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Spray Technologies



Spray Nozzles

➤ Global Product Guide version 2

The most frequently specified nozzles for general industrial applications

www.delavan.co.uk

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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

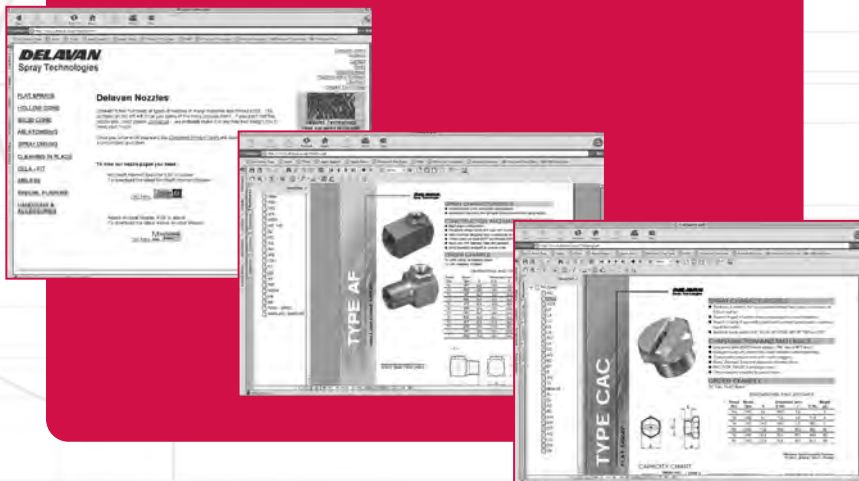
In addition there are variations on these sprays for specific applications. Refer to the Application Guide section.

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.

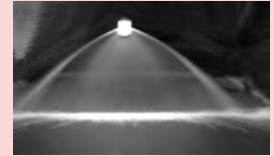
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A SELECTION OF TYPICAL SPRAY PATTERNS

FLAT SPRAY

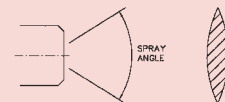
An elliptical orifice formed by the intersection of a 'V' groove with a hemispherical cavity.



Nozzle Diagram

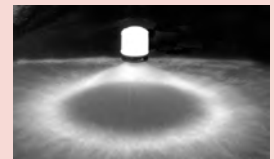


Spray Diagram

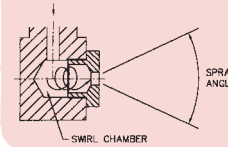


HOLLOW CONE

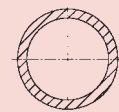
A circular exit orifice which is preceded by a swirl chamber with a tangential inlet.



Nozzle Diagram



Spray Diagram

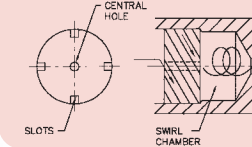


SOLID CONE

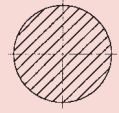
A circular exit orifice which is preceded by a swirl chamber with a multi-slotted in-line distributor and central line.



Nozzle Diagram



Spray Diagram

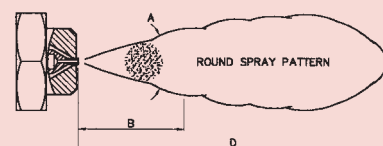


AIR ATOMISING

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.	Page 18
	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

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 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 1/4"-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.	Page 33
NOZZLE CAPS	3/8" BSPP and 1 1/16"-16 UN threaded for use with the above bodies.	Page 33
HNS - HEADER NOZZLE SOCKETS	1/8"-1" BSPP Female threaded sockets for use with threaded nozzles.	Page 33
EYELET BODIES	1/2"-1 1/2" N.B. Eyelets with various outlet connections for nozzles.	Page 34
ADJUSTABLE JOINTS	1/8"-1" Male/Female adjustable joint with various angles of inclination.	Page 34
TIP FILTERS	Flanged filters with various mesh sizes for use with the above.	Page 35
PIPE SUPPORT CLIPS & CLAMPS	Clips 1 1/4" and 1 1/2". Clamps 1/2" - 1 1/2"	Page 35
ADAPTORS	1/8"-1" BSPT Male and BSPP Female x 90° adaptor for use with threaded nozzles..	Page 36

SPECIAL PURPOSE

Nozzle Type	Spray Angles	Basic Description	
AJ150	0°	1/4" BSPT thread	Page 36
BB	0°	3/8"-3/4" BSPT Male thread.	Page 37

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

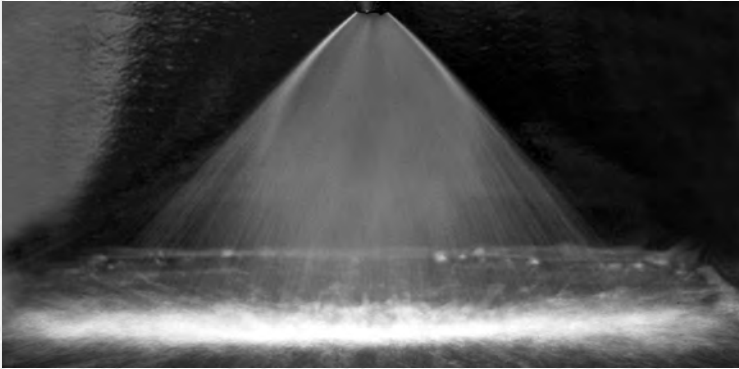
Order example:- **1/2 BSPT** **AC** **15** **50** **BRASS**
Thread size and type Nozzle name Nozzle size Spray angle Material

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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.

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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	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	x
150					x	x	x	x	x	x	x	x
200					x	x	x	x	x	x	x	x
250						x	x	x	x	x	x	x
300						x	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							Nozzle number	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	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
120	27.30	38.90	47.40	54.73	61.10	72.40	86.30	120	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	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

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							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
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

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	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

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
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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www.delavan.co.uk



Spray Nozzles

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

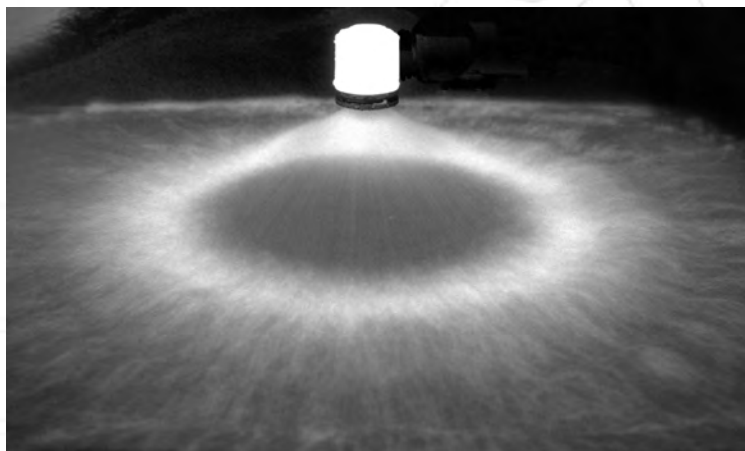
Nozzle number	Flow Rate in Litres / Min at Bar G							
	15	20	25	35	40	50	60	70
4	3.50	4.10	4.60	5.40	5.80	6.50	7.10	7.60
4.5	4.00	4.60	5.10	6.10	6.50	7.30	8.00	8.60
5	4.40	5.10	5.70	6.70	7.20	8.10	8.80	9.50
5.5	4.90	5.60	6.30	7.40	7.90	8.90	9.70	10.50
6	5.30	6.10	6.80	8.10	8.70	9.70	10.60	11.40
6.5	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°.

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

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

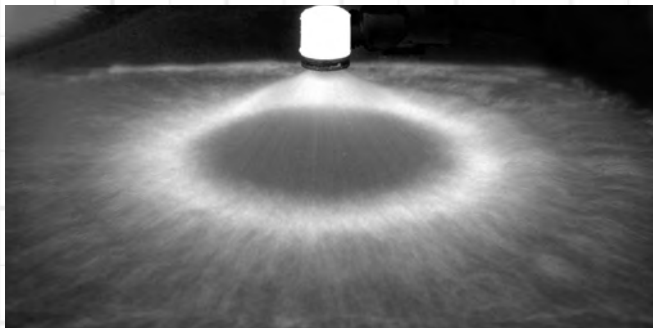
Nozzle number	Flow Rate in Litres / Hour at Bar G						
	1.5	2	3	4	6	7	8
WM 108	-	-	3.08	3.53	4.36	4.57	5.04
WM 208	4.73	5.36	6.39	7.37	8.76	9.15	9.37
WM 308	6.87	8.04	9.47	10.60	12.80	13.70	14.40
WM 508	10.89	12.70	15.20	17.40	21.10	22.90	24.50
WM 1008	21.31	24.60	30.10	34.60	42.60	45.70	49.10
WM 2008	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

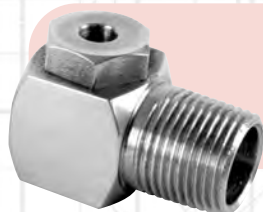
Producing fine atomisation with no central distribution*

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.

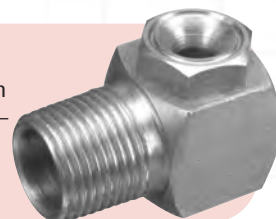


AE Type Nozzle

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	M3/4	M1		
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

Spray Nozzles

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			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	M 3/4	M 1	
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						
	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
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	7.90	9.10	10.20	11.20	12.10
25	5.70	8.10	9.90	11.40	12.70	14.00	15.10
30	6.90	9.70	11.80	13.70	15.30	16.80	18.10
50	11.40	16.10	19.70	22.80	25.50	27.90	30.20
80	18.20	25.80	31.60	36.50	40.80	44.70	48.20
100	22.80	32.20	29.50	45.60	50.90	55.80	60.30
150	34.20	48.30	59.20	68.40	76.40	83.70	90.50
200	45.60	64.50	79.00	91.20	102.00	112.00	121.00

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	0.48	0.53	0.58	0.63
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
25	1.51	2.14	2.62	3.01	3.36	3.70	3.99
30	1.82	2.56	3.12	3.62	4.04	4.44	4.78
50	3.00	4.30	5.20	6.00	6.70	7.40	8.00
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
150	9.00	12.80	15.60	18.10	20.20	22.10	23.90
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	M 3/4	
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

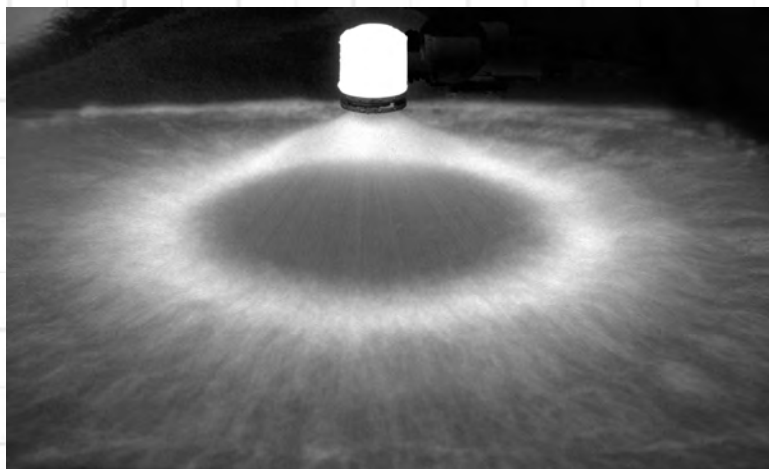
Nozzle number	Flow Rate in Litres / Min at Bar G						
	1	2	3	4	5	6	7
20	4.50	6.40	7.96	9.10	10.20	11.20	12.10
30	6.90	9.70	11.80	13.70	15.30	16.80	18.10
50	11.40	16.10	19.70	22.80	25.50	27.90	30.20
80	18.20	25.80	31.60	36.50	40.80	44.70	48.20
100	22.80	32.20	39.50	45.60	51.00	55.80	60.30
160	36.50	51.60	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
280	64.10	90.30	111.00	128.00	143.00	156.00	169.00

Nozzle number	Flow Rate in GAL / Min at PSIG						
	15	30	40	60	70	90	100
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
50	3.00	4.30	5.20	6.00	6.70	7.40	8.00
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
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
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



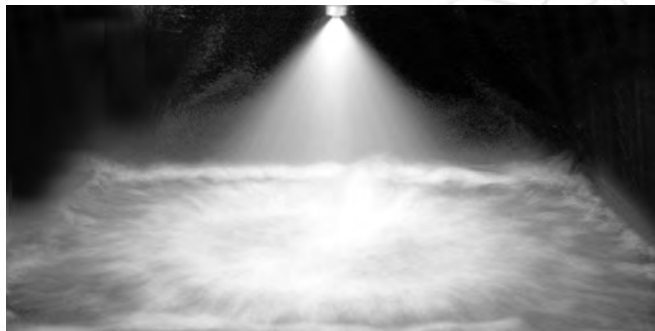
Flow Rate per Nozzle

Nozzle number	Flow Rate in Litres / Min at Bar G									Nozzle number	Flow Rate in GAL / Min at PSIG						
	0.15	0.3	0.5	0.7	1	1.5	2	3	4.0		5	10	15	20	30	40	60
23	33.20	45.00	56.00	64.00	77.00	92.30	107.00	130.00	150.00	23	12.30	16.80	20.70	23.40	28.80	33.00	40.20
28	37.90	52.10	65.60	75.50	91.50	109.00	128.00	152.00	175.00	28	14.40	19.80	24.60	27.60	33.60	38.40	47.20
36	50.90	66.30	84.80	98.40	118.00	142.00	163.00	198.00	228.00	36	18.60	25.80	31.80	36.00	43.80	50.10	61.20
43	59.20	79.50	101.00	117.00	140.00	168.00	192.00	237.00	268.00	43	22.20	30.60	37.50	42.60	51.60	60.00	72.00
49	68.70	90.00	116.00	135.00	160.00	193.00	223.00	272.00	321.00	49	25.50	35.40	42.90	48.90	60.00	69.00	86.40
54	75.80	102.00	128.00	149.00	180.00	213.00	254.00	313.00	353.00	54	28.20	39.00	48.30	54.00	68.40	79.20	94.80
63	91.20	123.00	159.00	188.00	210.00	249.00	281.00	341.00	402.00	63	34.80	49.20	56.40	63.00	75.60	86.40	108.00
75	104.00	152.00	200.00	226.00	243.00	296.00	339.00	417.00	504.00	75	43.80	59.40	65.40	75.00	91.20	106.00	136.00
88	123.00	180.00	230.00	256.00	283.00	346.00	393.00	492.00	598.00	88	50.40	67.20	76.20	87.60	106.00	125.00	161.00
100	156.00	208.00	262.00	274.00	324.00	393.00	442.00	549.00	661.00	100	57.60	72.00	87.00	99.60	119.00	139.00	178.00
112	180.00	227.00	284.00	306.00	362.00	440.00	473.00	587.00	705.00	112	62.40	80.40	97.20	112.00	127.00	149.00	190.00
122	199.00	246.00	306.00	332.00	402.00	483.00	554.00	682.00	813.00	122	67.20	87.00	108.00	122.00	149.00	173.00	218.00
144	208.00	256.00	317.00	371.00	442.00	568.00	665.00	814.00	938.00	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

Spray Nozzles

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 / Min at Bar G								Nozzle number	Flow Rate in GAL / Min 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	Available Spray Angles	
	M 1/8	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		

Spray Nozzles

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 / Hour at Bar G							Nozzle number	Flow Rate in GAL / Hour 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 / Hour at Bar G							Nozzle number	Flow Rate in GAL / Hour 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

Spray Nozzles

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	M 3/4	M 1		
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							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

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 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	M 3/4	M 1	
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

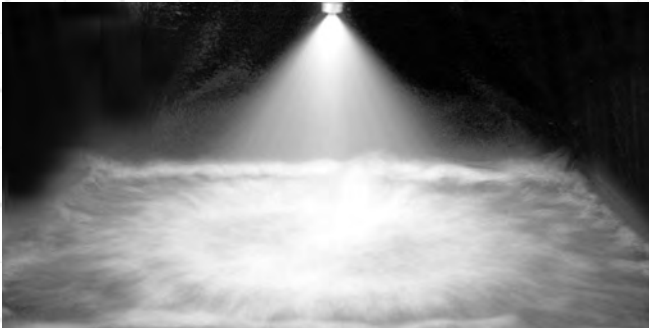
Contact our Helpline or your local distributor for further information
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Spray Nozzles

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	-	-	

Spray Nozzles

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
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 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

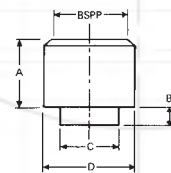
Type	Brass	Use Brass Cap No	Stainless Steel	Use S/S Cap No
1/4" BSP LDM Body	X	W00105-2	X	W00105-1
1/4" NPT LDMX Body	X	W00105-2	X	W00105-1
3/8" BSP LDM Body	X	W00105-2	X	W00105-1
3/8" NPT LDMX Body	X	W00105-2	X	W00105-1
1/2" BSP ADM Body	X	W06248-1	X	W06248-3X
1/2" NPT ADMX Body	X	W06248-1	X	W06248-3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

Spray Nozzles

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									Flow Rate in GAL / Min at PSIG							
	0.7	1	1.5	2	2.5	3	3.5	4	Colour Code	10	15	20	30	40	50	60	Colour Code
AP 10	1.9	2.23	2.84	3.13	3.49	3.93	4.24	4.46	Tan	0.5	0.6	0.72	0.85	1	1.1	1.8	Tan
AP 15	2.84	3.44	3.64	4.21	4.71	6.16	6.65	6.7	Light blue	0.75	0.91	1.1	1.11	1.5	1.7	1.77	Light blue
AP 20	3.8	4.46	5.68	6.25	6.99	8.05	8.69	9.37	Light Green	1	1.18	1.4	1.65	2	2.3	2.48	Light Green
AP 25	4.75	5.58	7.1	7.81	8.73	10.06	10.87	11.71	Maroon	1.2	1.53	1.8	2.12	2.5	2.8	3.01	Maroon
AP 30	5.95	6.7	8.52	9.82	10.98	11.84	12.79	13.84	Blue	1.5	1.77	2.2	2.59	3	3.4	3.66	Blue
AP 40	7.78	9.37	10.89	12.05	13.47	15.62	16.87	18.3	Red	2	2.48	2.8	3.18	4	4.4	4.83	Red
AP 50	9.61	11.61	13.73	16.07	17.97	19.89	21.48	22.77	Brown	2.5	3.07	3.5	4.25	5	5.6	6.02	Brown
AP 60	11.44	13.84	16.57	19.2	21.47	23.67	25.57	27.23	Gray	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
1 1/4"	Poly	8.7-bar	W100349981	20mm	W10371
1 1/2"	Poly	8.7-bar	W100349998	20mm	W10371



Clamp-on Ball Swivel Eyelet

SC CLIP-ON-EYELET

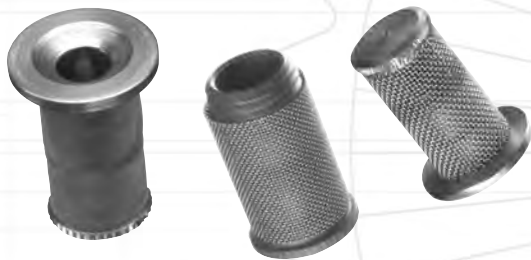
NB pipe size	Body Material	Working pressure	Part number	Drill size hole	Seal
1" SC	Poly	6-bar	W167220000	13.5mm	W31350
1 1/4" SC	Poly	4-bar	W132530038	20mm	W31350
1 1/2" SC	Poly	3-bar	W132540037	20mm	W31350



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

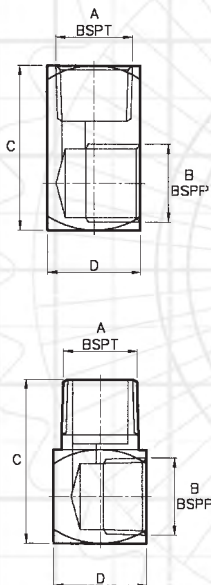
Contact our Helpline or your local distributor for further information
Tel: +44 (151) 424 6821 or inside USA Toll Free: 1-800 Delavan
E-mail: delavanspray@goodrich.com or sales@delavan.co.uk

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	A	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

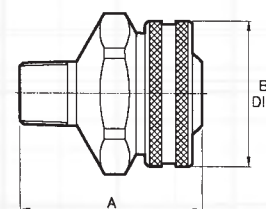
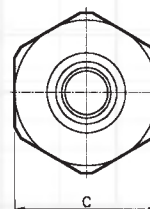
Construction and Materials:

- 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
W091113016	Stainless	1/8"	1/8"	28.60	25.40	20.80
W091111028	Brass	1/4"	1/8"	28.60	25.40	20.80
W091113024	Stainless	1/4"	1/8"	28.60	25.40	20.80
W091111036	Brass	1/4"	1/4"	34.90	31.80	25.70
W130601120	Poly	1/4"	1/4"			
W091113032	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"			
W091113040	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"			
W091113057	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"			
W091113065	Stainless	1/2"	1/2"	55.60	44.50	31.80
W091111077	Brass	3/4"	3/4"	61.10	50.80	38.00
W091113073	Stainless	3/4"	3/4"	61.10	50.80	38.00
W091111085	Brass	1"	1"	75.00	70.00	60.00
W091113081	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)

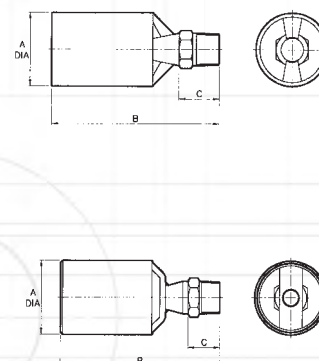


Nozzle number	Thread Sizes (BSPT) Male Only			Approx orifice size in mm
	3/8	1/2	3/4	
50	X			4.4
75	X			5.4
100	X	X	X	6.4
125		X	X	7.1
150		X	X	7.8
175		X	X	8.4
200		X	X	8.8
250			X	9.8
300			X	11
350			X	11.9
400			X	12.7

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
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Spray Nozzles

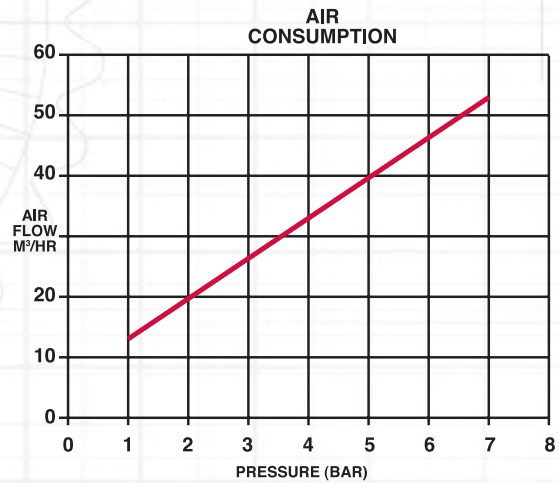
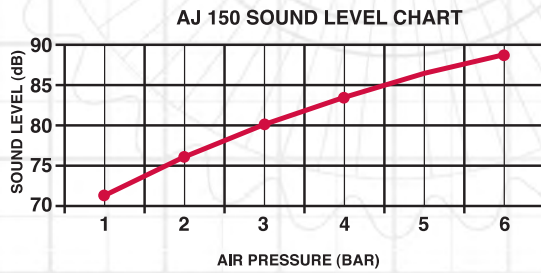
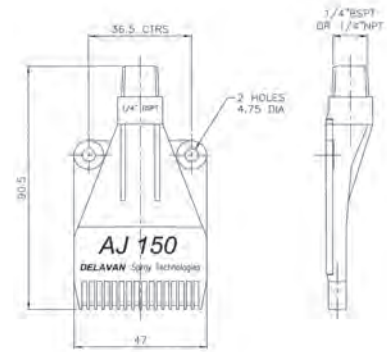
Special Purpose

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



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Dealer Stamp



Rugvænget 19
2630 Taastrup
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Delavan Ltd, Gorse 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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Version 2

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