 7.44 | 9.72 |
| 65 | 12.00 | 18.60 | 21.92 | 24.21 | 29.00 | 32.05 | 40.40 | 65 | 3.17 | 4.91 | 5.79 | 6.39 | 7.66 | 8.46 | 10.67 |
| 73 | 13.50 | 20.88 | 24.50 | 27.19 | 32.60 | 36.00 | 45.40 | 73 | 3.56 | 5.51 | 6.47 | 7.18 | 8.61 | 9.50 | 11.99 |
| 82 | 15.35 | 23.74 | 27.98 | 30.91 | 37.07 | 40.91 | 51.61 | 82 | 3.96 | 6.24 | 6.96 | 8.16 | 9.24 | 10.80 | 13.30 |
| 94 | 16.77 | 26.87 | 32.72 | 35.45 | 41.92 | 45.96 | 59.89 | 94 | 4.32 | 7.08 | 8.16 | 9.36 | 10.40 | 12.10 | 15.50 |
| 98 | 18.08 | 27.78 | 34.24 | 37.27 | 44.34 | 50.00 | 64.54 | 98 | 4.68 | 7.32 | 8.52 | 9.84 | 11.00 | 13.20 | 16.70 |
| 136 | 24.14 | 42.32 | 48.18 | 51.41 | 60.20 | 67.77 | 86.86 | 136 | 6.24 | 11.20 | 12.00 | 13.60 | 15.00 | 17.90 | 22.40 |
| 153 | 27.88 | 46.97 | 53.93 | 57.97 | 67.47 | 76.36 | 98.07 | 153 | 7.20 | 12.40 | 13.40 | 15.30 | 16.80 | 20.20 | 25.30 |
| 200 | 29.69 | 51.41 | 62.62 | 75.95 | 88.68 | 99.59 | 130.29 | 200 | 7.68 | 13.60 | 15.60 | 20.00 | 22.10 | 26.30 | 33.60 |

Solid Cone Nozzles

Type BQ



| Nozzle number | Thread Sizes (BSPT) - Male Only | | | | | | Spray angle (°) at 2-bar |
|---------------|---------------------------------|-------|-------|-------|------|----|--------------------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M3/4 | M1 | |
| 6 | x | x | | | | | 47 |
| 8 | x | x | | | | | 56 |
| 11 | x | x | | | | | 64 |
| 12 | x | x | | | | | 70 |
| 16 | | x | x | | | | 60 |
| 20 | | x | x | | | | 73 |
| 22 | | x | x | | | | 80 |
| 27 | | | x | x | | | 53 |
| 32 | | | x | x | | | 70 |
| 42 | | | | x | x | | 76 |
| 49 | | | | x | x | | 86 |
| 63 | | | | x | x | | 80 |
| 77 | | | | | x | | 73 |
| 89 | | | | | | x | 85 |
| 102 | | | | | | x | 97 |
| 105 | | | | | | x | 57 |
| 123 | | | | | | x | 73 |
| 162 | | | | | | x | 86 |
| 193 | | | | | | x | 100 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|--------|
| | 0.35 | 1 | 1.5 | 2 | 3 | 4 | 7.0 |
| 6 | 0.88 | 1.50 | 1.88 | 2.18 | 2.65 | 2.87 | 3.54 |
| 8 | 1.30 | 2.28 | 2.84 | 3.23 | 4.00 | 4.55 | 5.72 |
| 11 | 1.63 | 2.87 | 3.62 | 4.05 | 4.87 | 5.36 | 6.74 |
| 12 | 2.09 | 3.41 | 4.09 | 4.55 | 5.30 | 5.91 | 7.58 |
| 16 | 2.50 | 4.41 | 5.30 | 6.14 | 7.27 | 8.00 | 10.04 |
| 20 | 3.11 | 5.46 | 6.50 | 7.54 | 9.06 | 10.00 | 12.63 |
| 22 | 3.58 | 6.24 | 7.51 | 8.32 | 9.78 | 10.91 | 14.24 |
| 27 | 4.23 | 7.42 | 9.01 | 10.10 | 12.32 | 13.64 | 17.47 |
| 32 | 5.81 | 8.88 | 10.81 | 12.32 | 14.44 | 15.96 | 20.40 |
| 42 | 6.74 | 11.82 | 14.44 | 15.96 | 19.29 | 21.41 | 27.37 |
| 49 | 8.17 | 14.24 | 16.36 | 18.69 | 23.13 | 25.05 | 32.52 |
| 63 | 10.20 | 17.07 | 20.50 | 23.84 | 28.89 | 32.22 | 41.31 |
| 77 | 12.32 | 20.50 | 23.94 | 29.09 | 34.95 | 36.68 | 49.29 |
| 89 | 13.94 | 23.74 | 29.39 | 33.63 | 40.00 | 44.54 | 56.26 |
| 102 | 14.95 | 27.37 | 33.73 | 36.68 | 46.26 | 50.00 | 64.54 |
| 105 | 16.26 | 27.78 | 33.73 | 39.79 | 48.18 | 52.32 | 67.37 |
| 123 | 19.49 | 34.64 | 42.32 | 46.56 | 57.77 | 63.63 | 80.40 |
| 162 | 25.55 | 44.64 | 53.03 | 61.41 | 72.22 | 79.08 | 101.00 |
| 193 | 28.79 | 50.10 | 60.70 | 73.23 | 87.57 | 99.08 | 128.27 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | | |
|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|--|
| | 5 | 15 | 20 | 30 | 40 | 60 | 100 | |
| 6 | 0.23 | 0.40 | 0.47 | 0.58 | 0.66 | 0.76 | 0.91 | |
| 8 | 0.34 | 0.60 | 0.71 | 0.85 | 1.00 | 1.20 | 1.48 | |
| 11 | 0.42 | 0.76 | 0.90 | 1.07 | 1.21 | 1.42 | 1.74 | |
| 12 | 0.54 | 0.90 | 1.02 | 1.20 | 1.32 | 1.56 | 1.96 | |
| 16 | 0.65 | 1.16 | 1.32 | 1.62 | 1.81 | 2.11 | 2.59 | |
| 20 | 0.80 | 1.44 | 1.62 | 1.99 | 2.26 | 2.64 | 3.25 | |
| 22 | 0.92 | 1.64 | 1.87 | 2.20 | 2.44 | 2.88 | 3.67 | |
| 27 | 1.09 | 1.96 | 2.24 | 2.68 | 3.07 | 3.60 | 4.50 | |
| 32 | 1.50 | 2.34 | 2.70 | 3.24 | 3.59 | 4.20 | 5.28 | |
| 42 | 1.74 | 3.12 | 3.60 | 4.20 | 4.80 | 5.64 | 7.08 | |
| 49 | 2.11 | 3.76 | 4.08 | 4.92 | 5.76 | 6.60 | 8.40 | |
| 63 | 2.64 | 4.50 | 5.16 | 6.30 | 7.20 | 8.53 | 10.70 | |
| 77 | 3.18 | 5.40 | 6.36 | 7.69 | 8.70 | 10.20 | 12.70 | |
| 89 | 3.60 | 5.24 | 7.32 | 8.88 | 9.96 | 11.80 | 14.50 | |
| 102 | 3.84 | 7.20 | 8.40 | 10.20 | 11.50 | 13.20 | 16.70 | |
| 105 | 4.20 | 7.32 | 8.40 | 10.50 | 12.00 | 13.80 | 17.40 | |
| 123 | 5.04 | 9.12 | 10.60 | 12.30 | 14.40 | 16.80 | 20.80 | |
| 162 | 6.60 | 11.80 | 13.20 | 16.20 | 18.00 | 21.00 | 26.20 | |
| 193 | 7.44 | 13.20 | 15.10 | 19.30 | 22.60 | 26.20 | 33.00 | |

Contact our Helpline or your local distributor for further information
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 E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Type BT



| Nozzle number | Thread Sizes (BSPT) - Male Only | | | | | | Spray angle (°) at 2-bar | | | |
|---------------|---------------------------------|-------|-------|-------|------|----|--------------------------|-----|-----|-----|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M3/4 | M1 | | | | |
| 6 | x | x | | | | | 100 | | | |
| 8 | x | x | | | | | 120 | | | |
| 11 | x | x | | | | | 120 | | | |
| 15 | | x | | | | | 110 | | | |
| 18 | | x | | | | | 120 | | | |
| 22 | | x | x | | | | 110 | | | |
| 25 | | | x | | | | 120 | | | |
| 32 | | | x | | | | 110 | | | |
| 39 | | | x | | | | 120 | | | |
| 46 | | | x | x | | | 112 | | | |
| 48 | | | x | x | | | 120 | | | |
| 59 | | | | x | | | 128 | | | |
| 65 | | | | x | | | 110 | | | |
| 73 | | | | x | | | 120 | | | |
| 82 | | | | | | x | 112 | | | |
| 94 | | | | | | x | 120 | | | |
| 98 | | | | | | x | 120 | | | |
| 136 | | | | | | | x | 115 | | |
| 153 | | | | | | | | x | 120 | |
| 200 | | | | | | | | | x | 125 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | |
|---------------|------------------------------------|-------|-------|-------|-------|-------|--------|
| | 0.35 | 1 | 1.5 | 2 | 3 | 4 | 7.0 |
| 6 | 0.88 | 1.50 | 1.88 | 2.18 | 2.65 | 2.87 | 3.54 |
| 8 | 1.30 | 2.28 | 2.84 | 3.23 | 4.00 | 4.55 | 5.72 |
| 11 | 1.86 | 3.23 | 3.86 | 4.31 | 5.15 | 5.45 | 7.43 |
| 15 | 2.60 | 4.50 | 5.26 | 5.59 | 6.64 | 7.24 | 9.16 |
| 18 | 3.10 | 5.39 | 6.30 | 6.70 | 7.96 | 8.68 | 10.98 |
| 22 | 3.95 | 6.84 | 8.00 | 8.50 | 10.10 | 11.01 | 13.94 |
| 25 | 4.27 | 7.24 | 8.43 | 9.32 | 11.01 | 12.32 | 15.76 |
| 32 | 5.90 | 9.15 | 10.80 | 11.92 | 14.30 | 15.78 | 19.90 |
| 39 | 7.20 | 11.15 | 13.14 | 14.52 | 17.40 | 19.20 | 24.25 |
| 46 | 8.13 | 13.64 | 15.86 | 17.27 | 19.29 | 22.32 | 27.88 |
| 48 | 8.33 | 15.25 | 16.87 | 18.18 | 23.13 | 24.54 | 32.52 |
| 59 | 9.29 | 15.96 | 19.29 | 22.32 | 26.06 | 28.18 | 37.67 |
| 65 | 12.00 | 18.60 | 21.92 | 24.21 | 29.00 | 32.05 | 40.40 |
| 73 | 13.50 | 20.88 | 24.50 | 27.19 | 32.60 | 36.00 | 45.40 |
| 82 | 15.35 | 23.74 | 27.98 | 30.91 | 37.07 | 40.91 | 51.61 |
| 94 | 16.77 | 26.87 | 32.72 | 35.45 | 41.92 | 45.96 | 59.89 |
| 98 | 18.08 | 27.78 | 34.24 | 37.27 | 44.34 | 50.00 | 64.54 |
| 136 | 24.14 | 42.32 | 48.18 | 51.41 | 60.20 | 67.77 | 86.86 |
| 153 | 27.88 | 46.97 | 53.93 | 57.97 | 67.47 | 76.36 | 98.07 |
| 200 | 29.69 | 51.41 | 62.62 | 75.95 | 88.68 | 99.59 | 130.29 |

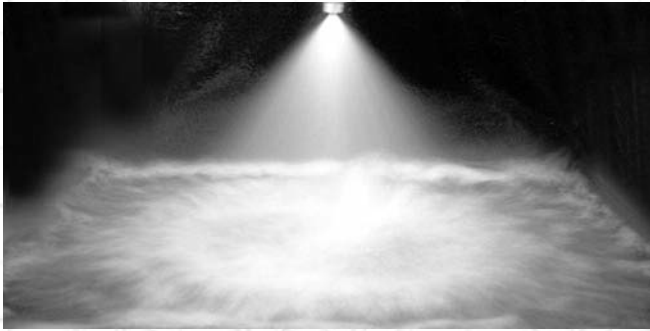
| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|
| | 5 | 15 | 20 | 30 | 40 | 60 | 100 |
| 6 | 0.23 | 0.40 | 0.50 | 0.58 | 0.70 | 0.76 | 0.93 |
| 8 | 0.34 | 0.60 | 0.75 | 0.85 | 1.06 | 1.20 | 1.51 |
| 11 | 0.48 | 0.85 | 0.96 | 1.14 | 1.28 | 1.44 | 1.92 |
| 15 | 0.69 | 1.19 | 1.39 | 1.48 | 1.75 | 1.91 | 2.42 |
| 18 | 0.82 | 1.42 | 1.66 | 1.77 | 2.10 | 2.29 | 2.90 |
| 22 | 1.02 | 1.80 | 1.99 | 2.24 | 2.52 | 2.93 | 3.60 |
| 25 | 1.10 | 1.91 | 2.10 | 2.46 | 2.76 | 3.24 | 4.08 |
| 32 | 1.56 | 2.42 | 2.85 | 3.15 | 3.78 | 4.17 | 5.25 |
| 39 | 1.90 | 2.94 | 3.47 | 3.83 | 4.59 | 5.07 | 6.40 |
| 46 | 2.10 | 3.60 | 3.96 | 4.56 | 4.80 | 5.88 | 7.20 |
| 48 | 2.28 | 4.02 | 4.20 | 4.80 | 5.76 | 6.48 | 8.40 |
| 59 | 2.40 | 4.20 | 4.80 | 5.88 | 6.48 | 7.44 | 9.72 |
| 65 | 3.17 | 4.91 | 5.79 | 6.39 | 7.66 | 8.46 | 10.67 |
| 73 | 3.56 | 5.51 | 6.47 | 7.18 | 8.61 | 9.50 | 11.99 |
| 82 | 3.96 | 6.24 | 6.96 | 8.16 | 9.24 | 10.80 | 13.30 |
| 94 | 4.32 | 7.08 | 8.16 | 9.36 | 10.40 | 12.10 | 15.50 |
| 98 | 4.68 | 7.32 | 8.52 | 9.84 | 11.00 | 13.20 | 16.70 |
| 136 | 6.24 | 11.20 | 12.00 | 13.60 | 15.00 | 17.90 | 22.40 |
| 153 | 7.20 | 12.40 | 13.40 | 15.30 | 16.80 | 20.20 | 25.30 |
| 200 | 7.68 | 13.60 | 15.60 | 20.00 | 22.10 | 26.30 | 33.60 |

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Large Solid Cone Nozzles

Producing uniform distribution across a wide pressure range

TYPICAL SPRAY PATTERN



TYPICAL APPLICATIONS

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



CM Type Nozzle

CM 16 – 105 available. One piece body with removable vane type core. Spray angles of 45 to 110° dependent upon flow size and pressure. See chart for available thread sizes.



BY Type Nozzle

BY 23 – 96 available. One-piece body with removable vane type core. Spray angles of 70 to 130° dependent upon flow size and pressure. See chart for available thread sizes.

MCN Type Nozzle

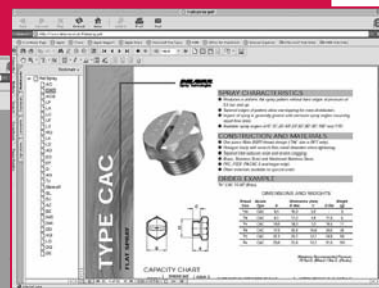
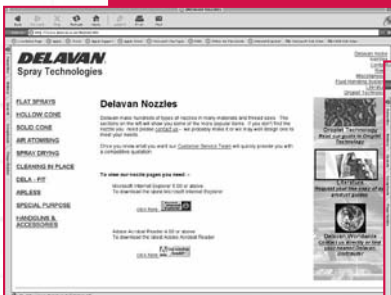
The type MCN is a cone spray nozzle available in spray angles from 60° - 120°. This compact nozzle permits the maximum liquid throughput for a given pipe size, with the large free passageway minimising clogging. Nozzles available in thread sizes of 1/8" to 1" BSPT or NPT. Larger sizes available upon request.



Unless otherwise stated, all nozzles are available in Brass and Stainless Steel as standard.

This is not our complete range of products, to see a full listing visit our website @

www.delavan.co.uk



Type CM



| Nozzle number | Thread Sizes - Female Only | | | Spray angle (°) at 0.7 bar |
|---------------|----------------------------|----------|------|----------------------------|
| | F 1.1/4" | F 1.1/2" | F 2" | |
| 16 | x | | | 60 |
| 22 | x | | | 70 |
| 27 | x | | | 70 |
| 33 | x | | | 70 |
| 29 | | x | | 60 |
| 35 | | x | | 60 |
| 42 | | x | | 70 |
| 48 | | x | | 75 |
| 54 | | x | | 85 |
| 64 | | | x | 73 |
| 71 | | | x | 77 |
| 81 | | | x | 75 |
| 90 | | | x | 85 |
| 98 | | | x | 88 |
| 105 | | | x | 94 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | | | |
|---------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 0.2 | 0.35 | 0.7 | 1 | 1.5 | 2 | 3 | 4 | 5.0 | 6.0 |
| 16 | 25.90 | 33.30 | 45.70 | 53.60 | 64.40 | 72.30 | 87.60 | 99.60 | 110.00 | 119.00 |
| 22 | 34.20 | 44.00 | 59.90 | 70.10 | 84.30 | 96.40 | 115.00 | 131.00 | 145.00 | 153.00 |
| 27 | 43.40 | 55.80 | 76.40 | 89.30 | 106.00 | 121.00 | 146.00 | 166.00 | 184.00 | 200.00 |
| 33 | 52.20 | 67.70 | 91.90 | 108.00 | 129.00 | 146.00 | 177.00 | 202.00 | 222.00 | 243.00 |
| 29 | 45.10 | 57.60 | 79.60 | 94.20 | 112.00 | 128.00 | 154.00 | 177.00 | 197.00 | 212.00 |
| 35 | 36.20 | 70.00 | 96.50 | 114.00 | 137.00 | 156.00 | 187.00 | 216.00 | 238.00 | 259.00 |
| 42 | 66.10 | 86.00 | 117.00 | 137.00 | 168.00 | 191.00 | 229.00 | 261.00 | 289.00 | 317.00 |
| 48 | 74.10 | 96.50 | 133.00 | 158.00 | 188.00 | 216.00 | 259.00 | 298.00 | 326.00 | 355.00 |
| 54 | 83.50 | 108.00 | 148.00 | 175.00 | 211.00 | 241.00 | 288.00 | 330.00 | 367.00 | 398.00 |
| 64 | 96.90 | 126.00 | 175.00 | 206.00 | 248.00 | 284.00 | 341.00 | 389.00 | 437.00 | 503.00 |
| 71 | 109.00 | 142.00 | 195.00 | 231.00 | 279.00 | 321.00 | 335.00 | 440.00 | 488.00 | 536.00 |
| 81 | 123.00 | 161.00 | 222.00 | 261.00 | 316.00 | 362.00 | 436.00 | 504.00 | 553.00 | 603.00 |
| 90 | 137.00 | 181.00 | 250.00 | 294.00 | 353.00 | 408.00 | 492.00 | 558.00 | 618.00 | 679.00 |
| 98 | 149.00 | 195.00 | 207.00 | 316.00 | 385.00 | 451.00 | 526.00 | 607.00 | 670.00 | 728.00 |
| 105 | 160.00 | 209.00 | 288.00 | 339.00 | 413.00 | 473.00 | 568.00 | 625.00 | 718.00 | 781.00 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|--------------------------------|-------|-------|--------|--------|--------|--------|
| | 5 | 10 | 15 | 30 | 40 | 80 | 100 |
| 16 | 8.74 | 12.00 | 14.40 | 19.50 | 22.20 | 30.50 | 33.40 |
| 22 | 11.60 | 15.70 | 18.00 | 25.90 | 29.20 | 40.40 | 44.20 |
| 27 | 14.70 | 20.00 | 24.00 | 32.50 | 37.10 | 51.00 | 55.80 |
| 33 | 17.80 | 24.10 | 29.10 | 39.40 | 44.80 | 61.60 | 68.10 |
| 29 | 15.10 | 20.90 | 25.30 | 34.50 | 39.20 | 54.60 | 60.20 |
| 35 | 18.40 | 25.30 | 30.60 | 42.00 | 47.60 | 66.20 | 72.90 |
| 42 | 22.60 | 30.70 | 36.90 | 51.30 | 58.10 | 80.20 | 89.00 |
| 48 | 25.30 | 34.90 | 42.40 | 58.10 | 66.60 | 90.60 | 99.90 |
| 54 | 28.30 | 38.90 | 47.00 | 64.90 | 73.10 | 102.00 | 112.00 |
| 64 | 33.10 | 45.90 | 55.40 | 76.40 | 86.50 | 121.00 | 132.00 |
| 71 | 37.30 | 51.20 | 62.20 | 86.30 | 97.80 | 136.00 | 150.00 |
| 81 | 42.10 | 58.20 | 70.30 | 97.40 | 111.00 | 154.00 | 171.00 |
| 90 | 47.40 | 65.70 | 79.00 | 110.00 | 125.00 | 172.00 | 190.00 |
| 98 | 51.20 | 71.00 | 84.90 | 121.00 | 133.00 | 186.00 | 205.00 |
| 105 | 54.90 | 75.80 | 91.10 | 127.00 | 144.00 | 199.00 | 219.00 |

Type BY



| Nozzle number | Thread Sizes - Female Only | | | Spray angle (°) at 0.7 bar |
|---------------|----------------------------|----------|------|----------------------------|
| | F 1.1/4" | F 1.1/2" | F 2" | |
| 23 | x | | | 112 |
| 28 | x | | | 108 |
| 35 | x | | | 105 |
| 37 | | x | | 116 |
| 42 | | x | | 115 |
| 47 | | x | | 110 |
| 52 | | x | | 117 |
| 66 | | | x | 105 |
| 73 | | | x | 120 |
| 78 | | | x | 120 |
| 89 | | | x | 110 |
| 96 | | | x | 105 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | | | |
|---------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 0.2 | 0.35 | 0.7 | 1 | 1.5 | 2 | 3 | 4 | 5.0 | 6.0 |
| 23 | 38.30 | 49.40 | 64.00 | 75.40 | 90.00 | 103.00 | 117.00 | 138.00 | 147.00 | 160.00 |
| 28 | 46.40 | 59.50 | 78.20 | 91.50 | 108.00 | 118.00 | 145.00 | 163.00 | 179.00 | 192.00 |
| 35 | 58.90 | 75.90 | 101.10 | 115.00 | 133.00 | 137.00 | 179.00 | 206.00 | 225.00 | 258.00 |
| 37 | 62.90 | 80.50 | 106.00 | 125.00 | 146.00 | 166.00 | 199.00 | 216.00 | 252.00 | 274.00 |
| 42 | 69.60 | 89.20 | 119.00 | 138.00 | 164.00 | 187.00 | 218.00 | 248.00 | 275.00 | 302.00 |
| 47 | 76.30 | 98.80 | 133.00 | 154.00 | 184.00 | 210.00 | 254.00 | 292.00 | 319.00 | 348.00 |
| 52 | 86.60 | 110.00 | 146.00 | 170.00 | 203.00 | 227.00 | 277.00 | 318.00 | 353.00 | - |
| 66 | 105.00 | 137.00 | 188.00 | 219.00 | 259.00 | 294.00 | 355.00 | 401.00 | - | - |
| 73 | 116.00 | 149.00 | 204.00 | 240.00 | 286.00 | 325.00 | 390.00 | 452.00 | - | - |
| 78 | 125.00 | 161.00 | 220.00 | 256.00 | 306.00 | 347.00 | 420.00 | - | - | - |
| 89 | 141.00 | 183.00 | 247.00 | 291.00 | 344.00 | 403.00 | 486.00 | - | - | - |
| 96 | 152.00 | 197.00 | 270.00 | 313.00 | 375.00 | 441.00 | 515.00 | - | - | - |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | |
|---------------|--------------------------------|-------|-------|--------|--------|-------|-------|
| | 5 | 10 | 15 | 30 | 40 | 80 | 100 |
| 23 | 13.04 | 16.90 | 19.90 | 27.19 | 29.61 | 38.81 | 45.67 |
| 28 | 15.71 | 20.64 | 24.16 | 31.15 | 36.70 | 47.25 | 54.38 |
| 35 | 20.04 | 26.69 | 30.36 | 36.17 | 45.31 | 59.40 | 72.33 |
| 37 | 21.25 | 27.98 | 33.00 | 43.82 | 50.37 | 66.53 | 77.61 |
| 42 | 23.55 | 31.41 | 36.43 | 49.37 | 55.18 | 72.60 | 85.27 |
| 47 | 26.08 | 35.11 | 40.65 | 55.44 | 64.29 | 84.21 | 98.47 |
| 52 | 29.04 | 38.54 | 44.88 | 59.93 | 70.11 | 93.19 | - |
| 66 | 36.17 | 49.63 | 57.81 | 77.61 | 89.85 | - | - |
| 73 | 39.33 | 53.85 | 63.36 | 85.80 | 98.71 | - | - |
| 78 | 42.50 | 58.08 | 67.58 | 91.61 | 106.30 | - | - |
| 89 | 48.31 | 65.21 | 76.82 | 106.39 | 123.01 | - | - |
| 96 | 52.01 | 71.28 | 82.63 | 116.42 | 130.35 | - | - |

Large Solid Cone Nozzles

Type MCN



| Nozzle number | Thread Sizes (BSPT or NPT) - Male Only | | | | | | Spray angle (°) |
|---------------|--|-------|-------|-------|-------|-----|-----------------|
| | M 1/8 | M 1/4 | M 3/8 | M 1/2 | M 3/4 | M 1 | |
| 6 | X | | | | | | 60-90-120 |
| 8 | X | | | | | | 60-90-120 |
| 6 | | X | | | | | 60-90-120 |
| 8 | | X | | | | | 60-90-120 |
| 10 | | X | | | | | 60-90-120 |
| 6 | | | X | | | | 60-90-120 |
| 8 | | | X | | | | 60-90-120 |
| 10 | | | X | | | | 60-90-120 |
| 12 | | | X | | | | 60-90-120 |
| 14 | | | X | | | | 60-90-120 |
| 16 | | | X | | | | 60-90-120 |
| 20 | | | X | | | | 60-90-120 |
| 24 | | | | X | | | 60-90-120 |
| 28 | | | | X | | | 60-90-120 |
| 32 | | | | | X | | 60-90-120 |
| 40 | | | | | | X | 60-90-120 |
| 48 | | | | | | X | 60-90-120 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | |
|---------------|------------------------------------|--------|--------|--------|--------|--------|---------------|--------------------------------|-------|-------|-------|-------|--------|
| | 0.5 | 0.7 | 1 | 2 | 3 | 5 | | 5 | 10 | 20 | 30 | 40 | 50 |
| 6 | 2.26 | 2.67 | 3.19 | 4.50 | 5.50 | 7.10 | 6 | 0.50 | 0.70 | 0.99 | 1.21 | 1.40 | 1.57 |
| 8 | 4.19 | 4.96 | 5.93 | 8.40 | 10.30 | 13.20 | 8 | 0.92 | 1.30 | 1.84 | 2.25 | 2.60 | 2.91 |
| 10 | 6.45 | 7.63 | 9.12 | 12.90 | 15.80 | 20.40 | 10 | 1.41 | 2.00 | 2.83 | 3.46 | 4.00 | 4.47 |
| 12 | 9.67 | 11.40 | 13.70 | 19.30 | 23.70 | 30.60 | 12 | 2.12 | 3.00 | 4.24 | 5.20 | 6.00 | 6.71 |
| 14 | 31.10 | 15.40 | 18.50 | 26.10 | 32.00 | 41.30 | 14 | 2.86 | 4.05 | 5.73 | 7.01 | 8.10 | 9.06 |
| 16 | 17.10 | 20.20 | 24.20 | 34.20 | 41.80 | 54.00 | 16 | 3.75 | 5.30 | 7.50 | 9.18 | 10.60 | 11.90 |
| 20 | 26.60 | 31.50 | 37.60 | 53.20 | 65.10 | 84.10 | 20 | 5.83 | 8.25 | 11.70 | 14.30 | 16.50 | 18.40 |
| 24 | 38.80 | 46.00 | 54.90 | 77.70 | 95.10 | 123.00 | 24 | 8.52 | 12.10 | 17.00 | 20.90 | 24.10 | 26.90 |
| 28 | 53.20 | 62.90 | 75.20 | 106.00 | 130.00 | 168.00 | 28 | 11.70 | 16.50 | 23.30 | 28.60 | 33.00 | 36.90 |
| 32 | 67.70 | 80.10 | 95.70 | 135.00 | 166.00 | 214.00 | 32 | 14.80 | 21.00 | 29.70 | 36.40 | 42.00 | 47.00 |
| 40 | 108.00 | 128.00 | 153.00 | 216.00 | 264.00 | 341.00 | 40 | 23.70 | 33.50 | 47.40 | 58.00 | 67.00 | 74.90 |
| 48 | 153.00 | 181.00 | 216.00 | 306.00 | 375.00 | 484.00 | 48 | 33.60 | 47.50 | 67.20 | 82.30 | 95.00 | 106.00 |

Contact our Helpline or your local distributor for further information
 Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
 E-mail: delavanspray@goodrich.com or sales@delavan.co.uk



Standard Threaded Nozzle Bodies and Caps

These are designed to accept any standard flanged tip from the standard nozzle range.



STANDARD THREADED NOZZLE BODIES SELECTION CHART - BSP THREADS

| Thread size BSP | Material | Male | Female | Cap thread size | Cap number |
|-----------------|---------------------|------------|------------|-----------------|------------|
| M or F 1/8 | Brass | A320110016 | A320120015 | 3/8" BSPP | A292830013 |
| M or F 1/8 | Stainless steel 303 | A320110024 | A320120023 | 3/8" BSPP | A292830021 |
| M or F 1/4 | Brass | A320130014 | A320140013 | 3/8" BSPP | A292830013 |
| M or F 1/4 | Stainless steel 303 | A320130022 | A320140021 | 3/8" BSPP | A292830021 |
| M or F 3/8 | Brass | A320160011 | A320170010 | 3/8" BSPP | A292830013 |
| M or F 3/8 | Stainless steel 303 | A320160029 | A320170028 | 3/8" BSPP | A292830021 |

STANDARD THREADED NOZZLE CAP SELECTION CHART - NPT THREADS

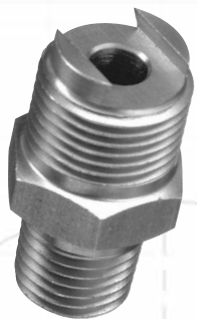
| Thread size NPT | Material | Male | Female | Cap thread size | Cap number |
|-----------------|---------------------|------------|------------|-----------------|------------|
| M or F 1/8 | Brass | W203330011 | - | 11/16" - 16 UN | A011650015 |
| M or F 1/8 | Stainless steel 303 | W028210034 | - | 11/16" - 16 UN | A011650031 |
| M or F 1/4 | Brass | A011670013 | A011690011 | 11/16" - 16 UN | A011650015 |
| M or F 1/4 | Stainless steel 303 | A011670039 | W199020030 | 11/16" - 16 UN | A011650031 |
| M or F 3/8 | Brass | A507010013 | A507020012 | 11/16" - 16 UN | A011650015 |
| M or F 3/8 | Stainless steel 303 | A507010021 | A507020020 | 11/16" - 16 UN | A011650031 |
| M 1/4 | Nylon | A084740016 | - | 11/16" - 16 UN | A084750015 |

Dovetail Nozzle Bodies

Features:

- 1/8", 1/4" & 3/8" Dovetail bodies for use with LD Tip
- 3/4" & 1/2" Dovetail bodies for use with AD Tip
- High-pressure caps available for all bodies in LD range

Please note:- Welding Body version available if required.



DOVETAIL NOZZLE BODIES

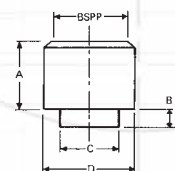
| Type | Brass | Use Brass Cap No | Stainless Steel | Use S/S Cap No |
|-------------------------|-------|------------------|-----------------|----------------|
| 1/4" BSP LDM Body | X | W00105-2 | X | W00105-1 |
| 1/4" NPT LDMX Body | X | W00105-2 | X | W00105-1 |
| 3/8" BSP LDM Body | X | W00105-2 | X | W00105-1 |
| 3/8" NPT LDMX Body | X | W00105-2 | X | W00105-1 |
| 1/2" BSP ADM Body | X | W06248-1 | X | W06248-3X |
| 1/2" NPT ADMX Body | X | W06248-1 | X | W06248-3 |
| 3/4" BSP ADM Body | X | W06248-1 | X | W06248-3 |
| 3/4" NPT ADMX Body | X | W06248-1 | X | W06248-3 |
| LDW Welding Nipple Body | X | | X | W00105-1 |
| ADW Welding Nipple Body | | | X | W06248-3 |

Nozzle Sockets

Used for welding or brazing to spray pipe/manifold assemblies to enable Male threaded nozzles to be fitted.

Features:

- Available with female BSPP threads only
- Available in Brass, Stainless Steel and Mild Steel
- Refer to chart for pipe drilled hole size



NOZZLE SOCKETS SELECTION CHART

| HNS number | Thread Size | Material | Part number | A | B | C | D |
|------------|-------------|-----------|-------------|------|-----|------|------|
| 125 | 1/8" | Brass | W003510010 | 12,7 | 3,2 | 9,1 | 14,3 |
| 125 | 1/8" | Stainless | W003510036 | 12,7 | 3,2 | 9,1 | 14,3 |
| 250 | 1/4" | Brass | W003520019 | 15,9 | 3,2 | 15,1 | 19,1 |
| 250 | 1/4" | Stainless | W003520035 | 15,9 | 3,2 | 15,1 | 19,1 |
| 375 | 3/8" | Brass | W003530018 | 19,1 | 3,2 | 15,1 | 25,4 |
| 375 | 3/8" | Stainless | W003530034 | 19,1 | 3,2 | 15,1 | 25,4 |
| 500 | 1/2" | Brass | W003540017 | 22,3 | 4,8 | 21,8 | 31,8 |
| 500 | 1/2" | Stainless | W003540033 | 22,3 | 4,8 | 21,8 | 31,8 |
| 750 | 3/4" | Brass | W003550016 | 22,3 | 4,8 | 21,8 | 31,8 |
| 750 | 3/4" | Stainless | W003550032 | 22,3 | 4,8 | 21,8 | 31,8 |
| 1000 | 1" | Brass | W003560031 | 25,4 | 6,4 | 31,4 | 38,1 |
| 1000 | 1" | Stainless | W003560031 | 25,4 | 6,4 | 31,4 | 38,1 |

Accessories

Eyelet Bodies

Connect nozzles to pipe or hose

Features:

- Delavan eyelets offer the most economical method of attaching spray nozzles to pipe systems
- Easy installation; drill pipe or tube and clamp on eyelet
- Deliver high flow rate with minimum pressure drop
- Varied outlet sizes accept all standard flanged nozzle tips and filters or special swivel nozzles
- Design provided leak-proof service

Construction and Materials:

- One-piece design, hinged bridge, locking screw
- Polypropylene/Nylon

EYELET BODIES SELECTION CHART

| NB pipe size | Body Thread | Eyelet Part No. | Drill Hole Size | O Ring Part No. |
|--------------|-------------|-----------------|-----------------|-----------------|
| 1/2" Poly | 3/8 bsp | W060450001 | 10.3mm | W162503103 |
| 3/4" Poly | 3/8 bsp | W060460000 | 10.3mm | W162503103 |
| 1" Poly | 3/8 bsp | W060430003 | 10.3mm | W162503103 |

AP BALL JET NOZZLE SELECTION CHART

| Nozzle number | Spray Angle 40° | 50° | 65° | 80° |
|---------------|-----------------|-----|-----|-----|
| AP 10 | | | x | x |
| AP 15 | | x | x | x |
| AP 20 | | x | x | x |
| AP 25 | x | x | x | x |
| AP 30 | | x | x | x |
| AP 40 | | x | x | x |
| AP 50 | | x | x | x |
| AP 60 | | x | x | |



Eyelet Body

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | | | Colour Code |
|---------------|------------------------------------|-------|-------|-------|-------|-------|-------|-------|--|-------------|
| | 0.7 | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | | |
| AP 10 | 1.9 | 2.23 | 2.84 | 3.13 | 3.49 | 3.93 | 4.24 | 4.46 | | Tan |
| AP 15 | 2.84 | 3.44 | 3.64 | 4.21 | 4.71 | 6.16 | 6.65 | 6.7 | | Light blue |
| AP 20 | 3.8 | 4.46 | 5.68 | 6.25 | 6.99 | 8.05 | 8.69 | 9.37 | | Light Green |
| AP 25 | 4.75 | 5.58 | 7.1 | 7.81 | 8.73 | 10.06 | 10.87 | 11.71 | | Maroon |
| AP 30 | 5.95 | 6.7 | 8.52 | 9.82 | 10.98 | 11.84 | 12.79 | 13.84 | | Blue |
| AP 40 | 7.78 | 9.37 | 10.89 | 12.05 | 13.47 | 15.62 | 16.87 | 18.3 | | Red |
| AP 50 | 9.61 | 11.61 | 13.73 | 16.07 | 17.97 | 19.89 | 21.48 | 22.77 | | Brown |
| AP 60 | 11.44 | 13.84 | 16.57 | 19.2 | 21.47 | 23.67 | 25.57 | 27.23 | | Gray |

| Flow Rate in GAL / Min at PSIG | | | | | | | | | Colour Code |
|--------------------------------|------|------|------|-----|-----|------|--|-------------|-------------|
| 10 | 15 | 20 | 30 | 40 | 50 | 60 | | | |
| 0.5 | 0.6 | 0.72 | 0.85 | 1 | 1.1 | 1.8 | | Tan | |
| 0.75 | 0.91 | 1.1 | 1.11 | 1.5 | 1.7 | 1.77 | | Light blue | |
| 1 | 1.18 | 1.4 | 1.65 | 2 | 2.3 | 2.48 | | Light Green | |
| 1.2 | 1.53 | 1.8 | 2.12 | 2.5 | 2.8 | 3.01 | | Maroon | |
| 1.5 | 1.77 | 2.2 | 2.59 | 3 | 3.4 | 3.66 | | Blue | |
| 2 | 2.48 | 2.8 | 3.18 | 4 | 4.4 | 4.83 | | Red | |
| 2.5 | 3.07 | 3.5 | 4.25 | 5 | 5.6 | 6.02 | | Brown | |
| 3 | 3.66 | 4.2 | 5.07 | 6 | 6.7 | 7.19 | | Gray | |

BALL SWIVEL EYELETS

| NB pipe size | Body Material | Working pressure | Part number | Drill size hole | Seal |
|--------------|---------------|------------------|-------------|-----------------|--------|
| 11/4" | Poly | 8.7-bar | W100349981 | 20mm | W10371 |
| 11/2" | Poly | 8.7-bar | W100349998 | 20mm | W10371 |



Clamp-on Ball Swivel Eyelet

SC CLIP-ON-EYELET

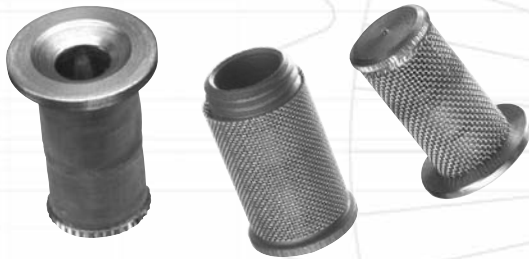
| NB pipe size | Body Material | Working pressure | Part number | Drill size hole | Seal |
|--------------|---------------|------------------|-------------|-----------------|--------|
| 1" SC | Poly | 6-bar | W167220000 | 13.5mm | W31350 |
| 11/4" SC | Poly | 4-bar | W132530038 | 20mm | W31350 |
| 11/2" SC | Poly | 3-bar | W132540037 | 20mm | W31350 |



SC Eyelet

Tip Filters

- Standard Flanges – for use with standard flanged nozzles
- Ball Check – for use with standard flanged nozzles to help stop dripping after pressure shut off
- Threaded – for use with WM, WG and WA nozzle range



TIP FILTERS SELECTION CHART

| Mesh size | Material | Flange | Ball Check Strainer | Threaded (SC) | Flange (FC) |
|-----------|-----------|------------|---------------------|---------------|-------------|
| 24 | Brass | - | A352880064 | - | - |
| 24 | Stainless | - | A352880098 | - | - |
| 40 | Brass | - | - | W000891017 | - |
| 40 | Stainless | - | - | W000893013 | - |
| 50 | Brass | A281750032 | A352880015 | - | - |
| 50 | Stainless | A281750016 | A352880072 | - | - |
| 80 | Brass | - | - | W000891025 | - |
| 80 | Stainless | - | - | W000893021 | - |
| 100 | Brass | A281750040 | A352880023 | - | - |
| 100 | Stainless | A281750024 | A352880080 | - | - |
| 150 | Brass | - | - | - | - |
| 150 | Stainless | - | - | - | - |
| 200 | Brass | A281750073 | - | W000891033 | - |
| 200 | Stainless | A281750107 | A352880106 | W000893039 | - |
| 60 | Poly | - | - | - | W184360011 |
| 100 | Poly | - | - | - | W184360029 |

Pipe Support Clips & Clamps

Features:

- Quick and secure method of attaching plastic pipes to sheet metal or hangers
- Glass reinforced polypropylene for strength and chemical resistance
- Sizes to fit 1/2", 3/4", 1 1/4" and 1 1/2" nominal bore pipe sizes (clips 1 1/4 and 1 1/2 only)
- Support fixing screw will not turn when locking nut is being screwed down
- Accepts fixing screws of varying lengths



Construction and Materials:

- Clip is one-piece body with spring clip. Clamp is one-piece with hinged bridge piece
- Both with glass reinforced body. Clip has stainless steel spring clip and Clamp has stainless steel hinge pin, screw insert and fixing screws

PIPE SUPPORT CLAMPS

| NB pipe size | Body Material | Part number | Screw Size |
|--------------|---------------|-------------|------------|
| 1/2" | Poly | W108920015 | M8 x 45mm |
| 3/4" | Poly | W108920023 | M8 x 45mm |
| 1 1/4" | Poly | W108920031 | M10 x 40mm |
| 1 1/2" | Poly | W108920049 | M10 x 40mm |

PIPE SUPPORT CLIPS (SC TYPE)

| NB pipe size | Body Material | Part number | Screw Size |
|--------------|---------------|-------------|------------|
| 1 1/4" | Poly | W137720030 | M10 x 40mm |
| 1 1/2" | Poly | W137730039 | M10 x 40mm |

Typical Ordering Instructions:

- W13772 Support Clip to fit 1.25" NB Pipe or W10892-2 Pipe Clamp to fit 1/2" NB Pipe

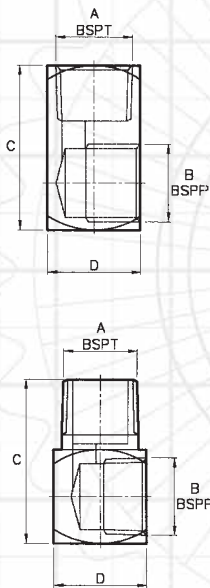
Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

Accessories

Adaptors

Features:

- 90° adaptor for positioning of nozzles
- Available in brass and stainless steel – other materials available to special order



ADAPTORS SELECTION CHART

| Part number Male Adaptor | | Thread Size | | Part number Female Adaptor | |
|--------------------------|------------|---------------|---------------|----------------------------|------------|
| Brass | Stainless | Thread Size A | Thread Size B | Brass | Stainless |
| W137130024 | W137130016 | 1/8" | 1/8" | W067851011 | W067853033 |
| W000811015 | W000812021 | 1/4" | 1/8" | W002162029 | W002161013 |
| W003180020 | W003180012 | 1/4" | 1/4" | W004640022 | W004640014 |
| W000822020 | W000821014 | 3/8" | 1/4" | W002172028 | W002171012 |
| W003190029 | W003190011 | 3/8" | 3/8" | W004630023 | W004630015 |
| W000832029 | W000831013 | 1/2" | 3/8" | W002182027 | W002181011 |
| W003200026 | W003200034 | 1/2" | 1/2" | W004620024 | W004620016 |
| W000842028 | W000841012 | 3/4" | 1/2" | W002190020 | W002191010 |
| W001940029 | W001940037 | 3/4" | 3/4" | W001960027 | W001960019 |
| W000852027 | W000851011 | 1" | 3/4" | W002202023 | W002201017 |
| W004681026 | W004681018 | 1" | 1" | W004700024 | W004700016 |



Adjustable Joint

Features and Positioning:

- Facilitates finger-tight nozzle adjustment without disturbing piping system
- Complete 360° radial adjustment and 50° angular adjustment

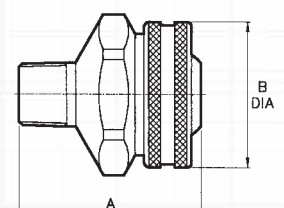
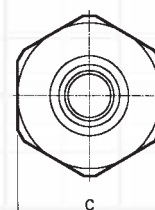
Construction and Materials:

- Available with Male inlet connections and Female outlets in BSP or NPT threads
- Available in Brass and Stainless Steel
- Positive O-ring seal handles pressures up to 35 Bar G



ADJUSTABLE JOINT SELECTION CHART

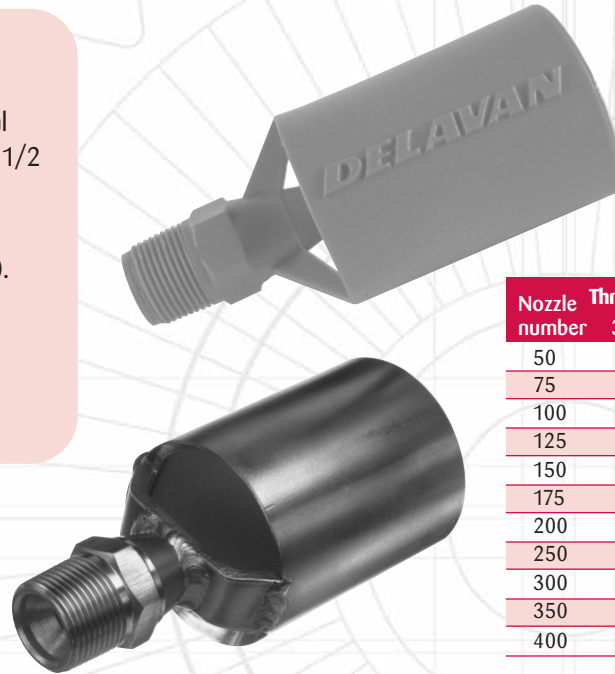
| Part number | Material | Inlet Thread BSP | Outlet Thread BSP | A | B | C |
|-------------|-----------|------------------|-------------------|-------|-------|-------|
| W091111010 | Brass | 1/8" | 1/8" | 28.60 | 25.40 | 20.80 |
| W0911113016 | Stainless | 1/8" | 1/8" | 28.60 | 25.40 | 20.80 |
| W0911111028 | Brass | 1/4" | 1/8" | 28.60 | 25.40 | 20.80 |
| W0911113024 | Stainless | 1/4" | 1/8" | 28.60 | 25.40 | 20.80 |
| W0911111036 | Brass | 1/4" | 1/4" | 34.90 | 31.80 | 25.70 |
| W130601120 | Poly | 1/4" | 1/4" | | | |
| W0911113032 | Stainless | 1/4" | 1/4" | 34.90 | 31.80 | 25.70 |
| W091111044 | Brass | 3/8" | 1/4" | 34.90 | 31.80 | 25.70 |
| W130603126 | Poly | 3/8" | 1/4" | | | |
| W0911113040 | Stainless | 3/8" | 1/4" | 34.90 | 31.80 | 25.70 |
| W091111051 | Brass | 3/8" | 3/8" | 44.50 | 38.10 | 31.80 |
| W130604124 | Poly | 3/8" | 3/8" | | | |
| W0911113057 | Stainless | 3/8" | 3/8" | 44.50 | 38.10 | 31.80 |
| W091111069 | Brass | 1/2" | 1/2" | 55.60 | 44.50 | 31.80 |
| W130607127 | Poly | 1/2" | 1/2" | | | |
| W0911113065 | Stainless | 1/2" | 1/2" | 55.60 | 44.50 | 31.80 |
| W091111077 | Brass | 3/4" | 3/4" | 61.10 | 50.80 | 38.00 |
| W0911113073 | Stainless | 3/4" | 3/4" | 61.10 | 50.80 | 38.00 |
| W091111085 | Brass | 1" | 1" | 75.00 | 70.00 | 60.00 |
| W0911113081 | Stainless | 1" | 1" | 75.00 | 70.00 | 60.00 |



Type BB Eductor

Features:

- One piece design with no internal components. Available with 3/8, 1/2 and 3/4 BSP male threads.
- Maximum Design Pressure:-
Stainless Steel – 500 psi (35 bar).
Polypropylene – 150 psi (10 bar)
- Maximum Design Temperature:-
Stainless Steel – 900°F (500°C).
Polypropylene – 170°F (75°C)

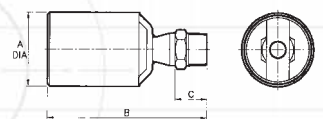
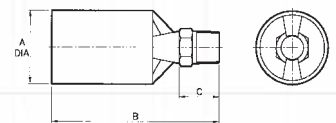


| Nozzle number | Thread Sizes (BSPT) Male Only | | | Approx orifice size in mm |
|---------------|-------------------------------|-----|-----|---------------------------|
| | 3/8 | 1/2 | 3/4 | |
| 50 | X | | | 4.4 |
| 75 | X | | | 5.4 |
| 100 | X | X | X | 6.4 |
| 125 | | X | X | 7.1 |
| 150 | | X | X | 7.8 |
| 175 | | X | X | 8.4 |
| 200 | | X | X | 8.8 |
| 250 | | | X | 9.8 |
| 300 | | | X | 11 |
| 350 | | | X | 11.9 |
| 400 | | | X | 12.7 |

Flow Rate per Nozzle

| Nozzle number | Flow Rate in Litres / Min at Bar G | | | | | | | | | |
|---------------|------------------------------------|-------|--------|--------|-------|--------|-------|--------|--------|------------|
| | 0.7 | 1 | 1.5 | 2 | 3 | 4 | 5.0 | 7.0 | 8 | Over Ratio |
| 50 | 9.61 | 11.61 | 14.2 | 16.4 | 20 | 23.1 | 25.8 | 30.19 | 32.2 | 3.1 |
| 75 | 14.42 | 17.42 | 21.3 | 24.6 | 30 | 34.8 | 38.9 | 45.3 | 48.3 | 3.1 |
| 100 | 19.1 | 22.8 | 27.94 | 32.24 | 40 | 45.6 | 51 | 60.38 | 64.4 | 3.1 |
| 125 | 24 | 29 | 35.5 | 40.25 | 50 | 58 | 63.75 | 75.46 | 80.5 | 3.1 |
| 150 | 28.8 | 34.4 | 41.67 | 48.6 | 60 | 68.8 | 76.5 | 90.12 | 96.4 | 3.1 |
| 175 | 33.4 | 39.9 | 48.9 | 56.48 | 69 | 79.8 | 89.25 | 105.57 | 110.95 | 3.1 |
| 200 | 38 | 45.5 | 55.7 | 64.3 | 78.8 | 91 | 102 | 120.31 | 128.6 | 3.1 |
| 250 | 47.6 | 57 | 69.6 | 80.4 | 98.75 | 114 | 128 | 150 | 160.8 | 3.1 |
| 300 | 57.2 | 68.3 | 83.33 | 96.9 | 118.3 | 136.6 | 153 | 180.7 | 197.8 | 3.1 |
| 350 | 66.5 | 79.63 | 97.5 | 112.53 | 138 | 159.28 | 178 | 210.54 | 225 | 3.1 |
| 400 | 76 | 90.6 | 111.96 | 129 | 157 | 181.2 | 202.5 | 241.1 | 258 | 3.1 |

| Nozzle number | Flow Rate in GAL / Min at PSIG | | | | | | | | Over Ratio |
|---------------|--------------------------------|-------|------|------|------|------|------|-----|------------|
| | 0.7 | 1 | 1.5 | 2 | 3 | 4 | 5.0 | | |
| 50 | 2.5 | 4.3 | 5.3 | 6.1 | 6.8 | 7.98 | 8.5 | 3.1 | |
| 75 | 3.8 | 6.5 | 7.9 | 9.2 | 10.3 | 11.9 | 12.8 | 3.1 | |
| 100 | 5 | 8.5 | 10.6 | 12 | 13.5 | 15.9 | 17 | 3.1 | |
| 125 | 6.3 | 10.6 | 13.2 | 15.3 | 16.8 | 19.9 | 21.3 | 3.1 | |
| 150 | 7.6 | 13.16 | 15.9 | 18.2 | 20.2 | 23.8 | 25.5 | 3.1 | |
| 175 | 8.8 | 14.9 | 18.2 | 21.1 | 23.6 | 27.9 | 29.3 | 3.1 | |
| 200 | 10 | 16 | 20.8 | 24 | 27 | 31.7 | 34 | 3.1 | |
| 250 | 12.6 | 21.2 | 26.1 | 30.1 | 33.8 | 39.6 | 42.5 | 3.1 | |
| 300 | 15.1 | 25.6 | 31.3 | 36.1 | 40.4 | 47.7 | 52.3 | 3.1 | |
| 350 | 17.6 | 29.7 | 36.5 | 42.1 | 47 | 55.6 | 59.4 | 3.1 | |
| 400 | 20.1 | 34.1 | 41.5 | 47.9 | 53.5 | 63.7 | 68.2 | 3.1 | |



Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

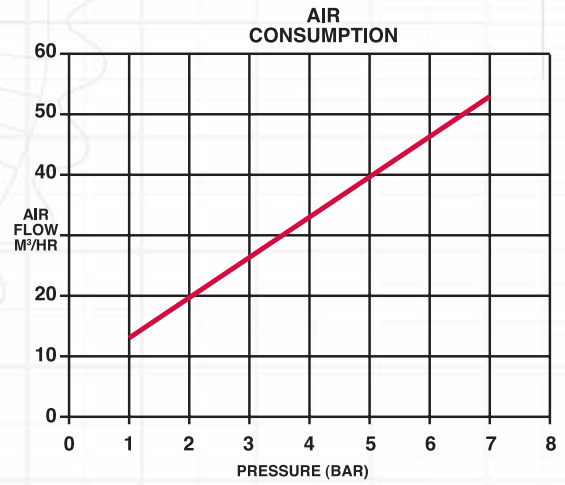
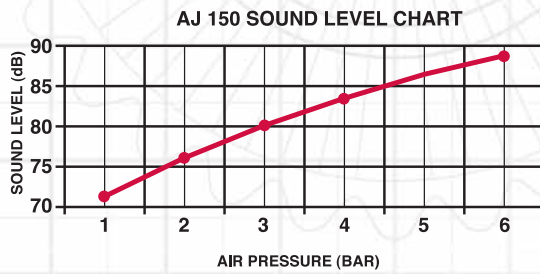
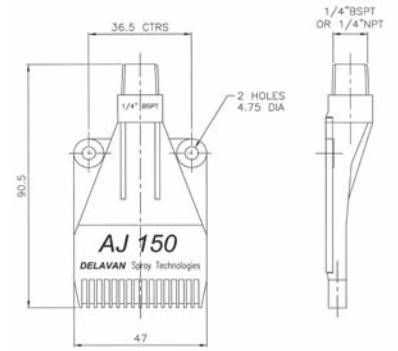
Special Purpose

AJ150 Type Nozzle

Delivers high impact, flat streams of compressed air. Can be mounted side by side to produce an air curtain.

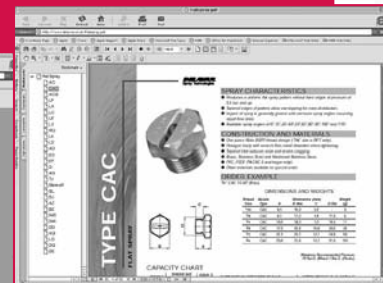
Available in Polyacetal.

1/4" BSPT AJ 150 Part No:- W18783-1



This is not our complete range of products, to see a full listing visit our website @

www.delavan.co.uk



Nozzle Specification Information Fax Back Form

This enquiry sheet serves as a guide so that we may better assist you in proper nozzle selection. Many times the optimum nozzle combination cannot be found on the first attempt but the more completely this form is filled out, the better our chance of success.

Name: _____ Date: _____

Company: _____

Address: _____

Tel No: _____ Fax No: _____

To specify any type of nozzle it is essential to provide several pieces of information:

Flow rate: _____

which can be given in a variety of units such as:

- Litres per minute
- Gallons per minute (specify US or Imp)
- M³/hour
- Kg per hour (density will be required if different from water)

Operating pressure: _____

which can be given in a variety of units such as:

- Bar.G.
- P.S.I.G.
- Kg/cm²
- kPa (Kilo Pascals)
- Head in Meters or Feet

Spray angle: _____

Type of spray pattern: _____

- Flat
- Solid Cone/Circular or Square
- Hollow Cone
- Air Atomising

Liquid being sprayed: _____

If different from water the following are required:

- Density: _____
- Viscosity: _____
- Surface Tension: _____
- Solids Content : _____

Application or Purpose of Nozzle (not always necessary) e.g.

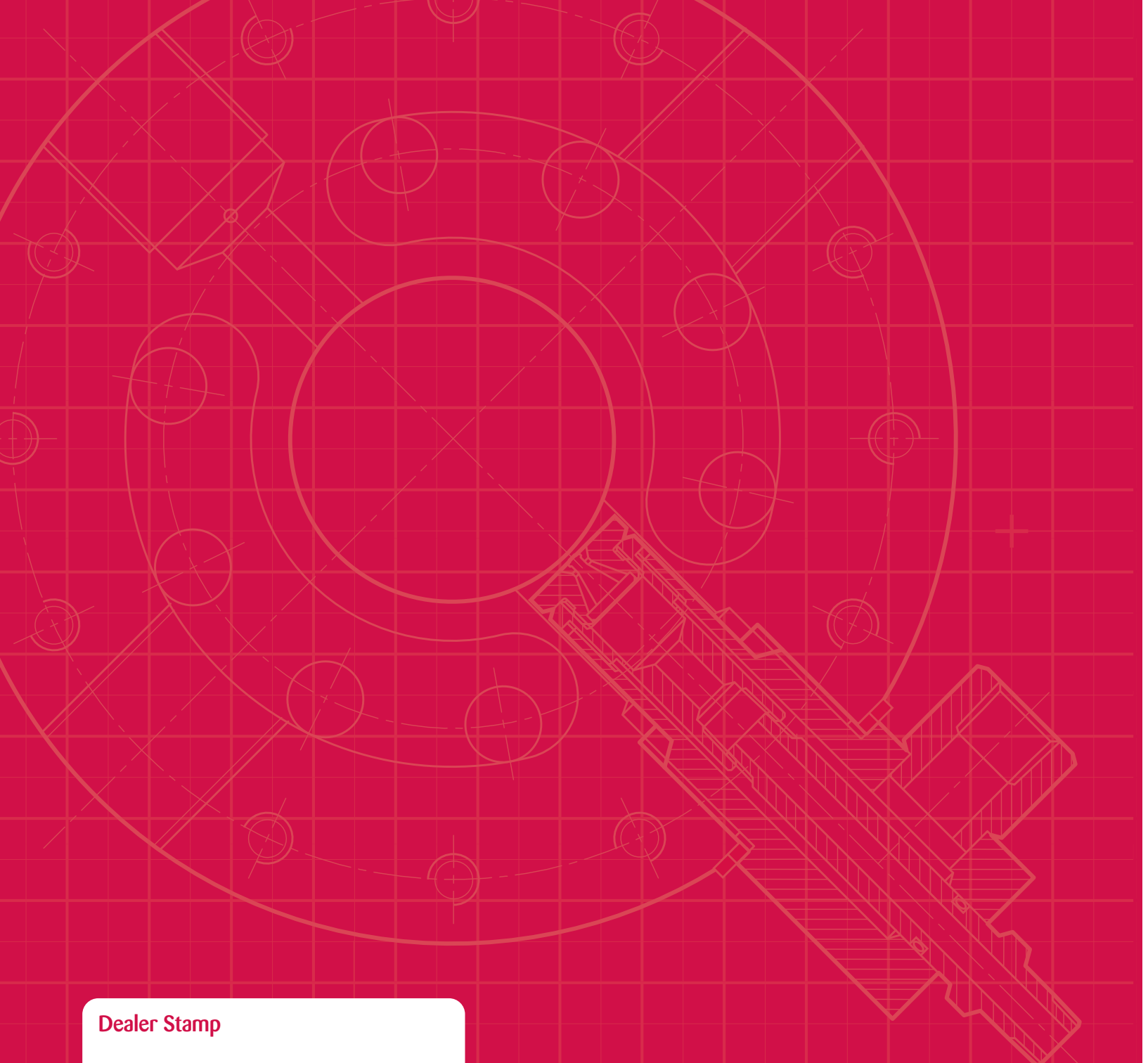
- Washing/Rinsing
- Cleaning in Place
- Humidification
- Gas Scrubbing
- Quenching
- Aeration of liquids
- De-Scaling
- Gas Cooling - Separate Enquiry Sheet required (Available on our website)
- Spray Drying - Separate Enquiry Sheet required (Available on our website)

Please fax back to:

+44 (0)151 495 1043
or for the USA 803 245 4146

Contact our Customer Service Team or your local distributor for further details
Tel: +44 (0) 151 424 6821 or alternatively e-mail: sales@delavan.co.uk
USA Tel: Toll free: 1-800 Delavan or alternatively e-mail sales@delavan.com

DELAVAN
Spray Technologies



Dealer Stamp

**Details of all our products are available
on our website at www.delavan.co.uk**

Delavan Ltd, Gorsey Lane, Widnes, Cheshire WA8 ORJ, UK
Telephone: +44 (0)151 424 6821 Fax: +44 (0)151 495 1043
Inside USA Toll Free: 1-800 Delavan
e-mail: sales@delavan.co.uk or delavanspray@goodrich.com

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