From a single nozzle to a complete integrated and controlled spraying system, Sealpump Engineering provides the total solution for all spraying applications

With over 30 years experience, Sealpump Engineering Limited is one of the UK's major designers and suppliers of industrial spray nozzle systems. Our team of dedicated designers and sales engineers visit sites to advise on the optimum solution for each application.

We design, manufacture, supply and install spray nozzle systems for a wide variety of industrial sectors including steel, chemical, automotive, paper, food, electronics and many more.

As industries strive to meet ever more stringent environmental standards, Sealpump Engineering has designed unique methods and processes in the key areas of dust suppression, gas conditioning, odour control and recycling.

Our partnerships with selected engineering service providers allow us to offer total solutions, integrating our spraying products into both new and existing processes. Customers derive cost benefits from decreased water consumption and energy efficiency through well designed systems.

Sealpump Engineering Limited is a quality assured company in accordance to standard ISO 9001: 2008.

SPRAY NOZZLE TYPES

Flat Fan
Floodjet
Solid Jet
Hollow Cone
Solid Cone
Air Atomising
Ultrasonic Fogging
Tank Cleaning
Air Nozzles

APPLICATIONS

Cleaning
Coating
Cooling
Atomisation
Dust Suppression
Odour Control
Humidification
Disinfection
Automatic Spray Systems

www.sealpump.com

CONTENTS

ABOUT SEALPUMP ENGINEERING

In all areas of precision nozzles and industrial process applications, Sealpump Engineering is a leading innovative company. With over 30 years experience, we have supplied spraying expertise to virtually every processing and manufacturing industry, from coating food products, cooling hot gases to the cleaning of conveyor belts. In 1995 our quality management system was registered to ISO 9001. In 2003, we became one of the first spray nozzle companies in the world to achieve quality management system standard ISO 9001:2008.

Sealpump Engineering Ltd has the correct nozzle for your spray application, with thousands of nozzles readily available in various configurations and materials, a quick, professional service is guaranteed. Optimising spray performance and improving productivity is a key aspect to our automated spraying systems, fully controllable and ensuring the highest level of performance is achieved from every spray system.

Design// iTCHYROBOT UK Ltd [www.itchyrobot.co.uk] **/ Photographs //** KGR Imageing [http://www.kgrimaging.com]

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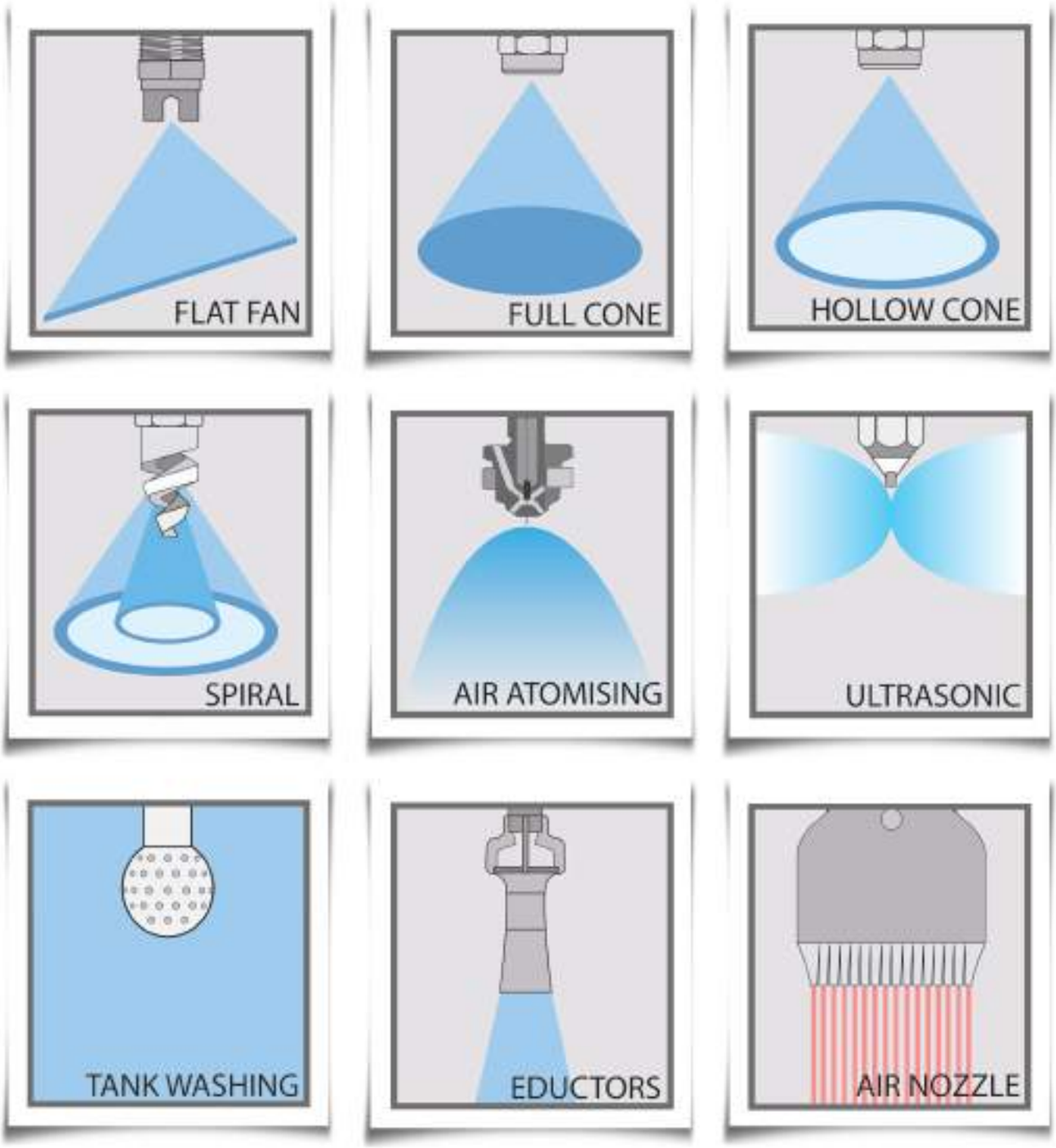
APPLICATION GUIDE

Below is a list of common spray nozzle applications and suitable nozzle types, however should your process not be listed please contact our office for assistance.

APPLICATION	NOZZLE
Air Wash	Spiral Nozzle
	Full Cone Nozzle
Automated Spraying	Automated Spraying Systems
Coating	Air Atomising Nozzles
	Ultrasonic Nozzle
	Flat Fan Nozzle
Cooling	Full Cone Nozzle
	Floodjet Flat Fan Nozzle
	Spiral Nozzle / Air Atomising Nozzle
Dust Control	Ultrasonic Nozzle
	Air Atomising Nozzle
	Spiral Nozzle
Etching & Rinsing	Full Cone Nozzle
	Flat Fan Nozzle
	Floodjet Nozzle
Fire Protection	Spiral Nozzle
	Full Cone Nozzle
	Floodjet Flat Fan Nozzle
Foam Control	Spiral Nozzle
	Full Cone Nozzle
	Floodjet Flat fan Nozzle
Humidification	Ultrasonic Nozzle
	Air Atomising Nozzle
	Hollow Cone Misting Nozzle
Odour Control	Air Atomising Nozzle
	Hollow Cone Misting Nozzle
Tank Washing	Spray Balls
	Rotating Spray Heads
Washing Conveyors	Flat Fan Nozzle
	Floodjet Flat Fan Nozzle
	Full Cone Nozzle
Washing – Mist Eliminator	Full Cone Nozzle
	Spiral Nozzle
Washing – Parts	Flat Fan Nozzle
	Floodjet Flat Fan Nozzle

NOZZLE CHARACTERISTICS



MATERIAL GUIDE

DESCRIPTION	DIN DESCRIPTION	TEMP. RATING (°C)	TRADE NAME
Brass	Messing	230°	
Naval Brass		400°	
Bronze	Bronze	400°	
L.C. Steel	C-Stahl	210°	
Cast Iron	Gusseisen	230°	
303	1.4305	430°	
304	1.4301	430°	
304L	1.4306	430°	
316	1.4401	430°	
Tungsten Carbide			
Alumina			
Boron Carbide		2450°	
316L	1.4404	430°	
317	1.4440	430°	
317L	1.4438	430°	
416	1.4005	430°	
904L	1.4539	430°	
Alloy 20	2.4660	430°	Carpenter ® 20
Nickel Alloy M30C	2.4360 / 2.4366	540°	Monel ®
Nickel Alloy 600	2.4816	1100°	Inconel ® 600
Nickel Alloy 625	2.4856	1100°	Inconel ® 625
Nickel Alloy 800	1.4876	1010°	Inconel ® 800
Nickel Alloy 825	2.4858	1010°	Inconel ® 825
Nickel Alloy B	2.4800 / 2.4810	760°	Hastelloy ® B w/2.5 Max. Co
Nickel Alloy G	2.4619	1100°	Hastelloy ® G
Nickel Alloy G30	2.4603	1100°	Hastelloy ® G30
Nickel Alloy C276	2.4819	1100°	Hastelloy ® C276
Nickel Alloy C22	2.4602	1100°	Hastelloy ® C22
Nickel	Nickel	350°	
Titanium	Titan	540°	
Tantalum	Tantal	1500°	
Zirconium	Zirkonium	540°	
Cobalt Alloy 6		1050°	Stellite ® 6
SNSBC ceramic		1660°	Refrax ®
RBSC ceramic		1380°	
PTFE	PTFE	150°	Teflon ®
PVDF	PVDF	120°	Kynar ®
PVC	PVC	60°	
CPVC	CPVC	100°	
Polypropylene	Polypropylen	70°	
UHMW		80°	
Polyurethane		80°	
ABS		70°	

PERFORMANCE DATA

Pipe size (inches)	1/2 inch	3/4 inch	1 inch	1 1/4 inch	1 1/2 inch	2 inch	3 inch	4 inch	6 inch
Minimum Flow L/Min	15.91	36.37	68.19	90.92	136.38	272.77	590.99	1045.60	2318.51
Maximum Flow L/Min	34.10	77.28	136.48	227.31	318.23	545.53	1227.45	2227.59	5000.71
Outside Diameter (inches)	0.84	1.05	1.32	1.66	1.90	2.38	3.50	4.50	6.63
Outside Diameter (mm)	21.34	26.67	33.53	42.16	48.26	60.33	88.90	114.30	168.28

CONVERSION DATA

MULTIPLY	BY	TO OBTAIN
atmosphere	1.013	bar
atmosphere	33.931	feet of water
atmosphere	1.0332	Kg/cm³
atmosphere	101.3	KilPascals (kPa)
atmosphere	14.696	psi
bar	100	kPa
bar	14.5	psi
barrels (oil)	42	gallons
centimeters	0.3937	inches
centistokes	Sp. gravity	centipose
cm³	0.061	in³
cm³	0.000264	gallons
cm³	0.001	litres
ft³	1728	inches
ft³	0.02832	m³
ft³	7.48	gallons
ft³	28.32	litres
ft³ (water)	62.43	pounds (water)
in³	16.39	cm³
in³	0.00433	gallons
in³	0.164	litres
m³	35.31	ft³
m³	61.024	in³
m³	264.2	gallons
m³	1000	litres
Nm³/HR	x0.622	SCFM
degree angle	60	minutes
degree (Celsius)	(°Cx1.8) + 32	degree (Fahrenheit)
degree (fahrenheit)	(°F - 32) + 0.56	degree (Celsius)
feet	0.3048	metres
feet/sec	30.48	centimetres/sec

CONVERSION DATA

MULTIPLY	BY	TO OBTAIN
feet/sec	18.29	metres/min
feet of water	0.0295	atmospheres
feet of water	0.884	inches of mercury
feet of water	0.433	psi
gallons	3785	cm³
gallons	0.1337	ft³
gallons	0.83267	imperial gallons
gallons	3.785	litres
gallons/min	0.06308	litres/sec
imperial gallons	1.2	gallons
horsepower	1.014	horsepower (metric)
horsepower	33.000	foot pounds/min
horsepower	746	Watts
inches	2.54	centimetres
kg/cm²	14.22	psi
kiloWatts	1.340	horsepower
litres	1000	cm³
litres	0.264	gallons
litres	0.22	imperial gallons
litres	33.8	ounces (fluid)
metres	3.281	feet
microns (um)	0.0394	thousandth of an inch
miles/hr	44.7	centimetres/sec
miles/hr	1.467	feet/sec
millimetres	0.0394	feet/sec
psi	0.068	atmospheres
psi	0.6895	bar
psi	2.307	feet of water
psi	0.0703	kg/cm³
psi	6.895	kPa
SCFM	x 1.60772	Nm³/HR

FLAT FAN NOZZLE

Flat fan nozzles ensure a uniform distribution of liquids as either a flat or sheet type spray. We offer a wide range of flow rates and pressures with spray angles available from 0° (solid stream) to 145°. All flat jet nozzles benefit from an unobstructed flow passage thus minimising clogging potential.

Optimisation Tips:

- Evaluate your specific spraying application and implement a regular nozzle maintenance plan.
- Use nozzle strainers or in line filters to reduce nozzle blockage.
- Use adjustable pipe clamp assemblies for quick, precise nozzle orientation.
- Monitor flow rate and pressure to detect wear, loss of pressure and or increase in flow confirms nozzle wear.
- A sudden pressure increase usually results in blocked nozzles.
- Contact our office for further assistance and to reduce operating costs through precision spray technology.

Plastic Fan Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	65°, 80°, 110°	0.08 – 25.3 litres/min	Degreasing & Rinsing Etching & Rinsing Washing Spray Coating Spray Cooling	Flanged Tip with connection onto nozzle body (see accessories section)	10-11

Metal Fan Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	65°, 80°, 110°	0.08 – 25.3 litres/min	Degreasing & Rinsing Etching & Rinsing Washing Spray Coating Spray Cooling	Flanged Tip with connection onto nozzle body (see accessories section)	12-13

Plastic Flat Fan Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	25°, 40°, 65°, 80°	0.33-30.55 litres/min	Industrial Washing Machines Vegetable Washing Wheel Washing Degreasing Circuit Board Processing Spray Coating	Screwed connection 1/8" or ¼"	14-15

UNIFORM DISTRIBUTION OF LIQUID AS EITHER FLAT OR SHEET SPRAY

Metal Flat Fan Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	0°, 15°, 25°, 40°, 65°, 80°, 110°	0. 16-758. 95 litres/min	Air Washing Cooling & Quenching Fire Suppression Gas Washing Liquor Washing Scrubbers Washing/Rinsing	Screwed connection 1/8", ¼", 3/8", ½", ¾", 1"	16-17

Plastic Floodjet Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	80°, 95°, 105°, 110°, 120°, 145°	0. 16-18. 24 litres/min	Cooling Conveyor belts Film Washing Water Curtain	Flange Tip with connection onto nozzle body (see accessories section)	18-19

Metal Floodjet Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	110°, 115°, 125°, 145°	0. 16-18. 24 litres/min	Cooling Film Washing Fire Suppression Foam Control Spraying Eliminator Plates Water Curtain	Flange Tip with connection onto nozzle body (see accessories section)	20-21

Metal Floodjet Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	110°, 115°, 125°, 145°	0. 16-410. 29 litres/min	Cooling Film Washing Fire Suppression Foam Control Spraying Eliminator Plates Water Curtain	Screwed connection 1/8", ¼", 3/8", ½", ¾", 1"	22-23

PLASTIC FAN TIP

DESCRIPTION

The plastic fan tip produces a flat fan spray pattern with even distribution across the spray width. The spray tip is a one piece construction, a three part assembly completes the nozzle construction, comprising: nozzle body, retaining cap and spray tip

MATERIALS AVAILABLE
PVDF

AVAILABLE SPRAY ANGLES
65°, 80°, 110°

ORDERING EXAMPLE
Plastic Fan Tip – PVDF 05E80°

APPLICATION

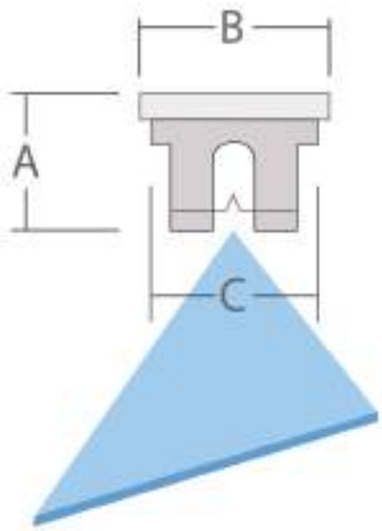
Degreasing & Rinsing
Etching & Rinsing
Parts & Product Washing
Spray Coating
Spray Cooling

FEATURES

Three piece construction
Interchangeable spray tips
Integral strainer available
Male and female connection
Uniform distribution
Small to medium sized droplets
Recessed orifice to protect against damage
Flow rates up to 25 litre/minute

PLASTIC FLAT FAN SPRAY PATTERN WITH EVEN DISTRIBUTION ACROSS THE SPRAY WIDTH

Tip Reference	Flow (L/min) @ Pressure (bar)												
	0.5	1.0	2.0	3.0	4.0	5.0	7.0	10.0	20.0	30.0	65^0	80^0	110^0
005E	0.08	0.12	0.16	0.20	0.23	0.26	0.31	0.37	0.52	0.63	✓		
0067E	0.11	0.15	0.22	0.27	0.31	0.35	0.41	0.49	0.69	0.85		✓	
01E	0.16	0.23	0.33	0.40	0.46	0.52	0.61	0.73	1.03	1.26		✓	✓
015E	0.24	0.35	0.49	0.60	0.69	0.77	0.92	1.10	1.55	1.90		✓	✓
02E	0.33	0.46	0.65	0.80	0.92	1.03	1.22	1.46	2.07	2.53		✓	✓
03E	0.49	0.69	0.98	1.20	1.39	1.55	1.83	2.19	3.10	3.79		✓	✓
04E	0.65	0.92	1.31	1.60	1.85	2.07	2.44	2.92	4.13	5.06		✓	✓
05E	0.82	1.15	1.63	2.00	2.31	2.58	3.06	3.65	5.16	6.32		✓	✓
06E	0.98	1.39	1.96	2.40	2.77	3.10	3.67	4.38	6.20	7.59		✓	✓
08E	1.31	1.85	2.61	3.20	3.70	4.13	4.89	5.84	8.26	10.12		✓	✓
10E	1.63	2.31	3.27	4.00	4.62	5.16	6.11	7.30	10.33	12.65		✓	✓
15E	2.45	3.46	4.90	6.00	6.93	7.75	9.17	10.95	15.49	18.97		✓	✓
20E	3.27	4.62	6.53	8.00	9.24	10.33	12.22	14.61	20.66	25.30		✓	✓



DIMENSIONS

A (mm)	B (mm)	C (mm)
9.65	14.7	12.5

METAL FAN TIP

APPLICATION

Degreasing & Rinsing
Etching & Rinsing
Parts & Product Washing
Spray Coating
Spray Cooling

DESCRIPTION

The metal fan tip produces a flat fan spray pattern with even distribution across the spray width.

The spray tip is a one piece construction, a three part assembly completes the nozzle construction, comprising: nozzle body, retaining cap and spray tip.

MATERIALS AVAILABLE

Brass
Stainless Steel
Other Materials available on request

AVAILABLE SPRAY ANGLES

65°, 80°, 110°

ORDERING EXAMPLE

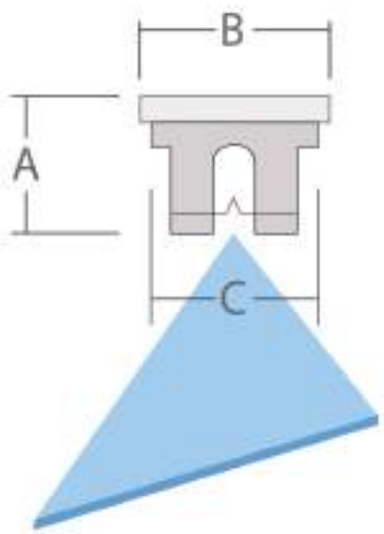
Metal Flat Fan Nozzle – Brass 02E65°

FEATURES

Three piece construction
Interchangeable spray tips
Integral strainer available
Male and female connection
Uniform distribution
Small to medium sized droplets
Recessed orifice to protect against damage
Flow rates up to 25 litre/minute

METAL FLAT FAN SPRAY PATTERN WITH EVEN DISTRIBUTION ACROSS THE SPRAY WIDTH

Tip Reference	Flow (L/min) @ Pressure (bar)											
	0.5	1.0	2.0	3.0	4.0	5.0	7.0	10.0	20.0	30.0	65⁰	80⁰	110⁰
005E	0.08	0.12	0.16	0.20	0.23	0.26	0.31	0.37	0.52	0.63	✓	✓	✓
0067E	0.11	0.15	0.22	0.27	0.31	0.35	0.41	0.49	0.69	0.85	✓	✓	✓
01E	0.16	0.23	0.33	0.40	0.46	0.52	0.61	0.73	1.03	1.26	✓	✓	✓
015E	0.24	0.35	0.49	0.60	0.69	0.77	0.92	1.10	1.55	1.90	✓	✓	✓
02E	0.33	0.46	0.65	0.80	0.92	1.03	1.22	1.46	2.07	2.53	✓	✓	✓
03E	0.49	0.69	0.98	1.20	1.39	1.55	1.83	2.19	3.10	3.79	✓	✓	✓
04E	0.65	0.92	1.31	1.60	1.85	2.07	2.44	2.92	4.13	5.06	✓	✓	✓
05E	0.82	1.15	1.63	2.00	2.31	2.58	3.06	3.65	5.16	6.32	✓	✓	✓
06E	0.98	1.39	1.96	2.40	2.77	3.10	3.67	4.38	6.20	7.59	✓	✓	✓
08E	1.31	1.85	2.61	3.20	3.70	4.13	4.89	5.84	8.26	10.12	✓	✓	✓
10E	1.63	2.31	3.27	4.00	4.62	5.16	6.11	7.30	10.33	12.65	✓	✓	✓
15E	2.45	3.46	4.90	6.00	6.93	7.75	9.17	10.95	15.49	18.97	✓	✓	✓
20E	3.27	4.62	6.53	8.00	9.24	10.33	12.22	14.61	20.66	25.30	✓	✓	✓



DIMENSIONS

A (mm)	B (mm)	C (mm)
9.65	14.7	12.5

PLASTIC FLAT FAN NOZZLE

DESCRIPTION

The plastic flat fan nozzle produces a flat fan spray pattern with an even and uniform distribution across the spray width. The flat fan nozzle is a one piece construction with a male threaded connection and hex body for easy installation.

MATERIALS AVAILABLE
PVDF

AVAILABLE SPRAY ANGLES
25°, 40°, 65°, 80°

ORDERING EXAMPLE
Plastic Flat Fan Nozzle – PVDF ¼" 10-40°

APPLICATION

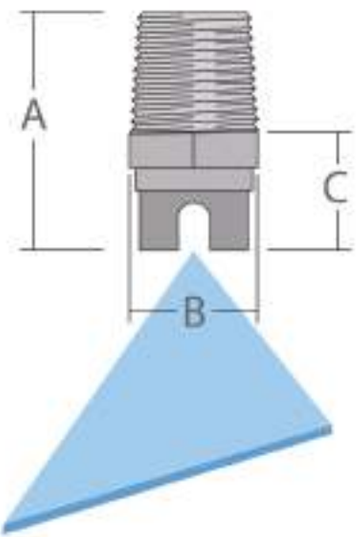
Industrial Washing Machines
Product Washing
Wheel Washing
Degreasing
Circuit Board Processing
Spray Coating

FEATURES

Flat spray pattern distributes the liquid as a flat or sheet-type spray
Uniform distribution over a wide range of flow rates
Unobstructed flow passage minimises clogging
One piece male threaded design
Hexagon body for quick and easy installation

PLASTIC FLAT FAN PRODUCES A FLAT FAN SPRAY WITH EVEN DISTRIBUTION

Nozzle Reference	Equiv. Orifice Dia (mm)	Flow (L/min) @ Pressure (bar)							Available Spray Angle			
		0.5	1.0	2.0	3.0	4.0	5.0	7.0	25	40	65	80
02	0.9	0.33	0.46	0.65	0.80	0.92	1.03	1.22	✓	✓	✓	✓
03	1.1	0.49	0.69	0.98	1.20	1.39	1.55	1.83	✓	✓	✓	✓
04	1.3	0.65	0.92	1.31	1.60	1.85	2.07	2.44	✓	✓	✓	✓
05	1.4	0.82	1.15	1.63	2.00	2.31	2.58	3.06	✓	✓	✓	✓
06	1.6	0.98	1.39	1.96	2.40	2.77	3.10	3.67	✓	✓	✓	✓
08	1.8	1.31	1.85	2.61	3.20	3.70	4.13	4.89	✓	✓	✓	✓
10	2.0	1.63	2.31	3.27	4.00	4.62	5.16	6.11	✓	✓	✓	✓
15	2.4	2.45	3.46	4.90	6.00	6.93	7.75	9.17	✓	✓	✓	✓
20	2.8	3.27	4.62	6.53	8.00	9.24	10.33	12.22	✓	✓	✓	✓
30	3.6	4.90	6.93	9.80	12.00	13.86	15.49	18.33			✓	✓
40	4.0	6.53	9.24	13.06	16.00	18.48	20.66	24.44			✓	✓
50	4.4	8.16	11.55	16.33	20.00	23.09	25.82	30.55			✓	✓



DIMENSIONS

Pipe Size BSP	A (mm)	B (mm)	C (mm)
1/8"	21.7	12.5	7.36
1/4"	26.5	14.0	9.4

METAL FLAT FAN NOZZLE

APPLICATION

Industrial Washing Machines
Product Washing
Wheel Washing
Degreasing
Circuit Board Processing
Spray Coating

DESCRIPTION

The metal flat fan nozzle produces a flat fan spray pattern with an even and uniform distribution across the spray width. The flat fan nozzle is a one piece construction with a male threaded connection and hex body for easy installation.

MATERIALS AVAILABLE

Brass
Stainless Steel
Other materials available on request

AVAILABLE SPRAY ANGLES

0°, 15°, 25°,40°, 65°, 80°, 110°

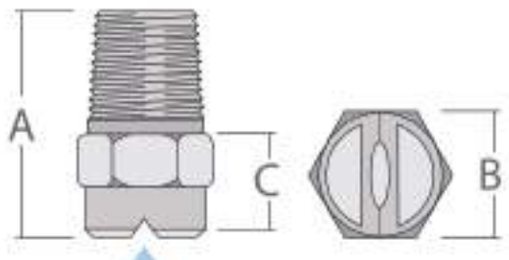
ORDERING EXAMPLE

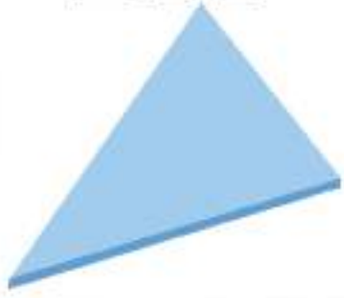
Metal Flat Fan Nozzle – Stainless Steel ¼" 20-65°

FEATURES

Flat spray pattern distributes the liquid as a flat or sheet-type spray
Uniform distribution over a wide range of flow rates
Unobstructed flow passage minimises clogging
One piece male threaded design
Hexagon body for quick and easy installation

Nozzle Reference	Thread Connection BSP						FLow (L/min) @ Pressur (bar)									Available Spray Angle
	1/8"	1/4"	3/8"	1/2"	3/4"	1"	0.5	1.0	2.0	3.0	4.0	5.0	7.0	10	20	30	
01	✓	✓					0.16	0.23	0.33	0.40	0.46	0.52	0.61	0.73	1.03	1.26	*
015	✓	✓					0.24	0.35	0.49	0.60	0.69	0.77	0.92	1.10	1.55	1.90	*
02	✓	✓					0.33	0.46	0.65	0.80	0.92	1.03	1.22	1.46	2.07	2.53	*
03	✓	✓					0.49	0.69	0.98	1.20	1.39	1.55	1.83	2.19	3.10	3.79	*
04	✓	✓					0.65	0.92	1.31	1.60	1.85	2.07	2.44	2.92	4.13	5.06	*
045	✓	✓					0.73	1.04	1.47	1.80	2.08	2.32	2.75	3.29	4.65	5.69	*
05	✓	✓					0.82	1.15	1.63	2.00	2.31	2.58	3.06	3.65	5.16	6.32	*
055	✓	✓					0.90	1.27	1.80	2.20	2.54	2.84	3.36	4.02	2.68	6.98	*
06	✓	✓					0.98	1.39	1.96	2.40	2.77	3.10	3.67	4.38	6.20	7.59	*
065	✓	✓					1.06	1.50	2.12	2.60	3.00	3.36	3.97	4.75	6.71	8.22	*
07	✓	✓					1.14	1.62	2.29	2.80	3.23	3.61	4.28	5.11	7.23	8.85	*
08	✓	✓					1.31	1.85	2.61	3.20	3.70	4.13	4.89	5.84	8.26	10.12	*
09	✓	✓					1.47	2.08	2.94	3.60	4.16	4.65	5.50	6.57	9.30	11.38	*
10	✓	✓					1.63	2.31	3.27	4.00	4.62	5.16	6.11	7.30	10.33	12.65	*
15	✓	✓					2.45	3.46	4.90	6.00	6.93	7.75	9.17	10.95	15.49	18.97	*
20	✓	✓					3.27	4.62	6.53	8.00	9.24	10.33	12.22	14.61	20.66	25.30	*
30		✓					4.90	6.93	9.80	12.00	13.86	15.49	18.33	21.91	30.98	37.95	*
40		✓	✓				6.53	9.24	13.06	16.00	18.48	20.66	24.44	29.21	41.31	50.60	*
50		✓	✓				8.16	11.55	16.33	20.00	23.09	25.82	30.55	36.51	51.64	63.25	*
60		✓	✓				9.80	13.86	19.60	24.00	27.71	30.98	36.66	43.82	61.97	75.89	*
70		✓	✓				11.43	16.17	22.86	28.00	32.33	36.15	42.77	51.12	72.30	88.54	*
80			✓	✓			13.06	18.48	26.13	32.00	36.95	41.31	48.88	58.42	82.62	101.19	*
100			✓	✓	✓		16.33	23.09	32.66	40.00	46.19	51.64	61.10	73.03	103.28	126.49	*
150				✓	✓		24.49	34.64	48.99	60.00	69.28	77.46	91.65	109.54	154.92	189.74	*
200				✓	✓		32.66	46.19	65.32	80.00	92.38	103.28	122.20	146.06	206.56	252.98	*
250					✓		40.82	57.74	81.65	100.00	115.47	129.10	152.75	182.57	258.20	316.23	*
300					✓	✓	48.99	69.28	97.98	120.00	138.56	154.92	183.30	219.09	309.84	379.47	*
400					✓	✓	65.32	92.38	130.64	160.00	184.75	206.56	244.40	292.12	413.12	505.96	*
500						✓	81.65	115.47	163.30	200.00	230.94	258.20	305.51	365.15	516.40	632.46	*
600						✓	97.98	138.56	195.96	240.00	277.13	309.84	366.61	438.18	619.68	758.95	*





DIMENSIONS

Thread connection	A (mm)	B (mm)	C (mm)
1/8"	19.5	11.0	10.0
1/4"	25.4	15.0	12.7
3/8"	28.5	18.0	14.3
1/2"	35.0	24.0	17.5
3/4"	38.0	27.0	19.0
1"	51.0	36.0	25.5

PLASTIC FLOODJET TIP

APPLICATION

Cooling Conveyor Belts
Film Washing
Water Curtain

DESCRIPTION

The plastic floodjet nozzle tip produces a wide flat fan spray pattern with uniform distribution, the spray is deflected 75° from inlet of orifice. The spray tip is a one piece construction, a three part assembly completes the nozzle assembly, comprising: nozzle body, retaining cap and spray tip.

MATERIALS AVAILABLE
Polyacetal
PVDF

AVAILABLE SPRAY ANGLES
80°, 95°, 105°, 110°, 120°, 145°

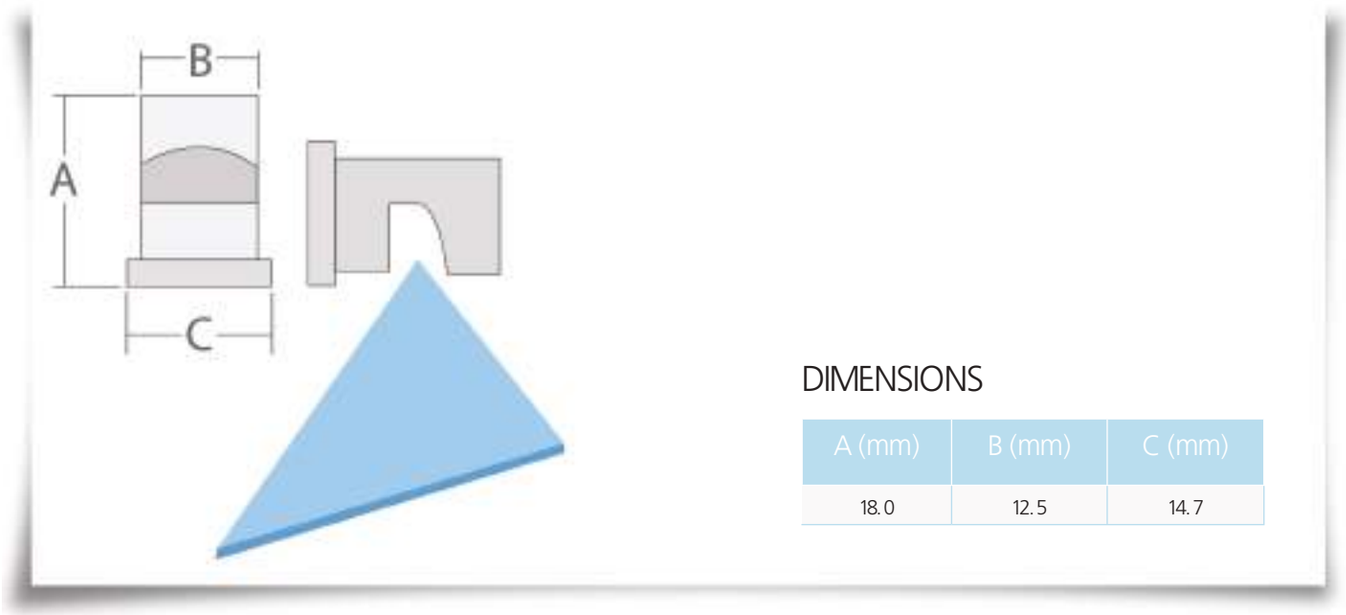
ORDERING EXAMPLE
Plastic Floodjet Tip – PVDF 3-110°

FEATURES

- Wide –angle flat spray pattern with uniform distribution
- Spray deflected 75° from nozzle inlet
- Tips are one piece construction
- Tips can be assembled with nozzle bodies, strainer and retaining cap
- Unobstructed flow passage minimises clogging

WIDE FLAT FAN SPRAY PATTERN WITH A UNIFORM DISTRIBUTION

Tip Reference	Flow (L/min) @ Pressure (bar)							Available Spray Angle					
	0.5	1.0	1.5	2.0	2.5	3.0	4.0	80	95	105	110	120	145
0.50	0.16	0.23	0.28	0.32	0.36	0.39	0.46	✓					
0.75	0.24	0.34	0.42	0.48	0.54	0.59	0.68		✓				
1.0	0.32	0.46	0.56	0.64	0.72	0.79	0.91			✓			
1.5	0.48	0.68	0.84	0.97	1.08	1.18	1.37			✓			
2.0	0.64	0.91	1.12	1.29	1.44	1.58	1.82			✓			
2.5	0.81	1.14	1.40	1.61	1.80	1.97	2.28				✓		
3.0	0.97	1.37	1.68	1.93	2.16	2.37	2.74				✓		
4.0	1.29	1.82	2.23	2.58	2.88	3.16	3.65					✓	
5.0	1.61	2.28	2.79	3.22	3.60	3.95	4.56						✓
7.5	2.42	3.42	4.19	4.84	5.41	5.92	6.84						✓
10	3.22	4.56	5.58	6.45	7.21	7.90	9.12						✓
15	4.84	6.84	8.38	9.67	10.81	11.84	13.68						✓
20	6.45	9.12	11.17	12.89	14.42	15.79	18.24						✓



DIMENSIONS

A (mm)	B (mm)	C (mm)
18.0	12.5	14.7

METAL FLOODJET TIP

DESCRIPTION

The metal floodjet nozzle tip produces a wide flat fan spray pattern with uniform distribution, the spray is deflected 75° from inlet of orifice. The spray tip is a one piece construction, a three part assembly completes the nozzle assembly, comprising: nozzle body, retaining cap and spray tip.

MATERIALS AVAILABLE

Brass
Stainless Steel
Other materials available

AVAILABLE SPRAY ANGLES

110°, 115°, 125°, 145°

ORDERING EXAMPLE

Metal Floodjet Tip Stainless Steel 20-145°

APPLICATION

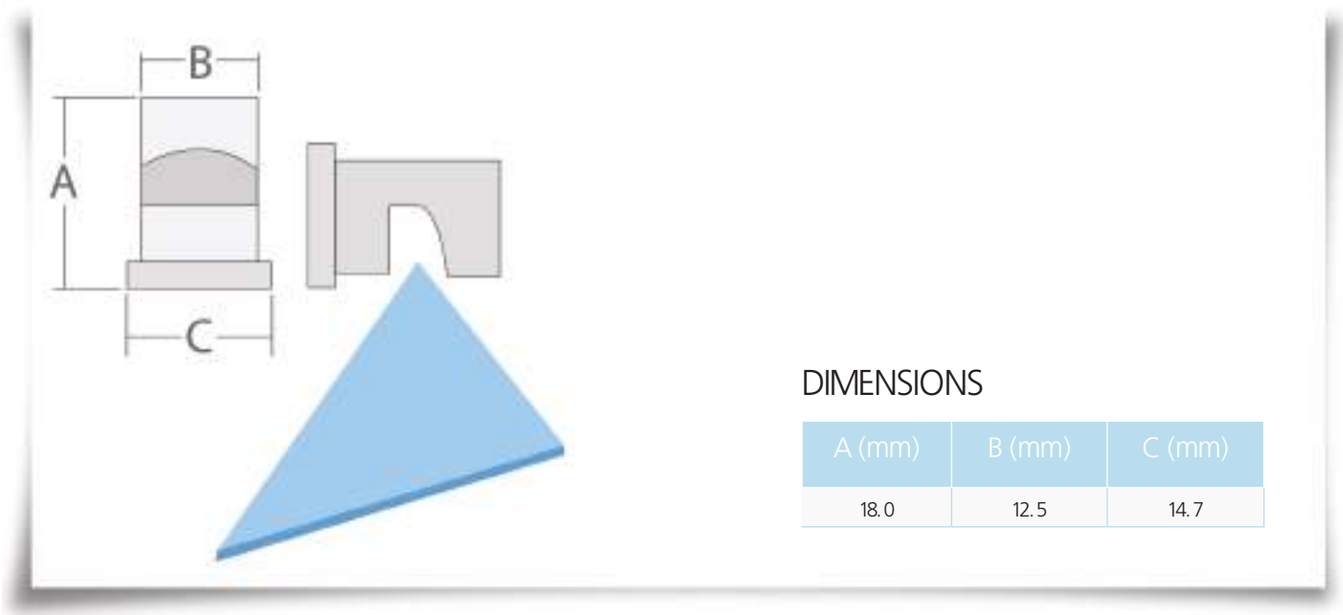
Cooling
Film Washing
Fire Suppression
Foam Control
Spraying Eliminator Plates
Water Curtain

FEATURES

Precision engineered for quality control of flow, deflection and spray angle
Wide-angle flat fan spray pattern with uniform distribution
Spray deflected 75° from nozzle inlet
Tips are one piece construction
Tips can be assembled with nozzle bodies, strainer and retaining cap
Unobstructed flow passage minimises clogging

WIDE FLAT FAN SPRAY PATTERN WITH A UNIFORM DISTRIBUTION

Tip Reference	Flow (L/min) @ Pressure (bar)							Available Spray Angle			
	0.5	1.0	1.5	2.0	2.5	3.0	4.0	110	115	125	145
0.50	0.16	0.23	0.28	0.32	0.36	0.39	0.46	✓			
0.75	0.24	0.34	0.42	0.48	0.54	0.59	0.68		✓		
1.0	0.32	0.46	0.56	0.64	0.72	0.79	0.91		✓		
1.5	0.48	0.68	0.84	0.97	1.08	1.18	1.37		✓		
2.0	0.64	0.91	1.12	1.29	1.44	1.58	1.82		✓		
2.5	0.81	1.14	1.40	1.61	1.80	1.97	2.28		✓		
3.0	0.97	1.37	1.68	1.93	2.16	2.37	2.74			✓	
4.0	1.29	1.82	2.23	2.58	2.88	3.16	3.65			✓	
5.0	1.61	2.28	2.79	3.22	3.60	3.95	4.56			✓	
7.5	2.42	3.42	4.19	4.84	5.41	5.92	6.84				✓
10	3.22	4.56	5.58	6.45	7.21	7.90	9.12				✓
15	4.84	6.84	8.38	9.67	10.81	11.84	13.68				✓
20	6.45	9.12	11.17	12.89	14.42	15.79	18.24				✓



DIMENSIONS

A (mm)	B (mm)	C (mm)
18.0	12.5	14.7

METAL FLOODJET NOZZLE

DESCRIPTION

The metal floodjet nozzle produces a wide flat fan spray pattern with uniform distribution, the spray is deflected 75° from inlet of orifice. The spray nozzle is a one piece male pipe threaded design with a hex body for easy installation.

MATERIALS AVAILABLE

Brass
Stainless Steel
Other materials available on request.

AVAILABLE SPRAY ANGLES

110°, 115°, 125°, 145°

ORDERING EXAMPLE

Metal Floodjet Nozzle – Brass ½" 40-145°

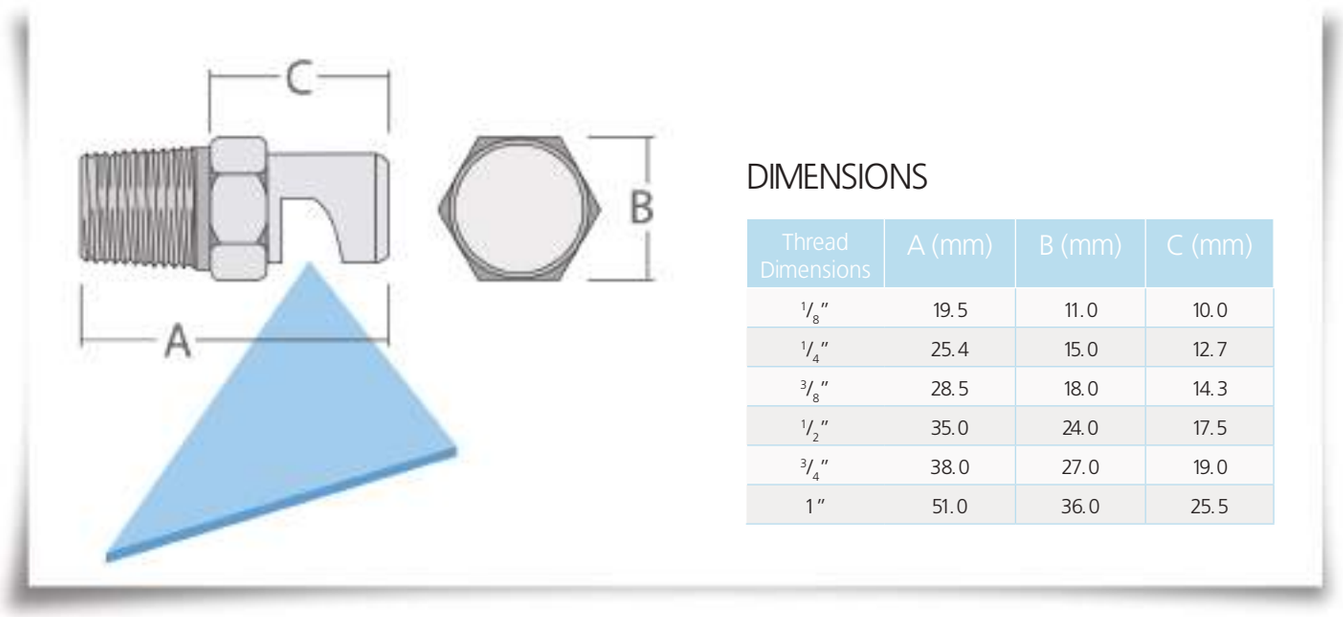
APPLICATION

Cooling
Film Washing
Fire Suppression
Foam Control
Spraying Eliminator Plates
Water Curtain

FEATURES

Precision engineered for quality control of flow, deflection and spray angle
Wide-angle flat fan spray pattern with uniform distribution
Uniform distribution over a wide range of flow rates and pressure
Unobstructed flow passage minimises clogging
One piece male threaded design
Hexagon body for quick and easy installation

Nozzle Reference	Thread Connection BSP						FLow (L/min) @ Pressur (bar)							Spray Angle @ 1.5 bar
	1/8"	1/4"	3/8"	1/2"	2/4"	1"	0.5	1.0	1.5	2.0	2.5	3.0	4.0	
0.50	✓						0.16	0.23	0.28	0.32	0.36	0.39	0.46	110
0.80	✓						0.24	0.34	0.42	0.48	0.54	0.59	0.68	115
1.0	✓						0.32	0.46	0.56	0.64	0.72	0.79	0.91	115
1.5	✓						0.48	0.68	0.84	0.97	1.08	1.18	1.37	115
2.0	✓	✓					0.64	0.91	1.12	1.29	1.44	1.58	1.82	115
2.5	✓	✓					0.81	1.14	1.40	1.61	1.80	1.97	2.28	115
3.0	✓	✓					0.97	1.37	1.68	1.93	2.16	2.37	2.74	125
4.0	✓	✓					1.29	1.82	2.23	2.58	2.88	3.16	3.65	125
5.0	✓	✓					1.61	2.28	2.79	3.22	3.60	3.95	4.56	125
7.5	✓	✓					2.42	3.42	4.19	4.84	5.41	5.92	6.84	145
10	✓	✓					3.22	4.56	5.58	6.45	7.21	7.90	9.12	145
15	✓	✓					4.84	6.84	8.38	9.67	10.81	11.84	13.68	145
20	✓	✓	✓				6.45	9.12	11.17	12.89	14.42	15.79	18.24	145
25		✓	✓				8.06	11.40	13.96	16.12	18.02	19.74	22.79	145
30			✓				9.67	13.68	16.75	19.34	21.62	23.69	27.35	145
35			✓				11.28	15.96	19.54	22.57	25.23	27.64	31.91	145
40			✓	✓			12.89	18.24	22.33	25.79	28.83	31.58	36.47	145
50				✓			16.12	22.79	27.92	32.24	36.04	39.48	45.59	145
60				✓	✓		19.34	27.35	33.50	38.68	43.25	47.38	54.71	145
80				✓	✓		25.79	36.47	44.67	51.58	57.67	63.17	72.94	145
100				✓	✓		32.24	45.59	55.83	64.47	72.08	78.96	91.18	145
120					✓		38.68	54.71	67.00	77.37	86.50	94.75	109.41	145
160					✓		51.58	72.94	89.33	103.15	115.33	126.34	145.88	145
210					✓		67.70	95.74	117.25	135.39	151.37	165.82	191.47	145
300						✓	96.71	136.76	167.50	193.41	216.24	236.88	273.53	145
450						✓	145.06	205.15	251.25	290.12	324.37	355.33	410.29	145



DIMENSIONS

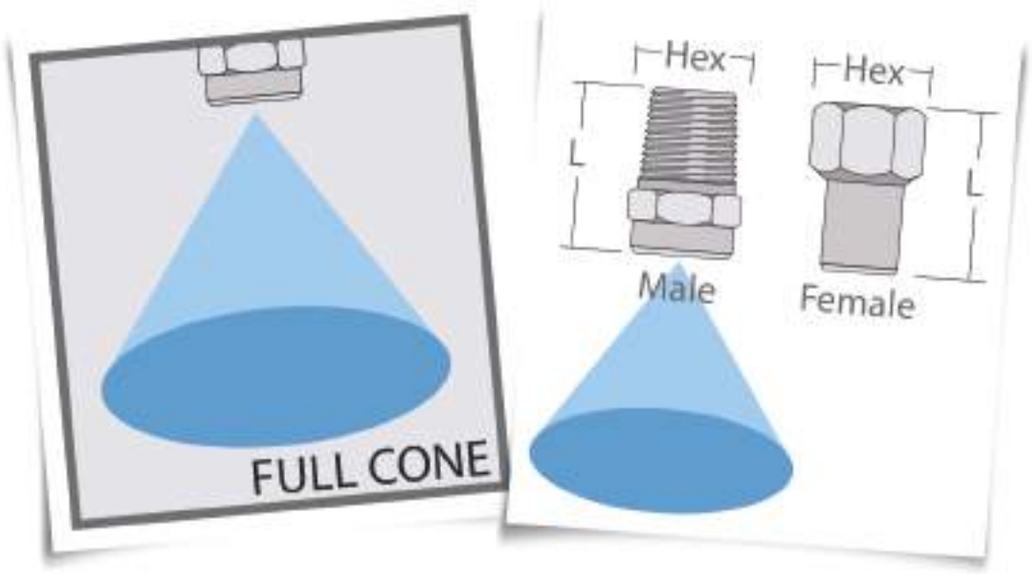
Thread Dimensions	A (mm)	B (mm)	C (mm)
1/8"	19.5	11.0	10.0
1/4"	25.4	15.0	12.7
3/8"	28.5	18.0	14.3
1/2"	35.0	24.0	17.5
3/4"	38.0	27.0	19.0
1"	51.0	36.0	25.5

FULL CONE NOZZLE

Full cone nozzles produce a solid cone shaped spray pattern with a round impact area; these nozzles ensure a precise uniformed distribution of liquids throughout the entire circular impact area. To achieve this we offer two nozzle designs, firstly an inline axial full cone design using a swirl vane to create the uniform cone spray. Secondly a tangential full cone nozzle, this design has no swirl vane insert and achieves its spray pattern by spraying the liquid at 90 degrees to the inlet, thus generating a swirl chamber within the nozzle, the advantage to this nozzle design is that it minimises clogging potential. We offer a wide range of flow rate and pressures with spray angles available from 30° to 110°.

Optimisation tips:

- Evaluate your specific spraying application and implement a regular nozzle maintenance plan
- Use nozzle strainers or in-line filters to reduce nozzle blockage.
- Be sure to use the best type of full cone nozzle for your application, contact our office for assistance with this.
- Monitor flow rate and pressure to detect wear of the orifice or swirl vane.
- Watch for heavy streaks in the centre of the spray, as wear occurs more liquid is concentrated in the centre.



PRECISION FULL CONE SPRAY NOZZLES

Plastic Full Cone Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	45° to 120°	0. 32 – 14. 10 Litres per-minute	Cooling Rinsing Washing Food Processing Gas Scrubbing PCB Manufacturing Deaerating	1/8" BSP and ¼" BSP	26-27

Metal Full Cone Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	30° to 110°	0. 33 – 675. 52 Litres per-minute	Cooling Rinsing Washing Food Processing Fire Suppression Gas Scrubbing, Washing and Cooling	1/8" to 2"	28-29

Plastic Full Cone Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	80°	0. 74 -9. 42 Litres per-minute	Rinsing Cooling Washing Odour Control	Flanged tip with connection onto nozzle body (see accessories section)	30-31

Metal Full Cone Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	70° and 110°	0. 46 - 17. 3 Litres per-minute	Rinsing Cooling Washing Gas Scrubbing, Washing, Cooling	Flanged tip with connection onto nozzle body (see accessories section)	32-33

Metal Tangential Full Cone Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	70° and 110°	0. 91 – 28. 83 Litres per-minute	Cooling Rinsing Washing	1/8" to 3/8"	34-35

PLASTIC FULL CONE NOZZLE

DESCRIPTION

The plastic full cone nozzle produces a full cone spray pattern with uniform distribution. A fixed internal whirl plate generates the uniform coverage. The nozzle has a hex body design for easy installation.

MATERIALS AVAILABLE
PVDF

AVAILABLE SPRAY ANGLES
45°, 50°, 55°, 60°, 70°, 80°, 90°, 120°

ORDERING EXAMPLE
Plastic Full Cone Nozzle PVDF 1/8" - 2W

APPLICATION

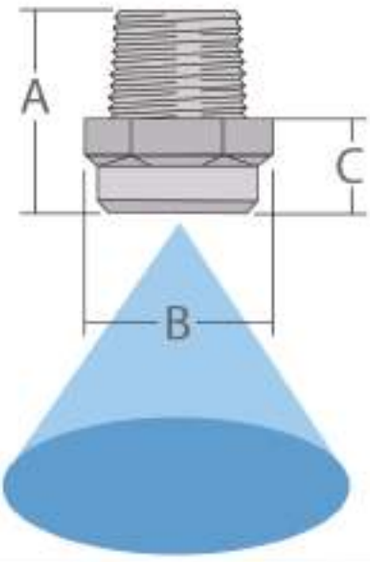
Cooling
Rinsing
Washing
Food Processing
Gas Scrubbing
PCB Manufacturing
Deaerating

FEATURES

Full Cone Spray Patterns
Uniform distribution over a wide range of flow rates
Low impact
One piece male threaded design
Hexagon body for quick and easy design
Full cone spray pattern with round impact area

PRECISION FULL CONE NOZZLE

Nozzle Ref.	Thread Connection BSP		Approx Orifice Dia (mm)	FLow (L/min) @ Pressur (bar)								Available Spray Angle
	1/8"	1/4"		0.5	1.0	2.0	3.0	4.0	5.0	7.0	10	
1	✓		1.0	0.32	0.45	0.63	0.77	0.89	1.00	1.18	1.41	45
1.3W	✓		1.1	0.41	0.59	0.81	0.98	1.14	1.25	1.48	1.73	90
1.5	✓		1.2	0.47	0.67	0.95	1.16	1.34	1.50	1.77	2.11	55
2	✓		1.4	0.63	0.89	1.26	1.54	1.78	1.99	2.36	2.82	60
2W	✓		1.4	0.63	0.89	1.26	1.54	1.78	1.99	2.36	2.82	90
3	✓		1.6	0.95	1.34	1.89	2.32	2.67	2.99	3.54	4.23	50
3.5	✓		1.7	1.10	1.56	2.21	2.70	3.12	3.49	4.51	5.20	60
3.7W	✓		1.8	1.18	1.76	2.44	2.95	3.41	3.75	4.51	5.20	120
5	✓		2.0	1.58	2.23	3.15	3.86	4.46	4.98	5.90	7.05	80
6.5		✓	2.4	2.05	2.90	4.10	5.02	5.80	6.48	7.67	9.16	50
10		✓	2.8	3.15	4.46	6.30	7.72	8.92	9.97	11.79	14.10	70



DIMENSIONS

Plpe Size BSP	A (mm)	B (mm)	C (mm)
1/8"	19.3	12.5	8.8
1/4"	22.3	13.76	8.65

METAL FULL CONE NOZZLE

DESCRIPTION

The metal full cone nozzle produces a full cone spray pattern with uniform distribution. A fixed internal whirl plate generates the uniform coverage. The nozzle has a hex body design for easy installation. Male and Female threaded connections available.

MATERIALS AVAILABLE

Brass
Stainless Steel
Other materials available on request

SPRAY ANGLES AVAILABLE

30°, 50°, 60°, 70°, 90°, 110°

ORDERING EXAMPLE

Metal Full Cone Nozzle Stainless Steel 1" 47-70°

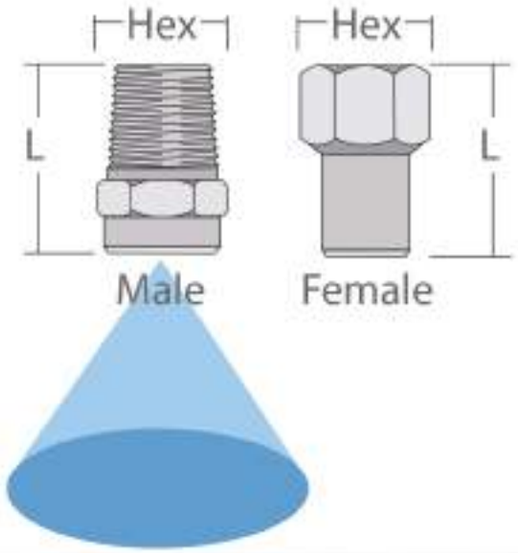
APPLICATION

Cooling
Rinsing
Washing
Food Processing
Fire Suppression
Gas Scrubbing, Washing and Cooling

FEATURES

Precision engineered for quality control of flow and spray distribution
Uniform distribution over a wide range of flow rates and pressures
One piece nozzle body with internal swirl vane
Hexagon body for quick and easy installation
Wide range of spray angles
Full cone spray pattern with round impact area

Nozzle Ref	Thread Connection BSP									Approx Orifice Dia (mm)	FLow (L/min) @ Pressur (bar)							
	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"		0.5	1.0	2.0	3.0	4.0	5.0	7.0	10.0
0.8	✓									1.0	0.33	0.46	0.65	0.80	0.92	1.03	1.22	1.46
1.2	✓									1.2	0.49	0.69	0.98	1.20	1.39	1.55	1.83	2.19
1.6	✓									1.4	0.65	0.92	1.31	1.60	1.85	2.07	2.44	2.92
2.4	✓									1.6	0.98	1.39	1.96	2.40	2.77	3.10	3.67	4.38
3.2	✓									1.8	1.31	1.85	2.61	3.20	3.70	4.13	4.89	5.84
4.0	✓	✓								2.0	1.63	2.31	3.27	4.00	4.62	5.16	6.11	7.30
5.1		✓								2.4	2.08	2.94	4.16	5.10	5.89	6.58	7.79	9.31
6.3		✓	✓							2.6	2.57	3.64	5.14	6.30	7.27	8.13	9.62	11.50
7.5		✓	✓							2.8	3.06	4.33	6.12	7.50	8.66	9.68	11.46	13.69
9.5			✓							3.2	3.88	5.48	7.76	9.50	10.97	12.26	14.51	17.34
12.0			✓	✓						3.6	4.90	6.93	9.80	12.00	13.86	15.49	18.33	21.91
17.0			✓	✓						4.0	6.94	9.81	13.88	17.00	19.63	21.95	25.97	31.04
19.0				✓						4.8	7.76	10.97	15.51	19.00	21.94	24.53	29.02	34.69
24.0				✓	✓					5.5	9.80	13.86	19.60	24.00	27.71	30.98	36.66	43.82
30.0				✓	✓					6.4	12.25	17.32	24.49	30.00	34.64	38.73	45.83	54.77
37.0					✓	✓				7.0	15.11	21.36	30.21	37.00	42.72	47.77	56.52	67.55
47.0					✓	✓				7.9	19.19	27.14	38.38	47.00	54.27	60.68	71.79	85.81
61.0						✓				8.7	24.90	35.22	49.81	61.00	70.44	78.75	93.18	111.37
71.0						✓				9.5	28.99	40.99	57.97	71.00	81.98	91.66	108.45	129.63
91.0						✓				12.3	37.15	52.54	74.30	91.00	105.08	117.48	139.00	166.14
118.0							✓			12.5	48.17	68.13	96.35	118.00	136.25	152.34	180.25	215.44
147.0							✓			13.0	60.01	84.87	120.02	147.00	169.74	189.78	224.55	268.38
188.0								✓		14.5	76.75	108.54	153.50	188.00	217.08	242.71	287.17	343.24
235.0									✓	16.5	95.94	135.68	191.88	235.00	271.35	303.38	358.97	429.05
294.0									✓	18.5	120.02	169.74	240.05	294.00	339.48	379.55	449.09	536.77
370.0									✓	20.7	151.05	213.62	302.10	370.00	427.24	477.67	565.18	675.52



DIMENSIONS

Pipe Size BSP	Male (mm)		Female (mm)	
	L	Hex	L	Hex
1/8"	19.5	11.0	28.0	16.0
1/4"	25.4	15.0	28.0	18.0
3/8"	28.5	18.0	39.0	21.0
1/2"	35.0	24.0	50.0	25.0
3/4"	38.0	27.0	63.0	30.0
1"	51.0	36.0	81.0	37.5
1 1/4"	74.0	41.0	87.5	48.0
1 1/2"	85.0	50.0	102.0	52.0

PLASTIC FULL CONE TIP

APPLICATION

Rinsing
Cooling
Washing
Odour Control

DESCRIPTION

The plastic full cone tip produces a full cone spray pattern with uniform distribution. A fixed internal whirl plate generates the uniform coverage. The spray tip has a flanged connection and is to be used in conjuction with either threaded nozzle bodies or nozzle pipe clamp holders (details shown in accessories section).

MATERIALS AVAILABLE
Polyacetal
PVDF

SPRAY ANGLES AVAILABLE
80°

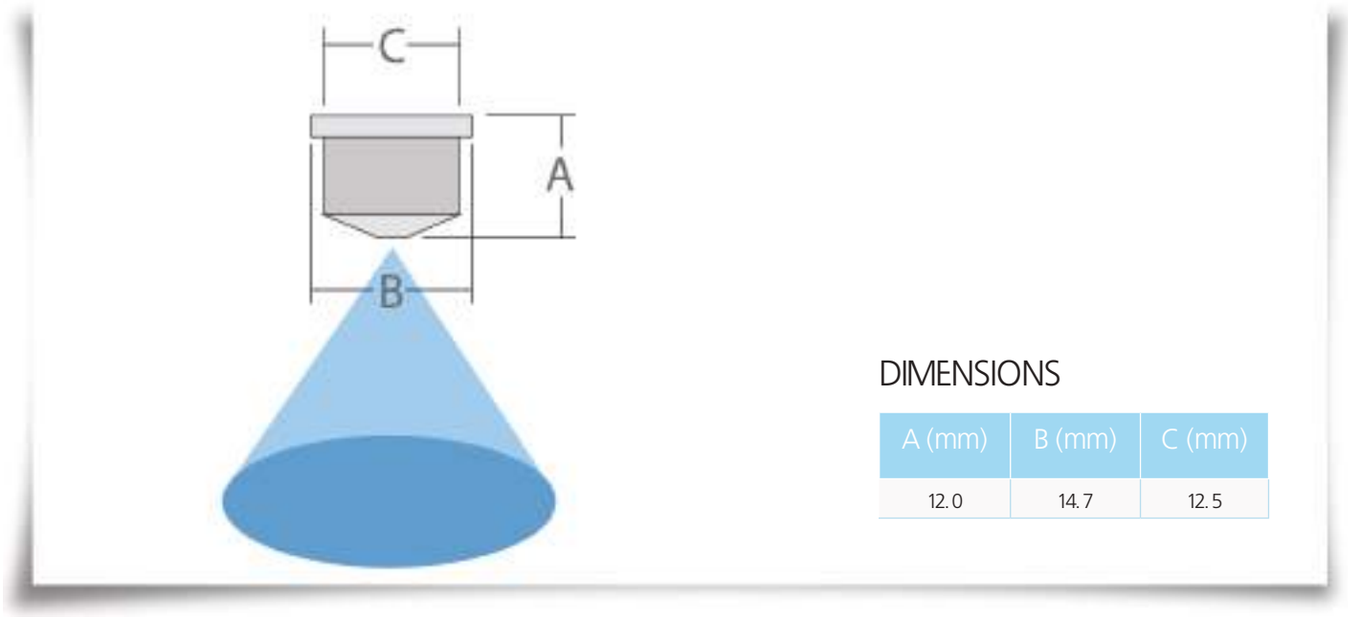
ORDERING EXAMPLE
Plastic Full Cone Tip PVDF 04-80^{0}

FEATURES

Uniform distribution over the spray width
Tips have an internal swirl vane to generate a full cone spray pattern
Tips can be assembled with nozzle bodies, strainer and retaining cap
Full cone spray pattern with round impact area

UNIFORM DISTRIBUTION THROUGH A NOZZLE TIP

Tip Reference	Flow (L/min) @ Pressure (bar)							Spray Angle @ 3 bar
	1.0	2.0	3.0	4.0	5.0	7.0	10.0	80
02	0.74	1.05	1.29	1.49	1.66	1.97	2.35	✓
03	1.12	1.58	1.93	2.23	2.5	2.95	3.53	✓
04	1.49	2.11	2.58	2.98	3.33	3.94	4.71	✓
05	1.86	2.63	3.22	3.72	4.16	4.92	5.89	✓
06	2.33	3.16	3.87	4.47	4.99	5.91	7.06	✓



DIMENSIONS

A (mm)	B (mm)	C (mm)
12.0	14.7	12.5

METAL FULL CONE TIP

APPLICATION

Rinsing
Cooling
Washing
Gas Scrubbing, Washing, Cooling

DESCRIPTION

The metal full cone tip produces a full cone spray pattern with uniform distribution. A fixed internal whirl plate generates the uniform coverage. The spray tip has a flange connection and is to be used in conjuction with either threaded nozzle bodies or nozzle pipe clamp holders (details shown in accessories section).

FEATURES

Uniform distribution over the spray width
Tips have an internal swirl vane to generate a full cone spray pattern
Tips can be assembled with nozzle bodies, strainer and retaining cap
Full cone spray pattern with round impact area

MATERIALS AVAILABLE

Brass
Stainless Steel
Other materials available on request

SPRAY ANGLES AVAILABLE

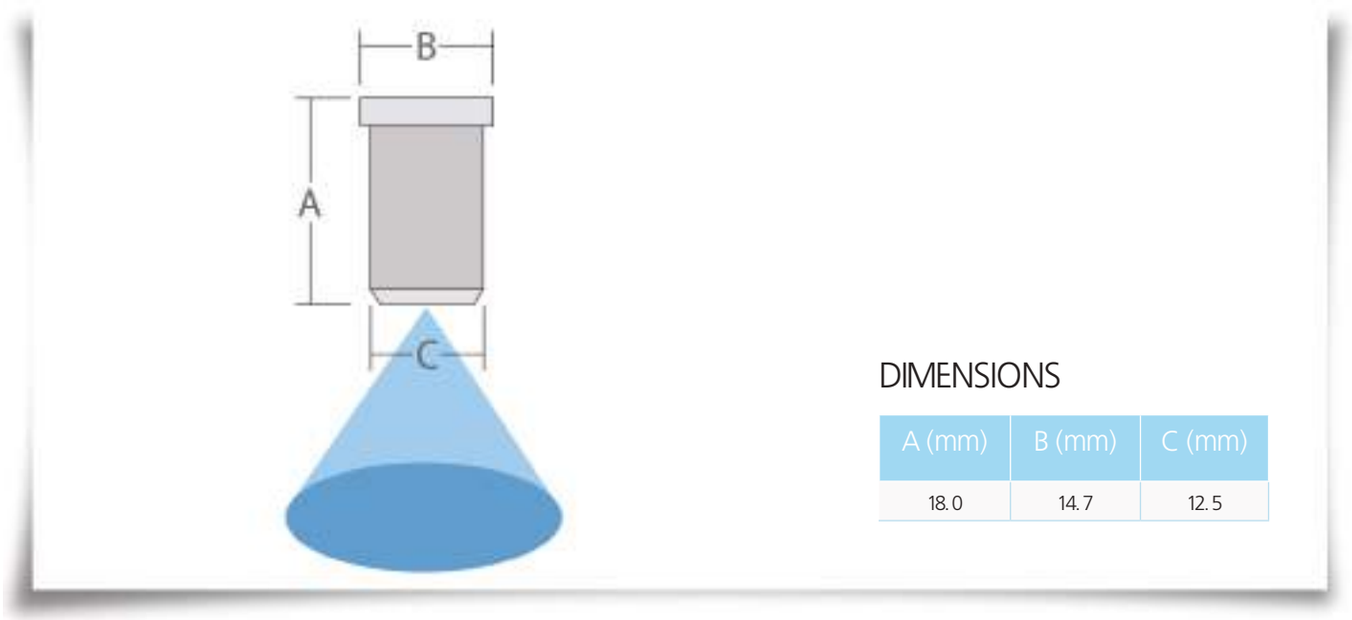
70°, 110°

ORDERING EXAMPLE

Metal Full Cone Tip Brass 3-110^{0}

UNIFORM DISTRIBUTION THROUGH A NOZZLE TIP

Tip Reference	Flow (L/min) @ Pressure (bar)						
	1.0	2.0	3.0	4.0	5.0	7.0	10.0
1	0.46	0.64	0.79	0.91	1.02	1.21	1.44
2	0.91	1.29	1.58	1.82	2.04	2.41	2.88
3	1.37	1.93	2.37	2.74	3.06	3.62	4.32
3.5	1.60	2.26	2.76	3.19	3.57	4.22	5.06
5	2.28	3.22	3.95	4.56	5.10	6.03	7.21
6.5	2.96	4.19	5.13	5.93	6.63	7.84	9.37
10	4.56	6.45	7.90	9.12	10.19	12.06	14.42
12	5.47	7.74	9.48	10.94	12.23	14.47	17.30



DIMENSIONS

A (mm)	B (mm)	C (mm)
18.0	14.7	12.5

METAL TANGENTIAL FULL CONE NOZZLE

DESCRIPTION

The metal tangential full cone nozzle produces a full cone spray pattern that sprays at 90° to the inlet of the nozzle. A two piece nozzle body with internal swirl cone produces the full cone spray pattern. The nozzle has a square body for easy installation. Male and female threaded connections available.

MATERIALS AVAILABLE

Brass
Stainless Steel
Other materials available on request

SPRAY ANGLES AVAILABLE

70°, 110°

ORDERING EXAMPLE

Metal Tangential Full Cone Stainess Steel ¼" 6.5-70°

APPLICATION

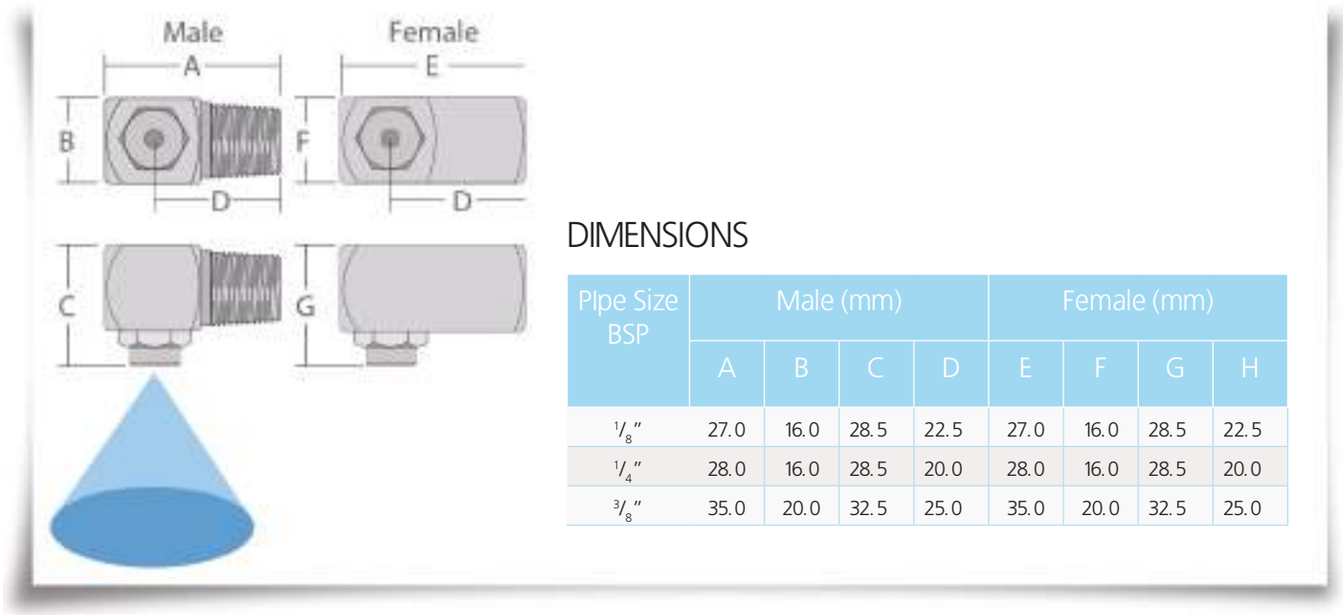
Cooling
Rinsing
Washing
Food Processing
Fire Suppression
Gas Scrubbing, Washing and Cooling

FEATURES

Two piece nozzle body with internal swirl vane
Uniform distribution of spray droplets
Spray trajectory is 90 degrees to the inlet
Useful nozzle design for installations with space limitations

UNIFORM DISTRIBUTION SPRAYING AT 90° TO THE INLET

Nozzle Reference	Thread Connections (BSP)			Flow (L/min) @ Pressure (bar)						
	1/8"	1/4"	3/8"	1.0	2.0	3.0	4.0	5.0	7.0	10.0
2	✓			0.91	1.29	1.58	1.82	2.04	2.41	2.88
3	✓			1.37	1.93	2.37	2.74	3.06	3.62	4.32
3.9	✓			1.78	2.51	3.08	3.56	3.98	4.70	5.62
4.3	✓			1.96	2.77	3.40	3.92	4.38	5.19	6.20
5	✓			2.28	3.22	3.95	4.56	5.10	6.03	7.21
6.5		✓		2.96	4.19	5.13	5.93	6.63	7.84	9.37
8	✓			3.65	5.16	6.32	7.29	8.16	9.65	11.53
10		✓		4.56	6.45	7.90	9.12	10.19	12.06	14.42
12.5		✓		5.70	8.06	9.87	11.40	12.74	15.08	18.02
14		✓		6.38	9.03	11.05	12.76	14.27	16.89	20.18
15			✓	6.84	9.67	11.84	13.68	15.29	18.09	21.62
20			✓	9.12	12.86	15.79	18.24	20.39	24.12	28.83



DIMENSIONS

Pipe Size BSP	Male (mm)				Female (mm)			
	A	B	C	D	E	F	G	H
1/8"	27.0	16.0	28.5	22.5	27.0	16.0	28.5	22.5
1/4"	28.0	16.0	28.5	20.0	28.0	16.0	28.5	20.0
3/8"	35.0	20.0	32.5	25.0	35.0	20.0	32.5	25.0

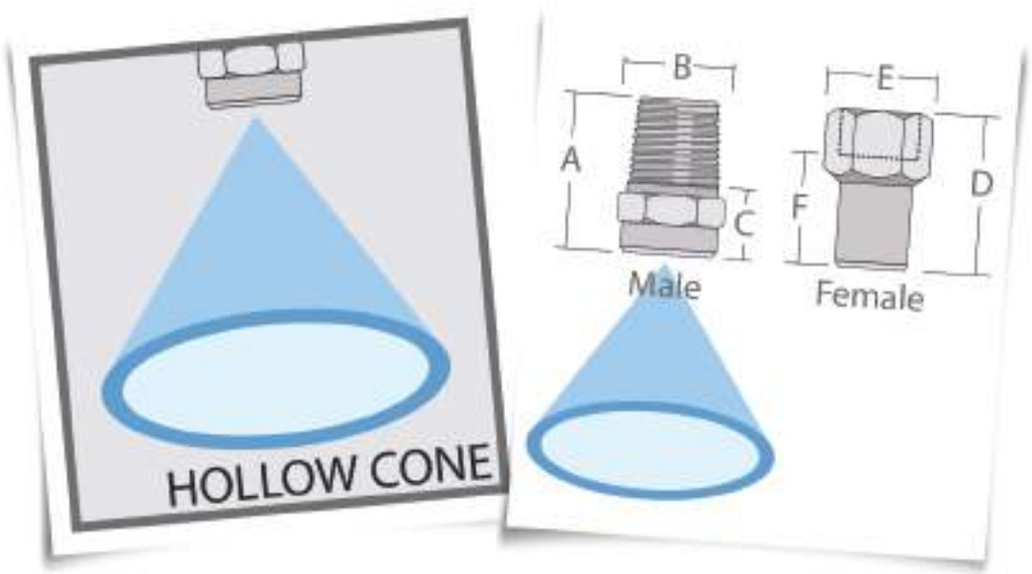
HOLLOW CONE NOZZLE

Hollow cone nozzles produce a cone shaped spray pattern with the spray distribution concentrated to the outside perimeter of the round impact area. These nozzles provide a particularly uniform atomisation, due to their flow design geometry.

We offer a standard inline version available in a wide range of flow capacities and droplet sizes, this range provides a good interface between air and droplet surfaces. To achieve the hollow cone spray in this range we utilise a swirl vane. In addition we offer a tangential hollow cone nozzle this design does not require any inserts or swirl vanes, consequently this nozzle design has a non-clogging characteristic. We offer a wide range of flow rate and pressures with spray angles available from 70° to 110°.

Optimisation Tips:

- Evaluate your specific spraying application and implement a regular nozzle maintenance plan.
- Use nozzle strainers or in-line filters to reduce nozzle blockage.
- Be sure to use the best type of hollow cone nozzle for your application, contact our office for assistance with this.
- Monitor flow rate and pressure to detect wear of the orifice.
- In hollow cone nozzles, nozzle wear destroys the pattern uniformity.



HOLLOW CONE NOZZLE WITH FINE ATOMISATION

Metal Hollow Cone Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	80°	0.37 – 85.63 litres per min	Humidification Evaporative Cooling Chemical Processing Disinfection applications	1/8" – 1"	38-39

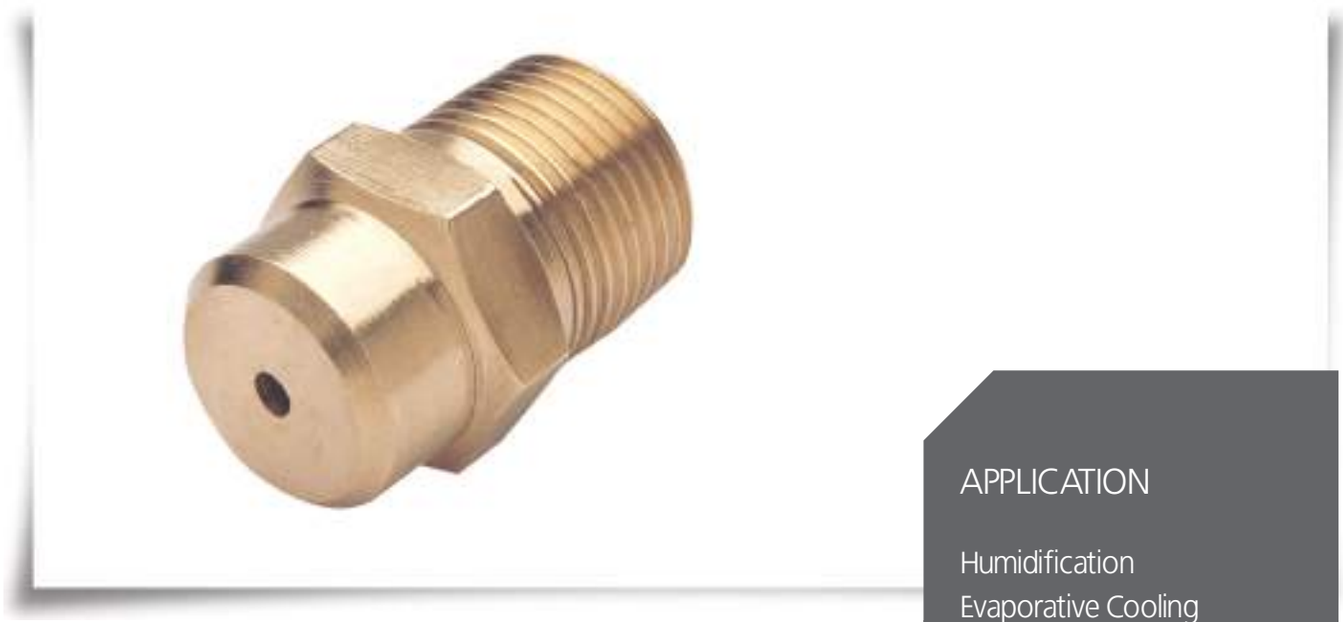
Plastic Hollow Cone Spray Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	80°	3.22 - 86.47 litres per hour	Evaporative Cooling Humidification Insecticide Spraying Weed Control	Flanged tip with connection onto nozzle body (see accessories section)	40-41

Metal Hollow Cone Spray Tip	Available Angle	Min/Max Flow	Application	Connection	Page Number
	80°	1.61 - 187.34 litres per hour	Humidification Evaporative Cooling Chemical Processing Disinfection applications	Flanged tip with connection onto nozzle body (see accessories section)	42-43

Plastic Hollow Cone Misting Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	65^0 to 105^0	1.58 - 36.04 litres per hour	Evaporative Cooling Humidification Moistening Insecticide Spraying Disinfection Cooling	1/8"	44-45

Metal Hollow Cone Tangential Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	70^0, 110^0	0.33-255.6 litres per min	Air Washers Aeration Brine Spraying Cooling Towers Evaporative Cooling in spray ponds and cooling towers Product degreasing	1/8" to 1"	46-47

METAL HOLLOW CONE NOZZLE



APPLICATION

Humidification
Evaporative Cooling
Chemical Processing
Disinfection applications

DESCRIPTION

The metal hollow cone nozzle produces a hollow cone spray pattern with uniform distribution. A fixed internal swirl vane generates the uniform coverage. The nozzle has a hex body design for easy installation. Male and female threaded connections available.

MATERIALS AVAILABLE
Brass
Stainless Steel
Other materials available on request

SPRAY ANGLES AVAILABLE
80°

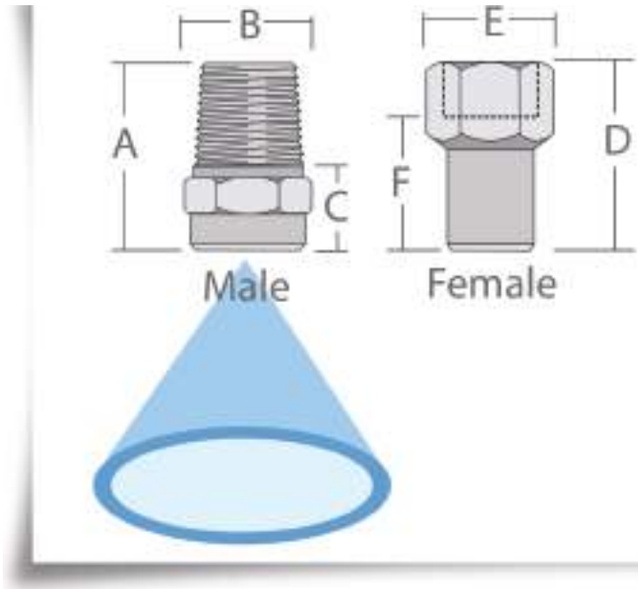
ORDERING EXAMPLE
Metal Hollow Cone Nozzle Brass 1/8" 3-80°

FEATURES

Precision engineered for quality control of flow and spray distribution
Uniform distribution of spray droplets
Low impact with fine droplets
One piece nozzle body with internal swirl vane
Hexagon body for quick and easy installation

HOLLOW CONE SPRAY WITH FINE ATOMISATION

Nozzle Ref	Thread Connection						Approx Orifice Dia (mm)	Flow (L/Min @ Bar)								3 Bar Angle
	1/8"	1/4"	3/8"	1/2"	3/4"	1"		0.5	1	2	3	4	5	7	10	
1	✓	✓					1.6	0.37	0.52	0.73	0.90	1.04	1.16	1.37	1.64	80
2	✓	✓					2.0	0.49	0.69	0.97	1.19	1.37	1.54	1.82	2.17	80
3	✓	✓					2.4	0.56	0.79	1.12	1.37	1.58	1.77	2.09	2.00	80
4			✓				2.4	0.73	1.04	1.47	1.80	2.08	2.32	2.75	3.29	80
5			✓				2.8	0.87	1.23	1.74	2.13	2.46	2.75	3.25	3.89	80
6			✓				3.2	1.05	1.48	2.09	2.56	2.96	3.30	3.91	4.67	80
7			✓				3.6	1.18	1.67	2.36	2.89	3.34	3.73	4.41	5.28	80
8				✓			3.6	1.49	2.11	2.89	3.65	4.21	4.71	5.58	6.66	80
9				✓			4.0	1.74	2.47	3.49	4.27	4.93	5.51	6.52	7.80	80
11				✓			4.8	2.13	3.01	4.26	5.22	6.03	6.74	7.97	9.53	80
13				✓			5.5	2.51	3.56	5.03	6.16	7.11	7.95	9.41	11.25	80
18					✓		4.8	3.29	4.65	6.58	8.06	9.31	10.41	12.31	14.72	80
20					✓		5.5	4.03	5.69	8.05	9.86	11.39	12.73	15.06	18.00	80
26					✓		6.4	4.78	6.75	9.55	11.70	13.51	15.10	17.87	21.36	80
33					✓		8.0	6.04	8.54	12.08	14.80	17.09	19.11	22.61	27.02	80
39						✓	6.0	7.76	10.97	15.51	19.00	21.94	24.53	29.02	34.69	80
53						✓	7.0	9.68	13.68	19.35	23.70	27.37	30.60	36.20	43.27	80
60						✓	8.0	11.43	16.17	22.86	28.00	32.33	36.15	42.77	51.12	80
75						✓	9.5	13.92	19.69	27.84	34.10	39.38	44.02	52.09	62.26	80
102						✓	12.0	19.15	27.08	38.29	46.90	54.16	60.55	71.64	85.63	80



DIMENSIONS

Pipe Size BSP	Male (mm)			Female (mm)		
	A	B	C	D	E	F
1/8"	19.5	11.0	10.0	28.0	16.0	12.0
1/4"	25.4	15.0	12.7	28.0	18.0	12.0
3/8"	28.5	18.0	14.3	39.0	21.0	19.0
1/2"	35.0	24.0	17.5	50.0	25.0	25.0
3/4"	38.0	27.0	19.0	63.0	30.0	35.0
1"	51.0	36.0	25.5	81.0	37.5	44.0

PLASTIC HOLLOW CONE SPRAY TIP

APPLICATION

Evaporative Cooling
Humidification
Insecticide Spraying
Weed Control

DESCRIPTION

Plastic Hollow Cone tip produces a hollow cone spray pattern with a ring-shaped impact area. The fixed internal whirl vane generates the spray pattern and uniform coverage. The spray tip has a flanged connection and is to be used with either threaded nozzle bodies or nozzle clamp holders.

(details shown in accessories section).

MATERIALS AVAILABLE
Polyacetal
PVDF

SPRAY ANGLES AVAILABLE
80°

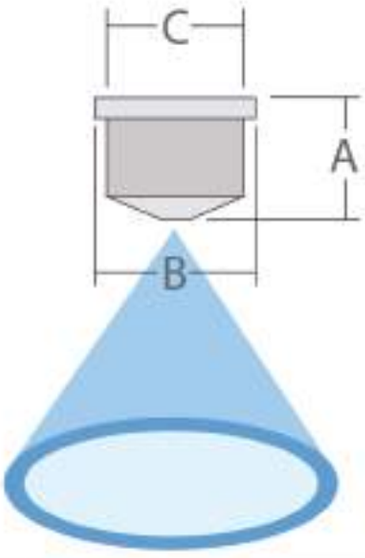
ORDERING EXAMPLE
Plastic Hollow Cone Tip PVDF 02°-80°

FEATURES

Uniform distribution over the spray width
Tips have an internal swirl vane to generate a hollow cone spray pattern
Tips can be assembled with nozzle bodies, strainer and retaining cap
Hollow cone spray pattern with round impact area
Finely atomised spray

HOLLOW CONE SPRAY WITH FINE ATOMISATION

Tip Reference	Approx Orifice Dia (mm)	Flow-Litres/hour @ Pressure Bar								3 Bar Angle
		0.5	1	2	3	4	5	7	10	
0280	0.7	3.22	4.56	6.44	7.89	9.11	10.19	12.06	14.41	80
0380	0.9	4.83	6.84	9.67	11.84	13.67	15.29	18.09	21.62	80
0480	1.0	6.44	9.11	12.89	15.79	18.23	20.38	24.11	28.82	80
0680	1.2	9.67	13.67	19.33	23.68	27.34	30.57	36.17	43.23	80
0880	1.4	12.89	18.23	25.78	31.57	36.46	40.76	48.23	57.64	80
1080	1.5	16.11	22.79	32.22	39.47	45.57	50.95	60.29	72.05	80
1280	1.7	19.33	27.34	39.67	47.36	54.69	61.14	72.34	86.47	80



DIMENSIONS

A (mm)	B (mm)	C (mm)
12.0	14.7	12.5

METAL HOLLOW CONE SPRAY TIP

DESCRIPTION

Metal Hollow Cone tip produces a hollow cone spray pattern with a ring-shaped impact area. The fixed internal whirl vane generates the spray pattern and uniform coverage. The spray tip has a flanged connection and is to be used with either threaded nozzle bodies or nozzle clamp holders (details shown in accessories section).

MATERIALS AVAILABLE

Brass
Stainless Steel
Other materials available on request

SPRAY ANGLES AVAILABLE

80°

ORDERING EXAMPLE

Metal Hollow Cone Tip Stainless Steel 22°-80°

APPLICATION

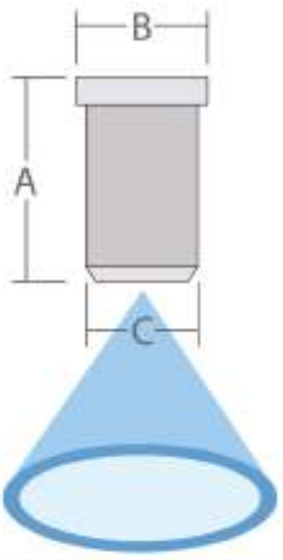
Humidification
Evaporative Cooling
Chemical Processing
Disinfection Applications
Gas Cooling
Moistening of products

FEATURES

Fine atomised spray
Uniformed distribution over a large range of flow rates and pressures
Small droplets at relatively low pressures and capacities
Large choice of interchangeable spray tips
Lower cost – only spray tips are replaced, nozzle bodies or holders can be reused

VERY FINE ATOMISED SPRAY WITH UNIFORMED DISTRIBUTION

Tip Reference	Approx Orifice Dia (mm)	Flow-Litres/hour @ Pressure Bar								3 Bar Angle
		0.5	1	2	3	4	5	7	10	
0180	0.5	1.61	2.28	3.22	3.95	4.56	5.10	6.03	7.21	80
01580	0.6	2.42	3.42	4.83	5.92	6.84	7.64	9.04	10.81	80
0280	0.7	3.22	4.56	6.44	7.89	9.11	10.19	12.06	14.41	80
02580	0.8	4.03	5.70	8.06	9.87	11.39	12.74	15.07	18.01	80
0380	0.9	4.83	6.84	9.67	11.84	13.67	15.29	18.09	21.62	80
0480	1.0	6.44	9.11	12.89	15.79	18.23	20.38	24.11	28.82	80
0580	1.1	8.06	11.39	16.11	19.73	22.79	25.48	30.14	36.03	80
0680	1.2	9.67	13.67	19.33	23.68	27.34	30.57	36.17	43.23	80
0880	1.4	12.89	18.23	25.78	31.57	36.46	40.76	48.23	57.64	80
1080	1.5	16.11	22.79	32.22	39.47	45.57	50.95	60.29	72.05	80
1280	1.7	19.33	27.34	38.67	47.36	54.69	61.14	72.34	86.47	80
1480	1.8	22.56	31.90	45.11	55.25	63.90	71.33	84.40	100.88	80
1880	2.0	29.00	41.01	58.00	71.04	82.03	91.71	108.51	129.70	80
2280	2.2	35.45	50.13	70.89	86.83	100.26	112.09	132.63	158.52	80
2680	2.4	41.89	59.24	83.78	102.61	117.49	132.47	156.74	187.34	80



DIMENSIONS

A (mm)	B (mm)	C (mm)
18.0	14.7	12.5

PLASTIC HOLLOW CONE MISTING NOZZLE

DESCRIPTION

Plastic Hollow Cone Misting Nozzle produces a hollow cone spray pattern with a ring-shaped impact area. The fixed internal whirl vane generates the spray pattern and uniform coverage. This nozzle type produces small droplets with low impact. This nozzle is also available with optional push fit porous filter. The nozzle has a hex body design for easy installation.

MATERIALS AVAILABLE

Polyacetal

SPRAY ANGLES AVAILABLE

65° to 105°

ORDERING EXAMPLE

Plastic Hollow Cone Misting Nozzle 0.7° - 80°

APPLICATION

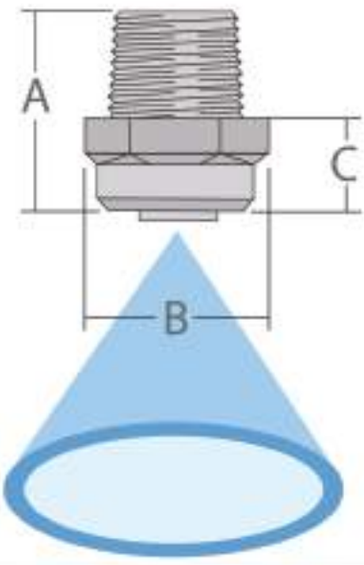
Evaporative Cooling
Humidification
Moistening
Insecticide Spraying
Disinfectant Application
Cooling (areas and products)

FEATURES

Low impact
Small droplets
Uniform spray distribution over a wide range of flow rates
One piece male threaded design with swirl vane
Hexagon body for quick and easy installation
Ball check valve version available for certain sizes

FINELY ATOMISED SPRAY IN A HOLLOW CONE PATTERN

Nozzle Reference	Flow-Litres/hour @ Pressure Bar					3 Bar Spray Angle
	3	4	5	7	10	
0.4-65	1.58	1.82	2.04	2.41	2.88	65
0.7-80	2.76	3.19	3.57	4.22	5.05	80
1.2-105	4.74	5.47	6.12	7.24	8.65	105
1.6-100	6.32	7.29	8.16	9.65	11.53	100
2.6-100	10.26	11.85	13.25	15.68	18.74	100
5.0-75	19.74	22.79	25.48	30.15	36.04	75



DIMENSIONS

A (mm)	B (mm)	C (mm)
18.0	14.7	12.5

METAL HOLLOW CONE TANGENTIAL NOZZLE

DESCRIPTION

The metal hollow cone tangential nozzle produces a hollow cone spray pattern with a ring shaped impact that sprays at 90 degrees to the inlet, so this gives a right angled spray. The nozzle is a two piece design with no internal parts hence this nozzle has no tendency to block or clog. The internal nozzle chamber is designed with a evenly tapered bottom to prevent erosion from liquids. The nozzle has a square body for easy installation. Male and female threaded connections available.

MATERIALS AVAILABLE

Brass
Stainless steel
Other materials available on request

SPRAY ANGLES AVAILABLE

70° and 110°

ORDERING EXAMPLE

Metal Hollow Cone Tangential Nozzle Brass 1/4 10°-70°

APPLICATION

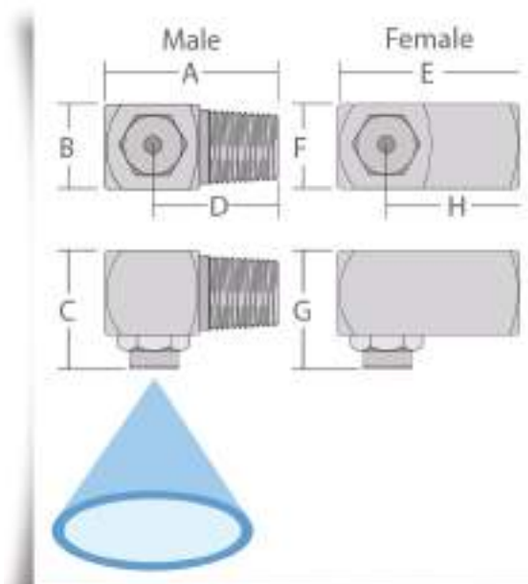
Air Washers
Aeration
Brine Spraying
Cooling Towers
Evaporative Cooling in spray ponds and cooling towers
Product Degreasing

FEATURES

Hollow cone spray pattern right angled spray
Uniformed spray distribution
Atomisation is finer at higher pressures
Large unobstructed flow passages minimise clogging
Small to medium sized droplets

HOLLOW CONE SPRAY NOZZLE WITH NO INTERNAL SWIRL VANE

Nozzle Reference	Thread Connection						Approx Orifice Dia (mm)	Flow (L/Min @ Bar)							
	1/8"	1/4"	3/8"	1/2"	3/4"	1"		0.5	1	2	3	4	5	7	10
2	✓	✓					1.7	0.33	0.46	0.65	0.80	0.92	1.03	1.22	1.46
4	✓	✓					2.5	0.65	0.92	1.31	1.60	1.85	2.07	2.44	2.92
6	✓	✓					2.5	0.98	1.39	1.96	2.40	2.77	3.10	3.67	4.38
10	✓	✓					3.4	1.63	2.31	3.27	4.00	4.62	5.16	6.11	7.30
15	✓	✓	✓				5.6	2.45	3.46	4.90	6.00	6.93	7.75	9.17	10.95
20			✓				6.4	3.27	4.62	6.53	8.00	9.24	10.33	12.22	14.61
25			✓				6.9	4.08	5.77	8.16	10.00	11.55	12.91	15.28	18.26
30			✓	✓			7.5	4.90	6.93	9.80	12.00	13.86	15.49	18.33	21.91
40			✓	✓			7.5	6.53	9.24	13.06	16.00	18.48	20.66	24.44	29.21
50				✓			7.5	8.16	11.55	16.33	20.00	23.09	25.82	30.55	36.51
80				✓			9.9	13.06	18.48	26.13	32.00	36.95	41.31	48.88	58.42
100				✓	✓		11.1	16.33	23.09	32.66	40.00	46.19	51.64	61.10	73.03
150					✓	✓	14.3	24.49	34.64	48.99	60.00	69.28	77.46	91.65	109.54
200					✓	✓	18.0	32.66	46.19	65.32	80.00	92.38	103.28	122.20	146.06
250						✓	19.5	40.82	57.74	81.65	100.00	115.47	129.10	152.75	182.57
300						✓	21.1	48.99	69.28	97.98	120.00	138.56	154.92	183.30	219.09
350						✓	24.0	57.15	80.23	114.31	140.00	161.66	180.74	213.85	255.60



DIMENSIONS

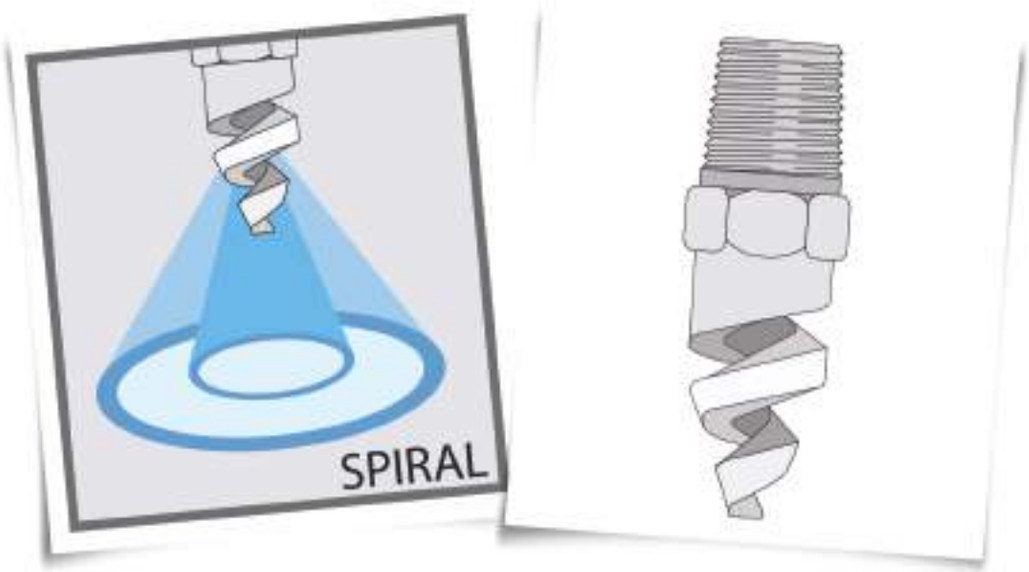
Pipe Size BSP	Male (mm)				Female (mm)			
	A	B	C	D	E	F	G	H
1/8"	27.0	16.0	19.0	22.5	27.0	16.0	19.0	22.5
1/4"	28.0	16.0	19.0	20.0	28.0	16.0	19.0	20.0
3/8"	35.0	20.0	25.0	25.0	35.0	20.0	25.0	25.0
1/2"	45.0	25.0	31.0	32.0	45.0	25.0	31.0	32.0
3/4"	50.0	30.0	38.0	35.0	50.0	30.0	38.0	35.0
1"	69.0	40.0	48.0	50.0	69.0	50.0	48.0	50.0

SPIRAL NOZZLE

Spiral nozzles produce either a spiral full cone or hollow cone spray pattern, the spiral full cone pattern is developed from a series of concentric hollow cones which combine to give a full cone effect. The liquid is atomised into small droplets by a continuously descending spiral, therefore enters and exits with no internal restrictions through the nozzle. The result is a higher discharge velocity so low pumping pressures can be used to produce the required atomisation. We offer a wide range of flow rates and pressures with spray angles available from 60° to 180°. All spiral nozzles benefit from an unobstructed flow passage thus minimising clogging potential.

Optimisation tips:

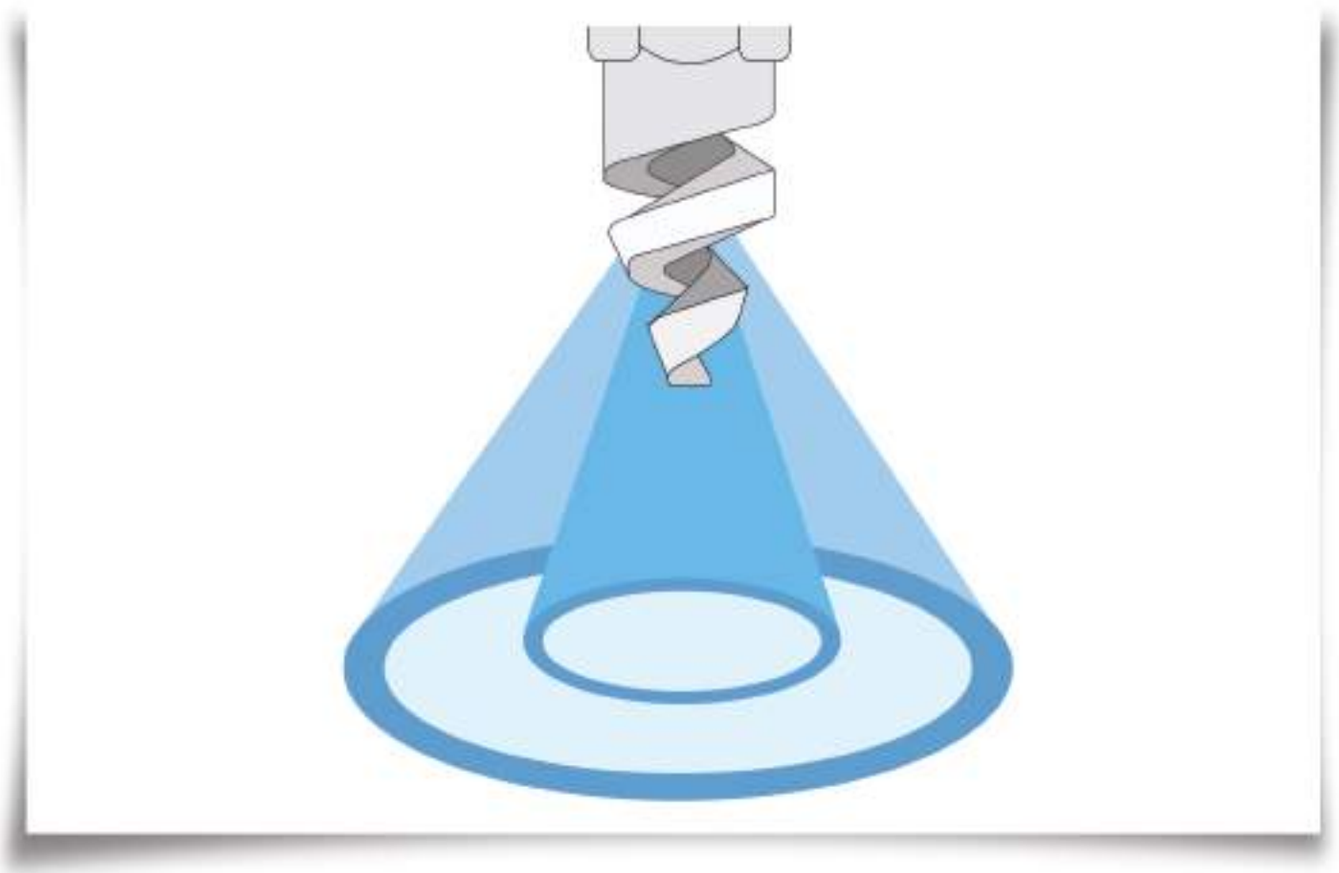
- Evaluate your specific spray application and implement a regular nozzle maintenance plan.
- Monitor flow rate and pressure to detect wear, loss of pressure and /or increase in flow confirms nozzle wear.
- Use strainers to reduce nozzle clogging and ensure optimal performance.
- Visual inspection of spiral nozzles confirms that nozzle wear destroys spray pattern uniformity. Streaks develop and the pattern becomes heavy or light in sections.
- Spiral type hollow cone nozzles produce droplets that are slightly coarser than other hollow cone nozzles, this type of nozzle offers high flow rates in a compact size.



FULL CONE AND HOLLOW CONE SPRAY PATTERNS PRODUCED WITH NO INTERNAL PARTS

Spiral Full Cone Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	60° to 170°	2.26 – 10700 litres min	Aerating Chemical Processing Condenser Sprays Fire Suppression Evaporative Cooling Gas Scrubbing Desulphurisation Gas cooling	1/8" to 4"	50-51

Hollow Cone Spiral Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	50°-180°	2.26 – 10700 litres min	Dust Control Evaporative Cooling Flue Gas Desulphurisation Gas cooling	¼" to 4"	52-53



SPIRAL FULL CONE NOZZLE

DESCRIPTION

The spiral full cone nozzle produces a full cone spray pattern with heavy rings within the spray. The nozzle has clog-resistant performance with no internal parts and is constructed in one piece. The nozzle has a hex body design for easy installation. Male threaded connection is standard.

MATERIALS AVAILABLE

Brass
Stainless Steel
PVC
Polypropylene
PTFE
Other materials available on request

SPRAY ANGLES AVAILABLE

60°, 90°, 150°, 170°,

ORDERING EXAMPLE

Spiral Nozzle Full Cone Stainess Steel 3/8" 16-90°

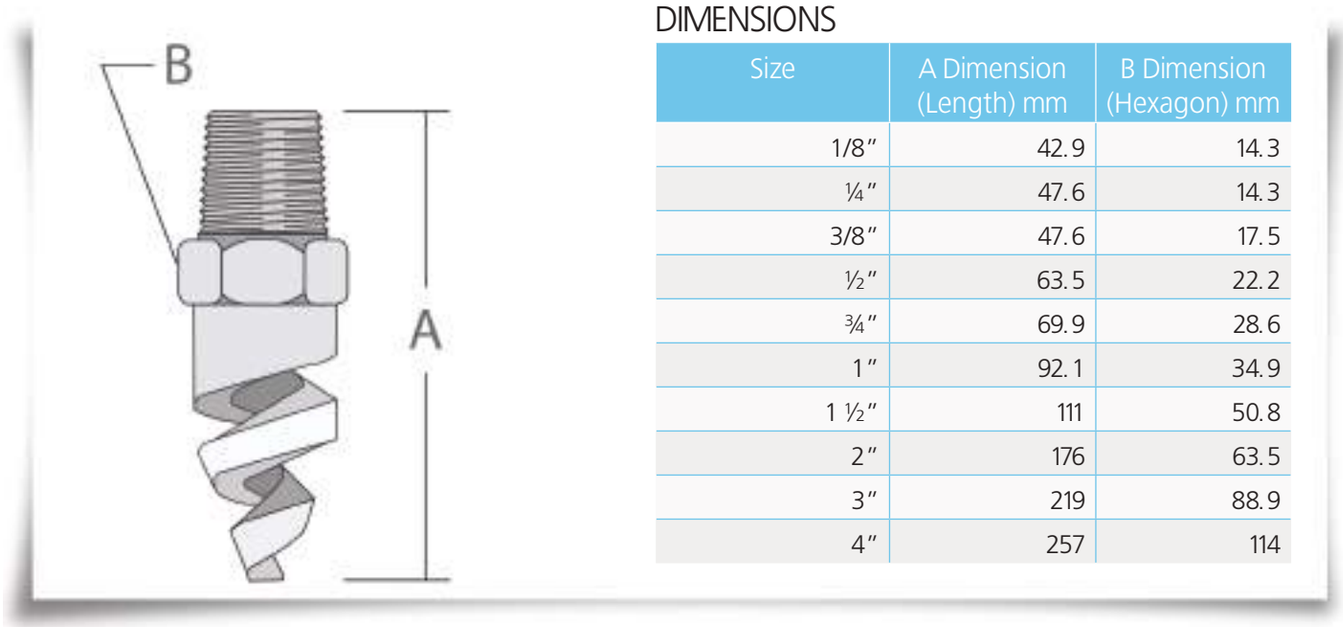
APPLICATION

Aerating
Chemical Processing
Condenser Sprays
Fire Suppression
Evaporative Cooling
Gas Scrubbing
Desulphurisation
Gas cooling

FEATURES

One piece construction
No internal parts
Clog resistant performance
High energy efficiency
Wide range of flow rates and spray angles
Hexagon body for easy installation

Male Pipe Size	Nozzle Reference	Flow-Litres/flow @ Pressure Bar								Approx. Orif. Dia.	(mm) Free Pass Dia.
		0.5	0.7	1.0	2.0	3.0	5.0	10.0	20.0		
1/8	6	2.26	2.67	3.19	4.50	5.50	7.10	10.10	14.30	2.38	2.38
1/8	8	4.19	4.96	5.93	8.40	10.30	13.20	18.70	26.50	3.18	3.18
1/4	6	2.26	2.67	3.19	4.50	5.50	7.10	10.10	14.30	2.38	2.38
1/4	8	4.19	4.96	5.93	8.40	10.30	13.20	18.70	26.50	3.18	3.18
1/4	10	6.45	7.63	9.12	12.90	15.80	20.40	28.80	40.80	3.97	3.18
3/8	6	2.26	2.67	3.19	4.50	5.50	7.10	10.10	14.30	2.38	2.38
3/8	8	4.19	4.96	5.93	8.40	10.30	13.20	18.70	26.50	3.18	3.18
3/8	10	6.45	7.63	9.12	12.90	15.80	20.40	28.80	40.80	3.97	3.18
3/8	12	9.67	11.40	13.70	19.30	23.70	30.60	43.20	61.10	4.76	3.18
3/8	14	13.10	15.40	18.50	26.10	32.00	41.30	58.40	82.60	5.56	3.18
3/8	16	17.10	20.20	24.20	34.20	41.80	54.00	76.40	108.00	6.35	3.18
3/8	20	26.60	31.50	37.60	53.20	65.10	84.10	119.00	168.00	7.94	3.18
1/2	24	38.8	46.0	54.9	77.7	95.1	123	174	246	9.53	4.76
1/2	28	53.2	62.9	75.2	106	130	168	238	336	11.1	4.76
3/4	32	67.7	80.1	95.7	135	166	214	303	428	12.7	4.76
1	40	108	128	153	216	264	341	483	683	15.9	6.35
1	48	153	181	216	306	375	484	685	968	19.1	6.35
1 1/2	56	208	246	294	416	509	657	930	1320	22.2	7.94
1 1/2	64	272	322	385	545	667	861	1220	1720	25.4	7.94
1 1/2	72	309	366	438	619	758	978	1380	1960	28.6	7.94
2	88	451	534	638	902	1110	1430	2020	2850	34.9	11.1
2	96	570	674	806	1140	1400	1800	2550	3600	38.1	11.1
3	112	825	976	1170	1650	2020	2610	3690	5220	44.5	14.3
3	128	1090	1290	1550	2190	2680	3460	4891	6920	50.8	14.3
4	160	1690	2000	2390	3380	4140	5350	7570	10700	63.5	15.9



DIMENSIONS

Size	A Dimension (Length) mm	B Dimension (Hexagon) mm
1/8"	42.9	14.3
¼"	47.6	14.3
3/8"	47.6	17.5
½"	63.5	22.2
¾"	69.9	28.6
1"	92.1	34.9
1 ½"	111	50.8
2"	176	63.5
3"	219	88.9
4"	257	114

SPIRAL HOLLOW CONE NOZZLE

DESCRIPTION

The spiral hollow cone nozzle produces a hollow cone spray pattern through its unique nozzle design, the nozzle has clog resistant performance with no internal parts and is constructed in one piece. The nozzle has a hexagon body design for easy installation. Male threaded connection is standard.

MATERIALS AVAILABLE

Brass
Stainless steel
PVC
Polypropylene
PTFE
Other materials available on request.

SPRAY ANGLES AVAILABLE

50°, 60°, 90°, 120°, 180°

ORDERING EXAMPLE

Spiral Nozzle Hollow Cone Stainess Steel 1 " 40 - 120°

APPLICATION

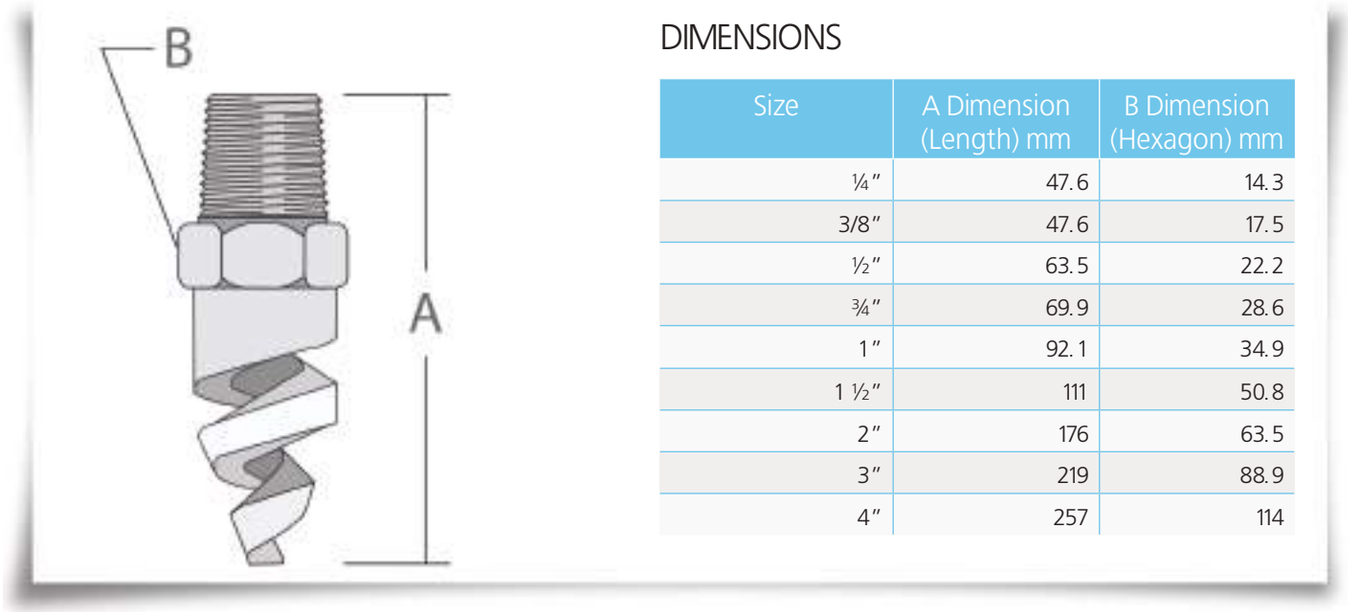
Dust Control
Evaporative Cooling
Flue Gas
Desulphurisation
Gas Cooling

FEATURES

One piece construction
No internal parts
Clog resistant performance
Fine atomisation
High energy efficiency
Wide range of flow rates and spray angles
Hexagon body for easy installation

WIDE RANGE OF FLOWS AND ANGLES

Male Pipe Size	Nozzle Reference	FLow (L/min) @ Pressur (bar)								Approx. Orif. Dia.	(mm) Free Pass Dia.
		0.5	0.7	1.0	2.0	3.0	5.0	10.0	20.0		
1/4	6	2.26	2.67	3.19	4.50	5.50	7.10	10.10	14.30	2.38	2.38
1/4	8	4.19	4.96	5.93	8.40	10.30	13.20	18.70	26.50	3.18	3.18
1/4	10	6.45	7.63	9.12	12.90	15.80	20.40	28.80	40.80	3.97	3.18
3/8	12	9.67	11.40	13.70	19.30	23.70	30.60	43.20	61.10	4.76	3.18
3/8	14	13.10	15.40	18.50	26.10	32.00	41.30	58.40	82.60	5.56	3.18
3/8	16	17.10	20.20	24.20	34.20	41.80	54.00	76.40	108.00	6.35	3.18
3/8	20	26.60	31.50	37.60	53.20	65.10	84.10	119.00	168.00	7.94	3.18
1/2	24	38.8	46.0	54.9	77.7	95.1	123	174	246	9.53	4.76
1/2	28	53.2	62.9	75.2	106	130	168	238	336	11.1	4.76
3/4	32	67.7	80.1	95.7	135	166	214	303	428	12.7	4.76
1	40	108	128	153	216	264	341	483	683	15.9	6.35
1	48	153	181	216	306	375	484	685	968	19.1	6.35
1 1/2	56	208	246	294	416	509	657	930	1320	22.2	7.94
1 1/2	64	272	322	385	545	667	861	1220	1720	25.4	7.94
1 1/2	72	309	366	438	619	758	978	1380	1960	28.6	7.94
2	88	451	534	638	902	1110	1430	2020	2850	34.9	11.1
2	96	570	674	806	1140	1400	1800	2550	3600	38.1	11.1
3	112	825	976	1170	1650	2020	2610	3690	5220	44.5	14.3
3	128	1090	1290	1550	2190	2680	3460	4891	6920	50.8	14.3
4	160	1690	2000	2390	3380	4140	5350	7570	10700	63.5	15.9



DIMENSIONS

Size	A Dimension (Length) mm	B Dimension (Hexagon) mm
¼"	47.6	14.3
3/8"	47.6	17.5
½"	63.5	22.2
¾"	69.9	28.6
1"	92.1	34.9
1 ½"	111	50.8
2"	176	63.5
3"	219	88.9
4"	257	114

AIR ATOMISING NOZZLE

Air Atomising Nozzles are twin fluid type spray nozzles, usually using compressed air and a liquid to create an atomised droplet. Available spray patterns within this range include flat fan, full cone and hollow cone. The nozzles are available in pressure design or gravity fed. The air atomising nozzle is suitable for spraying viscous liquids due to the shearing of the liquid by means of compressed air.

Air atomising nozzles are popular on continuous production lines where coating or moistening of a product is required on a repeatable basis. This is achieved using automatic clean out needles and shut off valves built into the nozzle design, this ensures that nozzle maintenance is kept to minimum.

OPTIMISATION TIPS:

- Evaluate your specific spraying application and implement a regular nozzle maintenance plan.
- Use nozzle strainer or in line filters to reduce nozzle blockage.
- Use split eyelet connectors on both the air and fluid lines for easy nozzle connection.
- For optimal control of your air atomising spray system, the use of a Sealpump Control Package helps conserve liquid usage and reduces waste by monitoring and automatically adjusting spray coverage flow rate, droplet size, liquid and air atomising pressures.
- When spraying viscous liquids use a heated Sealpump material pressure tank to keep viscous liquids warm and transferable.
- Use air atomising nozzles with clean-out needles to eliminate clogging and ensure optimum performance.

Pressure Fed Wide Round Spray	Available Angle	Min/Max Flow	Application	Connection	Page Number
	70	1.7 – 93 litres per hour	Humidification Odour Control Cooling Dust Control	¼"	56-57

Pressure Fed Narrow Round Spray	Available Angle	Min/Max Flow	Application	Connection	Page Number
	20	1.4 – 250 litres per hour	Odour Control Cooling Gas Scrubbing	¼"	58-59

Siphon Fed Narrow Round Spray	Available Angle	Min/Max Flow	Application	Connection	Page Number
	20	0.5 – 24 litres per hour	Humidification Cooling	¼"	60-61

Pressure Fed Internal Mix Flat Fan Spray	Available Angle	Min/Max Flow	Application	Connection	Page Number
	80	1 -140 litres per hour	Coating Cooling Gas scrubbing Lubrication	¼"	62-63

Pressure Fed External Mix Flat Fan Spray	Available Angle	Min/Max Flow	Application	Connection	Page Number
	60-90	3 – 280 litres per hour	Coating Cooling Lubrication	¼"	64-65

Siphon Fed Flat Fan Spray	Available Angle	Min/Max Flow	Application	Connection	Page Number
	60-85	0.8 – 5.1 litres per hour	Coating Cooling Lubrication	¼"	66-67

PRESSURE FED WIDE ROUND SPRAY

APPLICATION

Humidification
Odour Control
Cooling
Dust Control

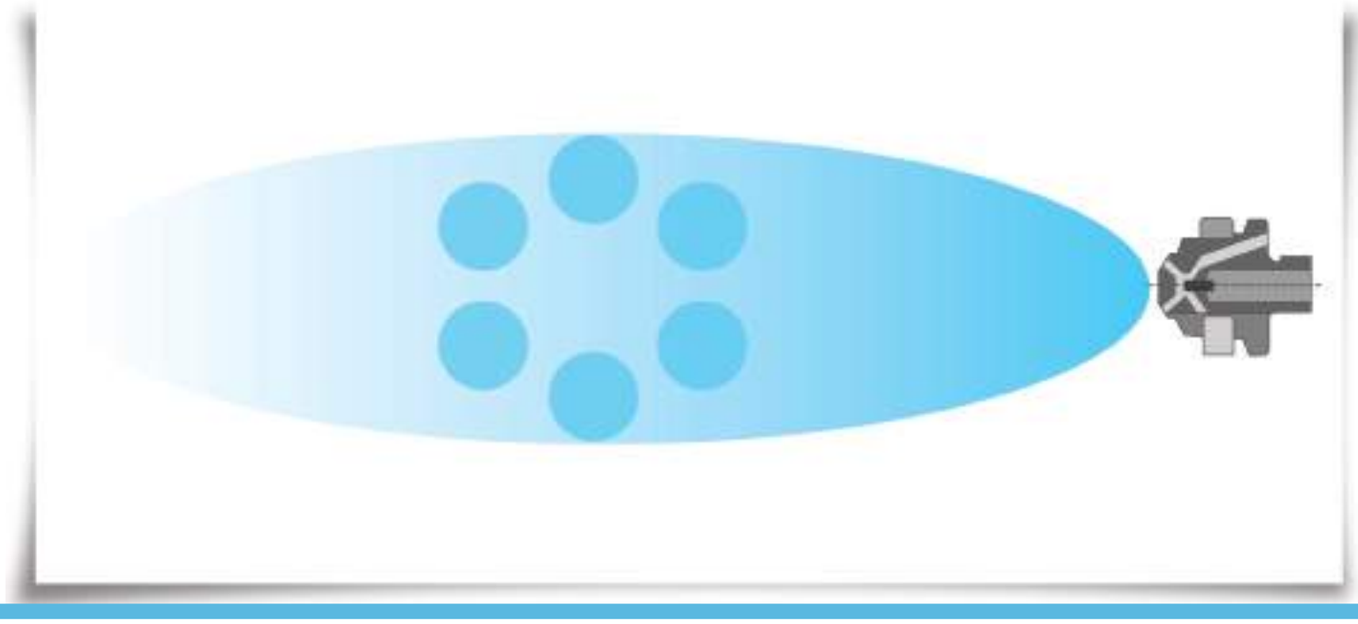
DESCRIPTION

The Pressure Fed Wide Round Spray produces a hollow cone spray pattern. Compressed air and liquid mixes and atomises within the spray nozzle body to create a fine mist spray with moderate forward spray projection. The nozzle has a separate air and liquid connection being ¼" female.

MATERIALS AVAILABLE Nickle Plated Brass, Stainless Steel
SPRAY ANGLES AVAILABLE 70°
OPTIONAL ACCESSORIES
Manual Clean-out needle, Automatic Clean-out and shut-off valve

FEATURES

Internal mix
Finest atomisation
Moderate forward spray projection
70 degree hollow cone spray pattern
¼" female threaded connections



Nozzle Number	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid		
	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h
050	0.6	5.3	0.60	1.1	8.1	0.79	1.5	8.1	0.92	2.4	8.9	1.24	3.1	10.5	1.44
	0.7	4.3	0.72	1.3	7.0	0.88	1.8	6.6	1.09	2.7	8.1	1.40	3.4	9.7	1.68
	0.9	3.0	0.84	1.4	6.4	0.94	2.1	4.9	1.32	3.0	6.4	1.66	3.9	7.8	2.16
	1.0	1.7	1.02	1.5	5.5	1.01	2.4	3.2	1.66	3.2	4.9	1.92	4.2	6.1	2.52
				1.7	4.5	1.16				3.4	4.2	2.13	4.6	4.4	2.82
				1.8	3.5	1.30				3.5	3.4	2.33	4.9	2.8	3.24
100	0.9	7.0	3.00	1.7	13.2	4.08	2.0	18.5	4.06	2.8	25.0	5.04	3.7	31.0	5.76
	1.0	2.1	3.72	1.8	9.8	4.74	2.1	15.1	4.56	3.0	22.0	5.52	3.8	28.0	6.30
							2.2	11.7	5.10	3.1	18.5	6.06	3.9	26.0	6.78
										3.2	15.1	6.54	4.1	23.0	7.32
										3.4	12.1	7.14	4.2	20.0	7.80
										3.5	9.1	7.80	4.6	13.6	9.18
										3.7	6.1	8.52	4.9	6.8	11.00
150	1.1	12.3	2.40	2.2	16.3	3.72	2.7	21.0	4.14	4.2	19.3	6.00	5.6	22.0	7.80
	1.3	9.9	2.70	2.5	12.1	4.26	3.0	16.3	4.68	4.6	14.6	6.78	6.0	17.6	8.52
	1.4	7.9	3.00	2.8	8.9	4.74	3.2	12.3	5.16	4.9	10.8	7.44	6.3	14.0	9.12
	1.5	6.1	3.24	3.0	7.6	4.98	3.4	10.7	5.46	5.3	8.1	8.10	6.7	11.4	9.78
	1.7	4.9	3.48	3.1	6.4	5.22	3.5	9.3	5.64	5.6	6.2	8.76	7.0	9.1	10.40
	1.8	3.9	3.72	3.2	5.5	5.46	3.9	6.4	6.30	6.0	4.9	9.42			
	2.0	3.1	4.02	3.4	4.7	5.70	4.2	4.7	6.90	6.3	4.0	10.00			
200	0.7	24.0	1.92	1.4	43.0	2.22	2.1	33.0	3.96	2.8	52.0	3.90	3.7	63.0	4.06
	0.9	13.6	2.64	1.5	35.0	2.94	2.2	26.0	4.68	3.0	46.0	4.56	3.8	58.0	4.74
	1.0	7.6	3.42	1.7	28.0	3.66	2.4	18.9	5.34	3.1	39.0	5.22	4.0	52.0	6.06
				1.8	21.0	4.26	2.5	11.7	6.00	3.2	33.0	5.94	4.2	41.0	6.66
										3.4	26.0	6.60	4.6	27.0	8.28
										3.5	19.5	7.32	4.9	15.9	9.96
										3.7	13.2	7.98			
250	1.3	36.0	5.10	2.1	57.0	6.96	3.1	53.0	9.36	4.2	64.0	11.80	5.6	74.0	14.70
	1.5	29.0	6.12	2.4	51.0	7.80	3.2	50.0	9.78	4.9	51.0	13.80	6.0	68.0	15.60
	1.8	23.0	7.02	2.7	45.0	8.58	3.4	47.0	10.20	5.6	40.0	15.90	6.3	62.0	16.80
	2.0	19.7	7.50	3.0	39.0	9.42	3.5	45.0	10.60	6.0	34.0	17.10	6.7	56.0	17.70
	2.1	16.7	7.96	3.2	33.0	10.20	3.9	38.0	11.60	6.3	28.0	18.00	7.0	51.0	18.90
	2.3	14.0	8.52	3.5	28.0	11.10	4.6	25.0	13.80	6.7	22.0	19.20			
	2.4	11.4	8.94	4.2	13.6	13.20	4.9	18.5	14.70	7.0	17.8	20.10			
300	1.7	25.0	9.36	3.0	39.0	13.80	3.4	50.0	15.00	4.6	62.0	19.20	6.0	93.0	23.70
	1.8	19.7	10.00	3.1	33.0	14.40	3.5	43.0	15.60	4.9	47.0	20.70	6.3	77.0	25.50
	2.0	15.1	10.70	3.2	27.0	15.30	3.7	41.0	16.50	5.3	36.0	22.50	6.7	62.0	27.60
	2.1	11.4	11.60	3.4	23.0	15.90	3.9	27.0	18.00	5.6	25.0	24.30	7.0	52.0	29.70
	2.3	7.6	12.30	3.5	18.5	16.80	4.1	23.0	18.60	6.0	18.9	26.10			
				3.7	14.8	17.40	4.2	18.9	19.20	6.3	13.6	27.60			
							4.4	15.9	20.10						

ORDERING EXAMPLE Pressure fed Wide Round Spray 1/4" Stainless Steel 100

PRESSURE FED NARROW ROUND SPRAY

APPLICATION

Odour Control
Cooling
Gas Scrubbing

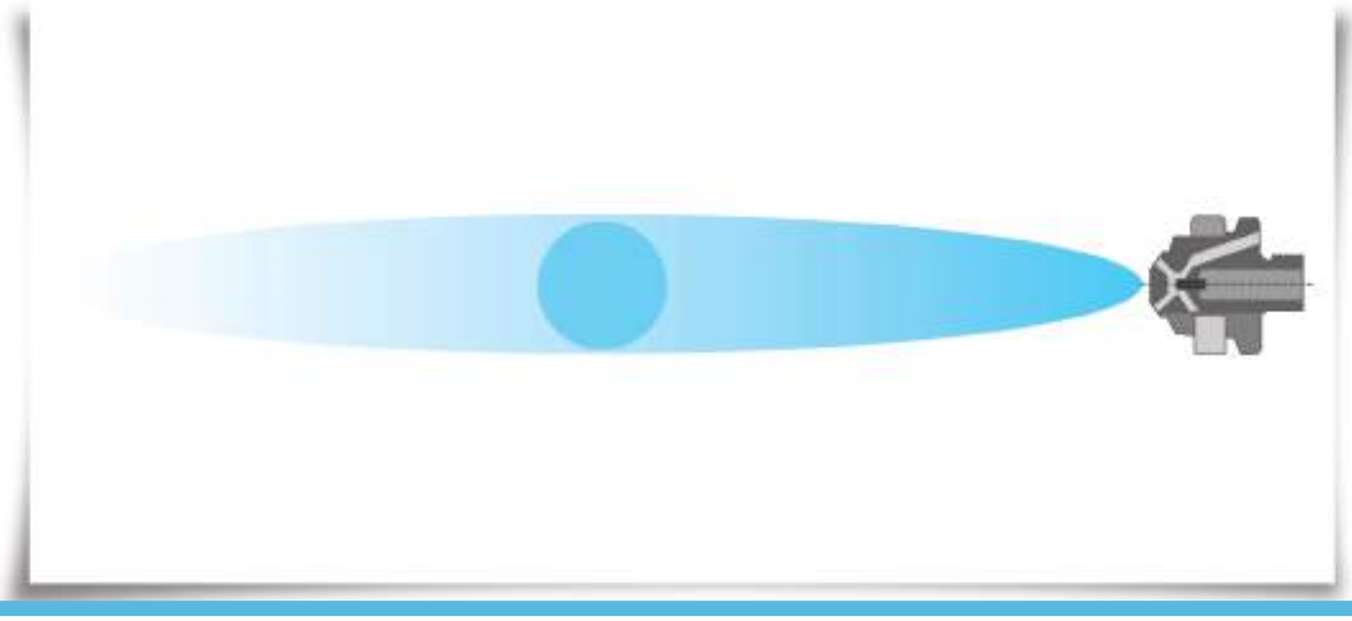
FEATURES

Internal mix
Fine atomisation
Narrow spray angle 20°
Full cone pattern
Large forward projection (upto 8.5 mtr)

DESCRIPTION

The Pressure Fed Narrow Round Spray produces a full cone spray pattern. Compressed air and liquid mixes and atomises within the spray nozzle body to create a fine mist spray with a large forward spray projection. The nozzle has a separate air and liquid connection being ¼" female.

MATERIALS AVAILABLE Nickle Plated Brass, Stainless Steel
SPRAY ANGLES AVAILABLE 70°
OPTIONAL ACCESSORIES
Manual Clean-out needle, Automatic Clean-out and shut-off valve



AIR ATOMISING SPRAY NOZZLE

Nozzle No.	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions				
	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm3/h	air	liquid	A(mm)	B(mm)	D(m)
	0.7	2.5	0.96	1.1	6.4	0.72	1.4	6.4	0.84	2.7	6.2	1.38	3.5	7.8	1.68					
	0.9	1.8	1.14	1.4	5.0	0.90	1.7	5.5	1.02	2.8	5.7	1.50	3.7	7.3	1.74	0.9	0.7	13	300	3
	1.0	1.4	1.32	1.7	4.1	1.14	2.0	4.5	1.20	3.0	5.2	1.62	3.9	6.4	1.98	1.5	1.5	13	330	3
050				1.8	3.4	1.20	2.2	3.4	1.44	3.1	4.7	1.74	4.2	5.5	2.28	2.5	2.0	13	360	3
				2.0	3.0	1.36	2.4	3.0	1.56	3.2	4.3	1.86	4.5	4.5	2.58	3.1	3.0	14	390	4
				2.1	2.6	1.50	2.5	2.5	1.68	3.4	3.9	1.98	4.6	4.1	2.70	4.5	4.0	15	440	4
				2.2	2.0	1.62	2.7	2.3	1.86	3.7	3.0	2.28	4.8	3.7	2.82					
	0.7	2.5	1.14	1.4	5.7	1.62	1.7	6.7	1.74	2.2	9.2	2.04	2.8	11.9	2.34					
	0.9	2.0	1.32	1.5	5.2	1.74	1.8	6.4	1.86	2.5	8.2	2.34	3.1	11.0	2.58	0.9	0.7	12	430	4
	1.0	1.6	1.56	1.7	4.8	1.92	2.0	5.9	2.04	2.8	7.2	2.64	3.4	10.1	2.82	1.5	1.5	13	460	4
100				1.8	4.3	2.10	2.1	5.2	2.22	3.0	6.7	2.82	3.7	9.2	3.12	2.4	2.0	13	480	4
				2.0	3.9	2.22	2.2	4.8	2.40	3.1	6.3	2.94	3.9	8.4	3.48	3.0	3.0	13	510	5
				2.1	3.4	2.40	2.4	4.3	2.58	3.2	5.9	3.12	4.3	7.6	3.72	3.9	4.0	15	560	5
							2.7	3.6	2.88	3.4	5.5	3.30	4.5	6.8	4.06					
	0.9	4.8	1.26	1.7	8.4	1.86	2.0	10.7	1.98	2.7	16.5	2.22	3.4	20.0	2.58					
	1.1	4.1	1.62	1.8	7.5	2.10	2.1	9.8	2.22	2.8	15.4	2.28	3.7	18.4	2.82	1.5	0.7	12	480	4
	1.4	3.4	1.98	2.0	7.0	2.22	2.4	8.2	2.52	3.1	13.6	2.58	3.9	16.8	3.00	2.5	1.5	13	510	4
150	1.5	3.1	2.1	2.2	5.7	2.64	2.7	6.8	2.88	3.4	11.8	2.94	4.2	15.2	3.30	3.0	2.0	13	530	5
	1.7	3.0	2.34	2.5	4.8	2.94	3.0	5.9	3.30	3.7	10.4	3.30	4.5	13.8	3.60	3.4	3.0	14	560	5
	1.8	2.9	2.46	2.8	4.1	3.24	3.2	5.0	3.54	3.9	9.1	3.66	4.8	12.4	3.90	4.2	4.0	15	600	5
	2.0	2.8	2.64	3.1	3.6	3.54	3.5	4.1	3.90	4.2	7.9	3.90	4.9	11.8	4.06					
	1.1	13.0	4.56	2.2	17.8	6.96	2.8	20.0	8.16	3.4	32.0	8.94	4.6	37.0	11.60					
	1.4	8.9	5.46	2.5	13.1	7.80	3.1	16.3	8.94	3.9	25.0	10.20	5.3	29.0	13.20	1.7	0.7	18	660	5
	1.5	7.2	5.88	2.8	9.5	8.58	3.4	11.9	9.78	4.6	15.9	12.30	5.6	25.0	14.10	2.8	1.5	20	760	6
200	1.7	5.8	6.3	3.1	7.0	9.42	3.9	7.0	11.20	5.3	9.1	14.40	6.0	21.0	15.00	3.9	2.0	20	810	7
	1.8	4.7	6.72	3.4	4.9	10.30	4.2	4.7	12.30	5.6	6.8	15.30	6.3	17.4	16.20	5.3	3.0	21	910	8
	2.0	3.6	7.14	3.5	4.2	10.70	4.6	3.0	13.20	6.0	5.0	16.50	6.7	14.0	17.40	6.0	4.0	21	970	9
	2.1	2.7	7.62							6.3	3.6	17.40	7.0	11.0	18.30					
	0.9	31.0	3.42	1.4	61.0	4.14	2.1	53.0	5.76	2.7	80.0	6.18	3.8	88.0	8.10					
	1.0	25.0	3.96	1.5	54.0	4.58	2.4	41.0	6.72	3.0	69.0	7.02	4.2	73.0	9.36	1.0	0.7	17	610	5
	1.1	18.5	4.5	1.7	48.0	5.10	2.7	31.0	7.62	3.2	59.0	7.80	4.6	61.0	10.60	1.8	1.5	18	690	6
250	1.3	12.9	5.1	1.8	41.0	5.58	2.8	26.0	6.16	3.5	49.0	8.76	4.9	48.0	11.80	2.8	2.0	20	760	7
				2.0	35.0	6.12	3.0	22.0	8.64	3.7	44.0	9.24	5.3	39.0	12.90	3.5	3.0	20	790	7
				2.1	30.0	6.60				3.8	37.0	9.66	5.6	31.0	14.40	4.9	4.0	21	910	9
				2.2	25.0	7.14				3.9	35.0	10.20	6.0	23.0	15.60					
	1.0	44.0	5.16	1.4	125.0	4.74	2.0	123.0	6.48	2.2	199.0	5.28	3.0	250.0	5.94					
	1.1	32.0	6.12	1.5	106.0	5.56	2.1	108.0	7.14	2.5	174.0	6.60	3.2	225.0	7.20	1.0	0.7	19	890	6
				1.7	87.0	6.30	2.2	96.0	7.80	2.8	146.0	7.98	3.5	205.0	8.46	1.7	1.5	20	990	7
300				1.8	70.0	7.06	2.4	79.0	8.58	3.1	121.0	9.24	3.8	182.0	9.78	2.4	2.0	21	1040	8
				2.0	55.0	7.80	2.5	64.0	9.30	3.2	108.0	9.96	4.1	159.0	11.00	3.1	3.0	21	1070	8
							2.7	52.0	9.96	3.4	95.0	10.60	4.6	121.0	13.50	3.8	4.0	22	1170	9
							2.8	42.0	10.70	3.5	84.0	11.20	4.9	93.0	15.30					

ORDERING EXAMPLE Pressure fed Narrow Round Spray 1/4" Stainless Steel 50

SIPHON FED NARROW ROUND SPRAY

APPLICATION

Humidification
Cooling

DESCRIPTION

The Siphon Fed Narrow Round Spray produces a full cone spray pattern. Compressed air and liquid mixes and atomises within the spray nozzle body to create a fine mist spray with a short forward spray projection. The nozzle has a separate air and liquid connection being ¼" female.

MATERIALS AVAILABLE
Nickle Plated Brass
Stainless Steel

SPRAY ANGLES AVAILABLE
20°

ORDERING EXAMPLE
Siphon Fed Narrow Round Spray 1/4" Stainless Steel 250

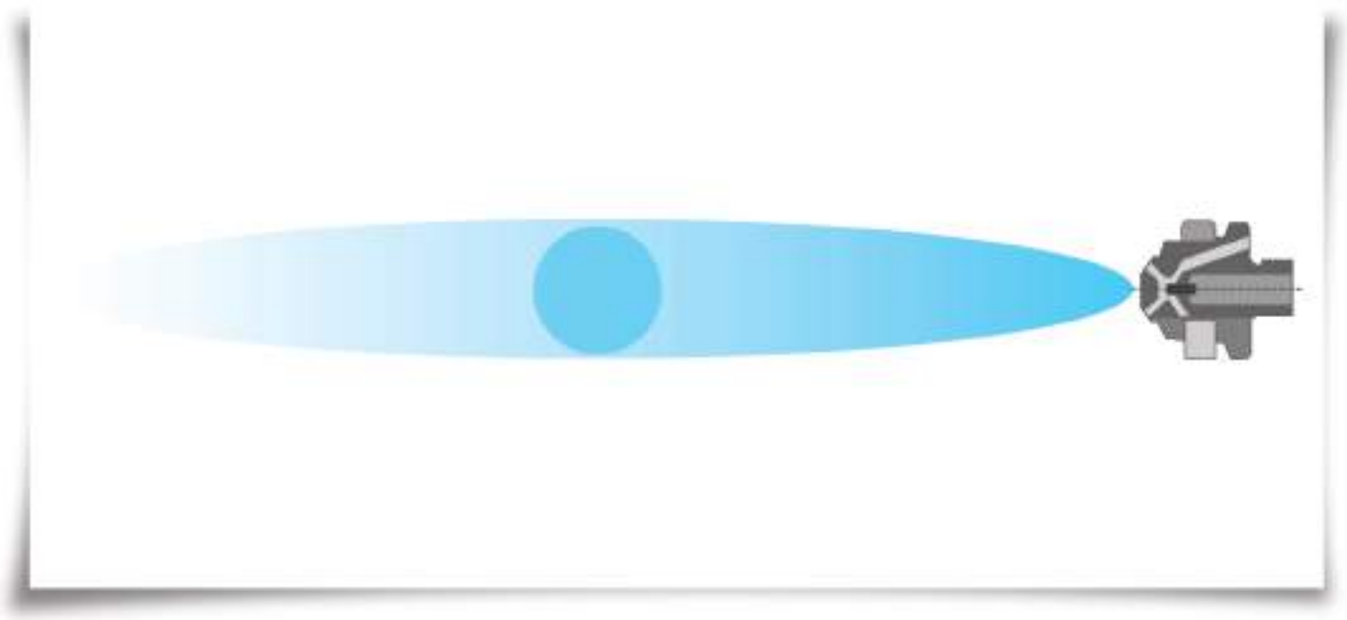
FEATURES

Lowest flow available
Very fine atomisation
Narrow Spray Angle 20 degree
Full cone pattern
Short forward projection

OPTIONAL ACCESSORIES
Manual Clean-out needle
Automatic Clean-out and shut-off valve

AIR ATOMISING SPRAY NOZZLE

Nozzle Number	Atomizing Air		Liquid Capacity (Litres Per Hour)								Spray Dimensions at 200mm Siphon Height			
			1.5 Bar Liquid			2.0 Bar Liquid								
	Air (Bar)	Air Capacity	Air (bar)	l/h	Nm3/h	100mm	200mm	300mm	600mm	900mm	Air	Spray Angle A	B (mm)	D (m)
050	0.7	0.66	1.5	1.3	1.1	0.9	0.7	0.5			0.7	18	280	1.8
	1.5	1.02	1.8	1.8	1.5	1.3	1.2	1.1	0.6		1.5	18	280	1.9
	3.0	1.68	2.1	2.1	1.7	1.5	1.4	1.3	1.1	0.8	3.0	18	300	2.3
	4.0	2.16	2.2	2.2	1.8	1.6	1.5	1.4	1.2	0.9	4.0	19	360	2.6
150	0.7	0.78	2.4	2.1	1.7	1.5	1.2	0.8			0.7	18	300	2.1
	1.5	1.20	2.8	2.5	2.4	2.1	1.9	1.6	0.9		1.5	18	330	2.3
	3.0	1.92	3.4	3.1	2.9	2.6	2.6	2.4	1.7	1.1	3.0	18	380	2.6
	4.0	2.46	3.7	3.4	3.3	3.1	2.9	2.7	2.1	1.5	4.0	19	430	3.0
200	0.7	1.38	2.5	2.3	2.0	1.6	1.4	1.1			0.7	18	300	2.4
	1.5	2.16	2.9	2.8	2.5	2.2	2.0	1.7	0.9		1.5	18	330	2.7
	3.0	3.48	3.4	3.3	3.2	2.9	2.8	2.5	1.9	1.2	3.0	19	380	3.4
	4.0	4.44	3.7	3.6	3.5	3.4	3.3	3.0	2.5	2.0	4.0	20	430	4.0
250	0.7	1.14	4.5	4.0	3.4	2.1	1.8	1.4			0.7	21	380	3.0
	1.5	1.86	5.3	4.9	4.4	3.5	2.9	2.7	1.8		1.5	21	410	3.4
	3.0	3.00	6.0	5.6	5.0	4.4	4.0	3.4	2.4	0.5	3.0	21	460	4.0
	4.0	3.90	5.7	5.4	5.0	4.2	3.9	3.5	2.8	0.1	4.0	22	510	4.6
400	1.5	3.48	22.0	19.9	16.3	12.3	10.5	8.3	2.8		1.5	17	460	3.7
	3.0	5.28	25.0	23.0	3.8	16.7	14.2	11.5	6.4	2.8	3.0	18	510	4.3
	4.0	6.66	26.0	24.0	21.0	18.4	15.7	12.9	7.9	4.5	4.0	18	530	4.9
	0.8	8.82	26.0	24.0	22.0	19.7	17.0	14.6	9.8	6.1	5.6	19	580	5.5
450	2.0	8.64				27.0	22.0	16.8			2.0	20	510	6.7
	3.0	11.40				30.0	26.0	21.0			3.0	20	530	7.0
	4.0	14.40		43.0	40.0	31.0	28.0	23.0	11.0		4.0	21	580	7.6
	5.6	16.90	44.0	42.0	39.0	31.0	28.0	24.0	16.7	8.3	5.6	22	630	8.2



PRESSURE FED INTERNAL MIX FLAT FAN SPRAY

APPLICATION

Coating
Cooling
Gas scrubbing
Lubrication

FEATURES

Internal mix
Fine atomisation
Flat Fan, Wide Angled Spray Pattern (80 degree)

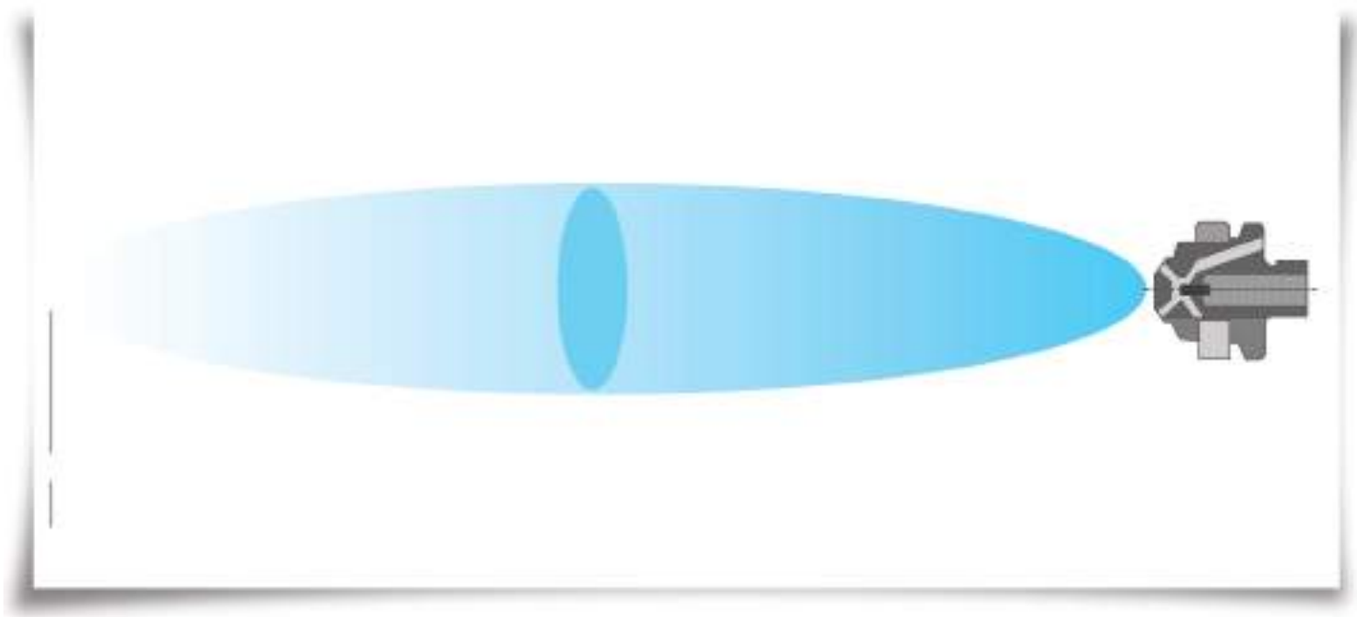
OPTIONAL ACCESSORIES

Manual Clean-out needle
Automatic Clean-out and shut-off valve

DESCRIPTION

The Pressure Fed Internal Mix Flat Fan Spray produces a flat fan spray pattern. Compressed air and liquid mixes and atomises within the spray nozzle body to create a fine mist spray with a short to moderate forward spray projection. The nozzle has a separate air and liquid connection being ¼" female.

MATERIALS AVAILABLE Nickle Plated Brass, Stainless Steel
SPRAY ANGLES AVAILABLE 80°
ORDERING EXAMPLE Pressure Fed Internal Mix Flat Fan Spray 1/4" Stainless Steel 100



Ref.	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid		
	Air (bar)	l/h	Nm 3/h	Air (bar)	l/h	Nm 3/h	Air (bar)	l/h	Nm 3/h	Air (bar)	l/h	Nm 3/h	Air (bar)	l/h	Nm 3/h
050	0.7	5.5	1.44	1.3	9.1	1.86	2.0	8.6	2.52	2.7	11.2	3.12	3.9	12.0	4.14
	0.9	4.7	1.62	1.5	7.7	2.16	2.2	7.5	2.82	3.0	10.1	3.36	4.6	9.7	4.86
	1.0	4.1	1.86	1.8	6.5	2.52	2.5	6.2	3.12	3.2	9.1	3.72	5.3	7.5	5.58
	1.1	3.5	2.04	2.1	5.4	2.82	2.8	5.2	3.42	3.5	8.1	3.96	6.0	5.3	6.24
	1.3	3.0	2.22	2.4	4.3	3.12	3.1	4.2	3.78	4.2	5.4	4.74	6.3	4.3	6.60
	1.4	2.5	2.40	2.7	3.3	3.42	3.2	3.7	3.90	4.6	4.2	5.10	6.7	3.3	6.96
	1.5	2.0	2.64	2.8	2.8	3.60	3.4	3.2	4.08	4.9	3.1	5.46	7.0	2.4	7.32
100	1.3	3.9	1.80	2.1	7.4	2.40	3.0	6.1	3.12	3.9	9.4	3.60	5.3	10.2	4.68
	1.4	3.0	1.96	2.4	5.3	2.70	3.1	5.3	3.24	4.2	7.2	4.02	5.6	8.3	5.04
	1.5	2.3	2.10	2.5	4.4	2.82	3.2	4.5	3.42	4.6	5.3	4.38	5.0	6.6	5.34
	1.7	1.8	2.28	2.7	3.7	3.00	3.4	3.8	3.54	4.9	3.8	4.80	6.3	5.1	5.88
	1.8	1.3	2.46	2.8	3.1	3.12	3.5	3.2	3.72						
	2.0	1.0	2.64	3.0	2.6	3.30	3.9	1.8	4.06						
				3.1	2.1	3.42									
150	0.9	8.2	1.20	1.4	14.4	1.62	2.1	13.5	2.16	2.7	19.1	2.52	4.6	16.1	4.14
	1.0	6.8	1.38	1.7	11.9	1.92	2.4	11.4	2.52	3.0	17.1	2.76	4.9	13.8	4.56
	1.1	5.5	1.62	2.0	9.5	2.22	2.7	9.2	2.82	3.2	15.1	3.12	5.3	11.5	4.98
	1.3	4.1	1.80	2.1	8.3	2.40	3.0	7.1	3.18	3.5	13.1	3.42	5.6	9.3	5.40
	1.4	2.9	2.04	2.2	7.1	2.58	3.2	5.0	3.54	4.2	8.1	4.32	6.0	7.3	5.82
				2.4	6.1	2.76	3.4	4.0	3.78	4.6	5.9	4.74	6.3	5.6	6.24
				2.5	5.1	2.94	3.5	3.3	3.96	4.9	4.0	5.16	6.7	4.3	6.72
200	1.0	9.0	1.50	2.0	10.4	2.46	2.4	11.6	2.88	3.1	15.6	3.36	4.2	17.1	4.38
	1.1	7.8	1.80	2.1	9.3	2.70	2.5	10.4	3.05	3.2	14.6	3.54	4.6	15.0	4.80
	1.3	6.6	1.92	2.2	8.2	2.88	2.7	9.4	3.24	3.4	13.7	3.72	4.9	12.8	5.22
	1.4	5.2	2.16	2.5	6.1	3.30	3.0	7.3	3.66	3.8	10.8	4.26	5.3	11.0	5.64
	1.7	3.1	2.64	2.8	4.3	3.72	3.2	5.5	4.08	4.2	8.5	4.92	5.6	9.4	6.18
	2.0	2.0	3.00	3.1	3.0	4.14	3.5	4.1	4.50	4.9	5.2	5.88	6.3	7.2	7.14
	2.2	1.1	3.36	3.4	2.0	4.50	3.8	2.9	4.86	6.0	2.3	7.20	7.0	0.1	8.04
250	1.1	11.2	3.24	2.1	18.0	4.74	2.7	19.6	5.58	3.5	27.0	6.72	4.6	33.0	8.22
	1.3	8.5	3.60	2.2	15.8	5.04	2.8	17.3	5.88	3.7	25.0	6.96	4.9	28.0	8.94
	1.4	6.5	3.90	2.4	13.6	5.34	3.0	15.2	6.18	3.8	23.0	7.26	5.3	24.0	9.66
	1.5	5.0	4.26	2.5	11.6	5.70	3.1	13.2	6.54	3.9	21.0	7.56	5.6	19.7	10.40
	1.7	3.8	4.62				3.2	11.4	6.84	4.1	18.9	7.92	6.0	15.7	11.20
										4.2	17.0	8.22	6.3	12.4	12.00
300	0.9	27.0	1.98	1.8	38.0	3.30	2.4	39.0	4.02	3.2	58.0	4.56	4.6	59.0	6.36
	1.0	20.0	2.28	2.1	28.0	3.95	2.7	30.0	4.62	3.5	47.0	5.22	5.3	40.0	7.92
	1.1	15.9	2.70	2.2	24.0	4.26	3.0	24.0	5.22	3.8	38.0	5.82	5.6	32.0	8.70
	1.3	12.5	2.88	2.3	21.0	4.56	3.2	17.8	5.88	3.9	34.0	6.18	6.0	26.0	9.48
	1.4	10.2	3.36	2.5	17.8	4.92	3.4	15.1	6.18	4.2	27.0	6.78	6.3	20.0	10.30
	1.5	7.6	3.72	2.7	15.1	5.22	3.5	12.9	6.54	4.6	20.0	7.58	6.7	15.9	11.10
							3.7	10.6	6.84	4.9	14.8	8.40	7.0	12.7	11.90
350	1.0	17.0	1.38	2.0	24.0	2.64	2.4	28.0	3.06	3.4	38.0	4.32	3.9	65.0	4.50
	1.1	11.0	1.62	2.1	18.9	3.00	2.5	23.0	3.54	3.5	33.0	4.80	4.2	53.0	5.34
	1.3	7.6	1.98	2.2	14.4	3.36	2.7	18.9	3.96	3.7	28.0	5.34	4.6	40.0	6.48
	1.4	3.2	2.40	2.4	10.6	3.78	2.8	15.1	4.44	3.8	23.0	5.82	4.9	30.0	7.62
				2.5	7.2	4.26	3.0	11.7	4.74	3.9	19.7	6.30	5.3	21.0	8.94
										4.2	13.1	7.20	5.6	13.8	10.40
										4.6	7.2	8.28	6.3	3.2	13.50
400	1.0	29.0	5.40	1.8	56.0	7.02	2.1	100.0	7.14	3.0	126.0	8.40	4.1	140.0	10.90
	1.1	18.9	6.48	2.0	40.0	7.96	2.2	79.0	7.98	3.1	110.0	9.06	4.2	125.0	11.60
							2.4	62.0	8.82	3.2	95.0	9.78	4.6	89.0	13.50
							2.5	48.0	9.72	3.4	78.0	11.00	4.9	58.0	15.90
							2.7	35.0	10.60	3.5	62.0	11.60	5.3	34.0	18.30
										3.7	48.0	12.60	5.6	16.7	20.40
										3.8	37.0	13.50			

PRESSURE FED EXTERNAL MIX FLAT FAN SPRAY

APPLICATION

Coating
Cooling
Lubrication

DESCRIPTION

The Pressure Fed External Mix Flat Fan Spray produces a flat fan spray pattern. Compressed air and liquid mixes and atomises external to the spray nozzle body to create a fine mist spray with a moderate spray projection. The nozzle has a separate air and liquid connection being ¼" female.

MATERIALS AVAILABLE
Nickle Plated Brass
Stainless Steel

SPRAY ANGLES AVAILABLE
60° – 90°

ORDERING EXAMPLE
Pressure Fed External Mix Flat Fan Spray 1/4" Stainless Steel 250

FEATURES

External mix: allows spraying of viscous materials
Variable atomisation
Precise metering of liquid
Moderate spray angle (60 – 90 degree)

OPTIONAL ACCESSORIES
Manual Clean-out needle
Automatic Clean-out and shut-off valve

Nozzle Ref	0.2 Bar Liquid			0.3 Bar Liquid			0.7 Bar Liquid			1.5 Bar Liquid			3.0 Bar Liquid		
	Air (bar)	l/h	Nm3/h	Air (bar)	l/h	Nm 3/h	Air (bar)	l/h	Nm 3/h	Air (bar)	l/h	Nm 3/h	Air (bar)	l/h	Nm 3/h
050		3			4			5			8			11	
	0.4	3	1.32	0.4	4	1.32	0.4	5	1.5	0.6	8	1.68	0.7	11	2.04
	0.4	3	1.50	0.4	4	1.50	0.6	5	1.68	0.7	8	2.04	1.1	11	2.70
		3			4			5			8			11	
	0.5	3	1.62	0.6	4	1.68	0.7	5	2.04	1.1	8	2.70	1.8	11	3.72
	0.6	3	1.68	0.7	4	2.04	0.9	5	2.4	1.4	8	3.24	2.5	11	4.74
		3			4			5			8			11	
100	0.2	3	1.51	0.4	4	1.58	0.7	5	1.87	1.4	8	2.72	2.8	11	4.38
	0.4	3	1.58	0.7	4	1.87	1.1	5	2.38	1.8	8	3.23	3.5	11	5.10
	0.7	3	1.87	1.1	4	2.38	1.4	5	2.72	2.1	8	3.57	4.2	11	6.12
	1.1	3	2.38	1.4	4	2.72	1.8	5	3.23	2.8	8	4.42	4.9	11	7.14
	1.4	3	2.72	1.8	4	3.23	2.1	5	3.56	3.5	8	5.10	5.3	11	7.65
	1.8	3	3.23	2.1	4	3.56	2.8	5	4.42	4.2	8	6.12	5.6	11	8.34
	2.1	3	3.56	2.8	4	4.42	3.5	5	5.10	5.6	8	8.34	6.3	11	9.54
150		5			6			8			12			17	
	0.4	5	1.32	0.4	6	1.32	0.6	8	1.68	0.7	12	2.04	1.1	17	2.70
	0.6	5	1.66	0.7	6	2.04	0.7	8	2.04	1.4	12	3.24	1.4	17	3.24
		5			6			8			12			17	
	0.7	5	2.04	1.1	6	2.70	1.4	8	3.24	2.1	12	4.26	2.1	17	4.26
	1.1	5	2.70	1.4	6	3.24	2.1	8	4.26	2.5	12	4.74	2.5	17	4.74
		5			6			8			12			17	
200	0.4	5	1.58	0.7	6	1.87	1.1	8	2.38	1.8	12	3.23	3.2	17	4.92
	0.7	5	1.87	1.1	6	2.38	1.4	8	2.72	2.1	12	3.56	3.5	17	5.10
	1.1	5	2.38	1.4	6	2.72	1.8	8	3.23	2.8	12	4.42	4.2	17	6.12
	1.4	5	2.72	1.8	6	3.23	2.1	8	3.56	3.5	12	5.10	4.9	17	7.14
	1.8	5	3.23	2.1	6	3.56	2.8	8	4.42	4.2	12	6.12	5.3	17	7.62
	2.1	5	3.56	2.8	6	4.42	3.5	8	5.10	4.9	12	7.14	6.3	17	9.54
	2.8	5	4.42	3.5	6	5.10	4.2	8	6.12	6.3	12	9.54	6.7	17	9.84
250		9			10			16			16			33	
	0.4	9	1.50	0.4	10	1.50	0.4	16	1.50	0.7	16	2.04	1.4	33	3.24
	0.5	9	1.65	0.6	10	1.68	0.6	16	1.68	0.9	16	2.40	1.8	33	3.72
		9			10			16			16		2.1	33	
	0.6	9	1.68	0.7	10	1.86	0.7	16	2.04	1.1	16	2.70	2.5	33	4.26
	0.7	9	2.04	0.7	10	2.04	0.9	16	2.40	1.4	16	3.24		33	4.74
		9			10			16			16			33	
300	0.7	9	1.87	1.1	10	2.38	1.4	16	2.72	2.5	23	4.06	3.5	33	5.10
	1.1	9	2.38	1.4	10	2.72	1.8	16	3.23	2.8	23	4.42	4.2	33	6.12
	1.4	9	2.72	1.8	10	3.23	2.1	16	3.56	3.5	23	5.10	4.9	33	7.14
	1.8	9	3.23	2.1	10	4.56	2.8	16	4.42	4.2	23	6.12	5.3	33	7.62
	2.1	9	3.56	2.8	10	4.42	3.5	16	5.10	4.9	23	7.14	5.6	33	8.34
	2.8	9	4.42	3.5	10	5.10	4.2	16	6.12	5.6	23	8.34	6.3	33	9.54
	3.5	9	5.10	4.2	10	6.12	4.9	16	7.14	6.3	23	9.54	7.0	33	10.56

SIPHON FED FLAT FAN SPRAY

APPLICATION

Coating
Cooling
Lubrication

DESCRIPTION

The Siphon Fed Flat Fan Spray produces a flat fan spray pattern. Compressed air and liquid mixes and atomises within the spray nozzle body to create a fine mist spray with a small forward projection. The nozzle has a separate air and liquid connection being ¼" female.

MATERIALS AVAILABLE
Nickle Plated Brass
Stainless Steel

SPRAY ANGLES AVAILABLE
60° – 85°

ORDERING EXAMPLE
Siphon Fed Flat Fan Spray 1/4" Stainless Steel 050

FEATURES

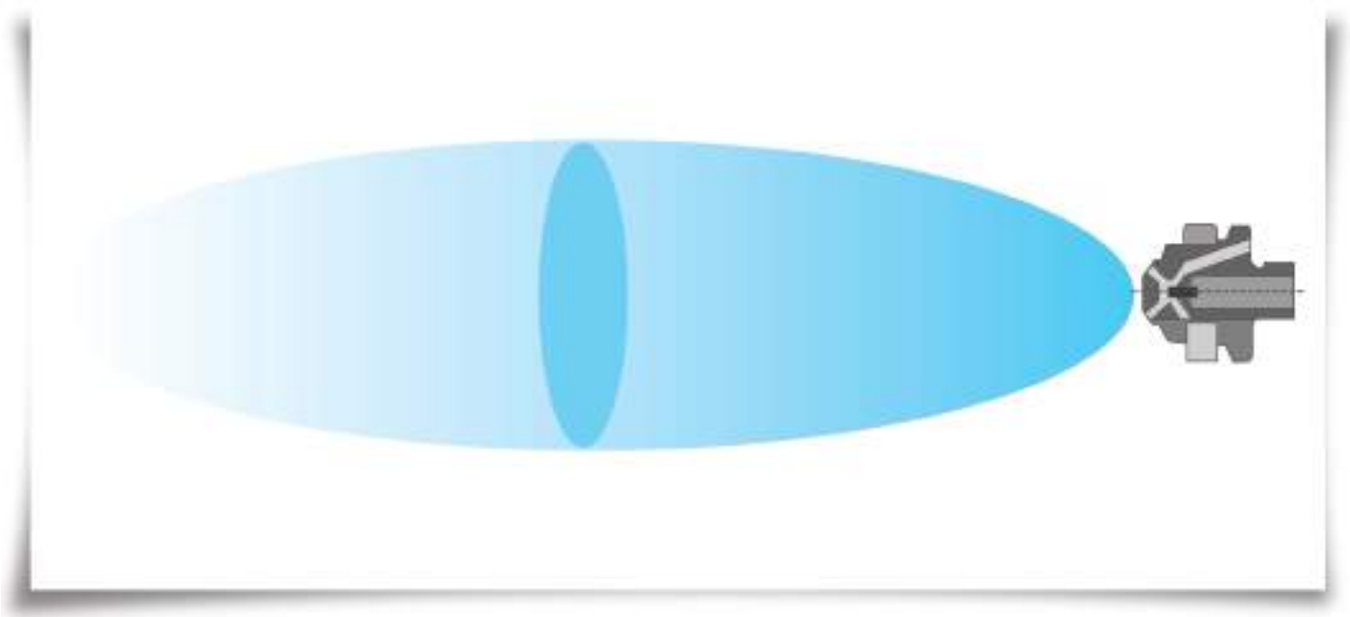
Lowest flow available
Very fine atomisation
Flat Fan Spray Pattern
Moderate Spray angle (60 -85)
Small forward projection
Siphon Fed

OPTIONAL ACCESSORIES

Manual Clean-out needle
Automatic Clean-out and shut-off valve

AIR ATOMISING SPRAY NOZZLE

Nozzle Number	Atomizing Air		Liquid Capacity (Litres Per Hour)							
			Gravity Head			Siphon Height				
	Air (Bar)	Air Capacity	Air (bar)	l/h	Nm3/h	100mm	200mm	300mm	600mm	900mm
050	0.7	1.68	1.3	1.2	1.1	1.0	1.0	0.8	0.6	0.5
	1.5	2.58	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.5
	2.0	3.00	0.8	0.8	0.7	0.6	0.5			
100	1.5	3.36	3.7	3.5	3.3	2.9	2.8	2.5	2.3	2.1
	2.0	3.90	3.4	3.3	3.1	2.8	2.7	2.6	2.4	2.2
	3.0	5.22	2.8	2.7	2.5	2.4	2.2	2.1	1.9	1.7
	4.0	6.60	1.9	1.8	1.6	1.3	1.3	1.2		
150	1.5	4.08	5.1	4.8	4.5	3.8	3.7	3.5	3.0	2.4
	2.0	4.68	4.9	4.7	4.4	3.6	3.4	3.2	2.9	2.3
	3.0	6.18	3.4	3.2	3.0	2.2	2.0	1.7		
	3.5	7.02	2.2	2.0	1.7					
200	1.5	3.78	7.6	7.2	6.6	5.7	5.4	5.1	4.6	3.7
	2.0	4.38	7.6	7.3	6.8	5.9	5.7	5.5	5.0	4.2
	3.0	5.76	6.4	6.1	5.7	5.0	4.5	4.1	3.3	
	3.5	6.60	4.2	3.7	3.2	2.6				



ULTRASONIC FOGGING NOZZLE

Ultrasonic fogging nozzles are twin fluid type spray nozzles, usually using compressed air and water to create a finely atomised water droplet, typically this nozzle range produces droplets from 3 to 10 micron. This ultra-fine droplet is created through its unique nozzle design compressed air passes through the nozzle at high velocities and expands into a resonator cavity where it is reflected back to complement and amplify the primary shock wave. The result is an intensified field of sonic energy focused between the nozzle body and the resonator cap.

Any liquid capable of being pumped into the shockwave is vigorously sheered into fine droplets by the acoustic field. The droplets have low mass and low forward velocity with low impingement characteristics. Fine atomisation ensures uniform distribution of the liquid with minimum of overspray and waste.

The Ultrasonic nozzle range has the ability to provide a consistent quality of atomisation over a wide range of flow rates. Turn down ratios of 50 to 1 is possible.

OPTIMISATION TIPS:

- Evaluate your specific spray application and implement a regular nozzle maintenance plan
- Use in-line filters to reduce nozzle blockage
- For optimal control of your ultrasonic spray system the use of a Sealpump control package helps conserve liquid usage and reduces waste by monitoring and automatically adjusting spray coverage, flow rate, droplet size, liquid and air pressures

035H Ultrasonic Spray Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	WIDE	1.2 – 8.2 LITRES PER HOUR	Humidity Applying Chemicals Disinfection Cooling Static Control	1/8" BSP	70-71

052H Ultrasonic Spray Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	WIDE	3.6 – 17.4 LITRES PER HOUR	Humidity Applying Chemicals Disinfection Adding moisture to products Dust Control Cooling Static Control Cold Storage	1/8" BSP	72-73

ST52 Ultrasonic Spray Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	STRAIGHT	5.2 – 22 LTRES PER HOUR	Dust Control Humidity Humidity in Drying Ovens Adding moisture to product Cooling	1/8" BSP	74-75

ST47 Ultrasonic Spray Nozzle	Available Angle	Min/Max Flow	Application	Connection	Page Number
	STRAIGHT	11.2 – 40 LITRES PER HOUR	Dust Control Adding moisture to products Tobacco processing De-contamination Showers Cooling Disinfection	1/8" BSP	76-77

035H ULTRASONIC SPRAY NOZZLE

DESCRIPTION

Compressed air and liquid mixes within the resonator cap external to the nozzle and creates a wide spray pattern of ultra-fine spray droplets nominally 3 – 5 micron. The nozzle assembly offers both non-drip and self-cleaning functions to this nozzle range. The nozzle has a separate air and liquid connection being 1/8" female.

MATERIALS AVAILABLE

Stainless Steel

SPRAY ANGLES AVAILABLE

Wide

ORDERING EXAMPLE

035H Ultrasonic Spray Assembly

APPLICATION

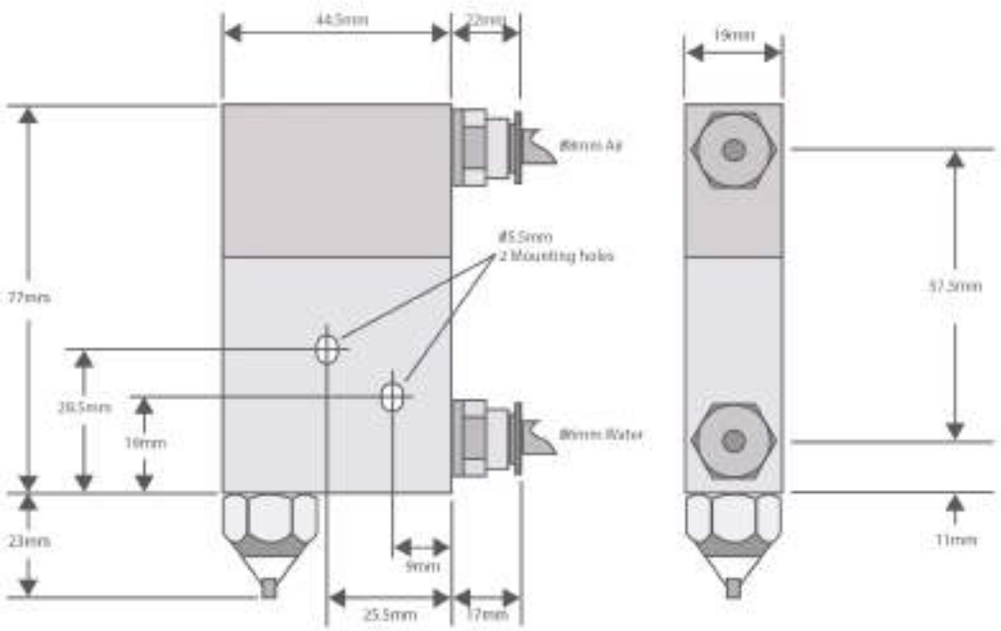
Humidity
Applying Chemicals
Disinfection
Cooling
Static Control

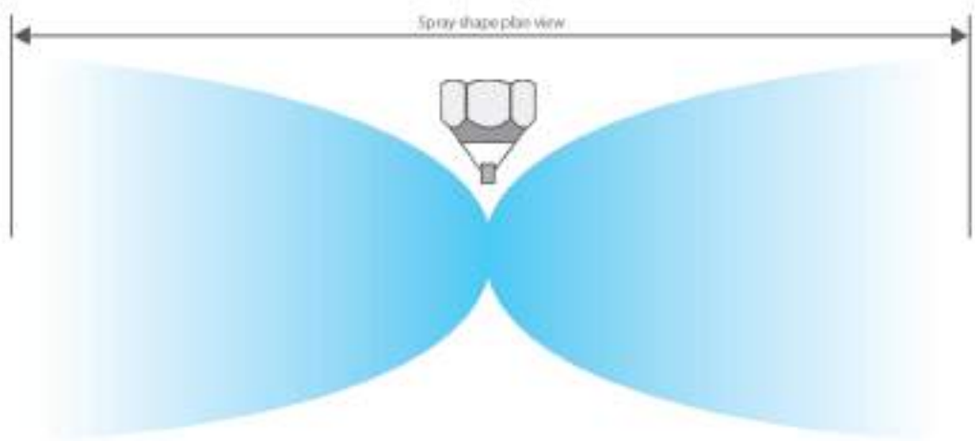
FEATURES

Consistent atomisation
Low water consumption
3 – 5 micron droplets
Self-cleaning
Non-drip
Low pressures

FINEST ATOMISATION

0.5 BAR LIQUID		1.0 BAR LIQUID		1.5 BAR LIQUID		2.0 BAR LIQUID	
AIR (BAR)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR	AIR (bar)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR
4	2.5	4	4.5	4	6.1	4	8.2
5	1.2	5	3.4	5	5.4	5	7.3





052H ULTRASONIC SPRAY NOZZLE

DESCRIPTION

Compressed air and liquid mixes within the resonator cap external to the nozzle and creates a wide spray pattern of ultra-fine spray droplets nominally 5-10 micron. The nozzle assembly offers both non-drip and self-cleaning functions to this nozzle range. The nozzle has a separate air and liquid connection being 1/8" female.

MATERIALS AVAILABLE

Stainless Steel

SPRAY ANGLES AVAILABLE

Wide

ORDERING EXAMPLE

052H Ultrasonic Spray Assembly

APPLICATION

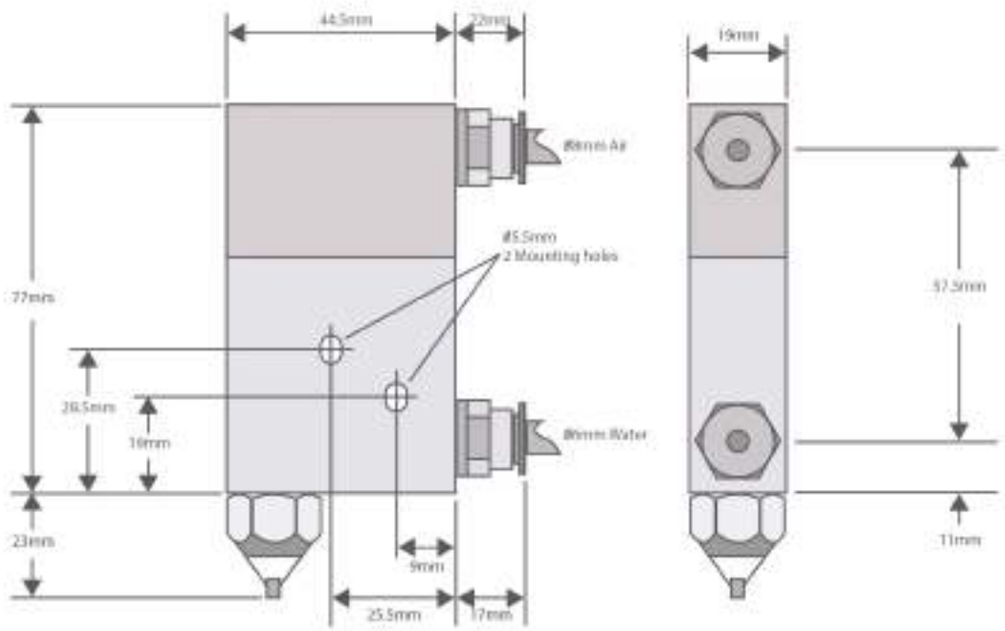
Humidity
Applying Chemicals
Disinfection
Adding moisture to products
Dust Control
Cooling
Static Control
Cold Storage

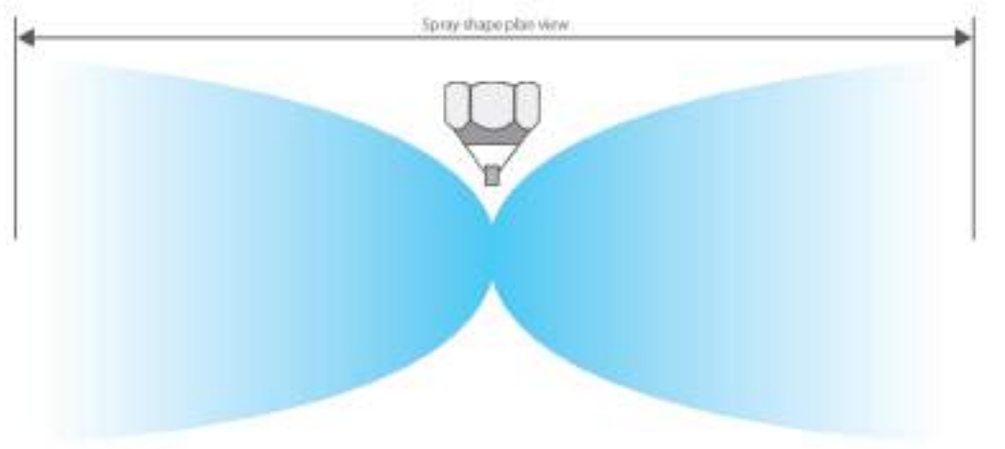
FEATURES

Consistent atomisation
Low water consumption
5 - 10 micron droplets
Self-cleaning
Non-drip
Low pressures

FINEST ATOMISATION

0.5 BAR LIQUID		1.0 BAR LIQUID		1.5 BAR LIQUID		2.0 BAR LIQUID	
AIR (BAR)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR	AIR (bar)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR
4	6.5	4	10.0	4	13.6	4	17.4
5	3.6	5	8.8	5	11.8	5	15.3





ST52 ULTRASONIC SPRAY NOZZLE

DESCRIPTION

Compressed air and liquid mixes within the resonator cap external to the nozzle and creates a straight spray pattern of ultra-fine spray droplets nominally 5-10 micron. The nozzle assembly offers both non-drip and self-cleaning functions to this nozzle range. The nozzle has a separate air and liquid connection being 1/8" female.

MATERIALS AVAILABLE

Stainless Steel

SPRAY ANGLES AVAILABLE

Straight

ORDERING EXAMPLE

ST52 Ultrasonic Spray Assembly

APPLICATION

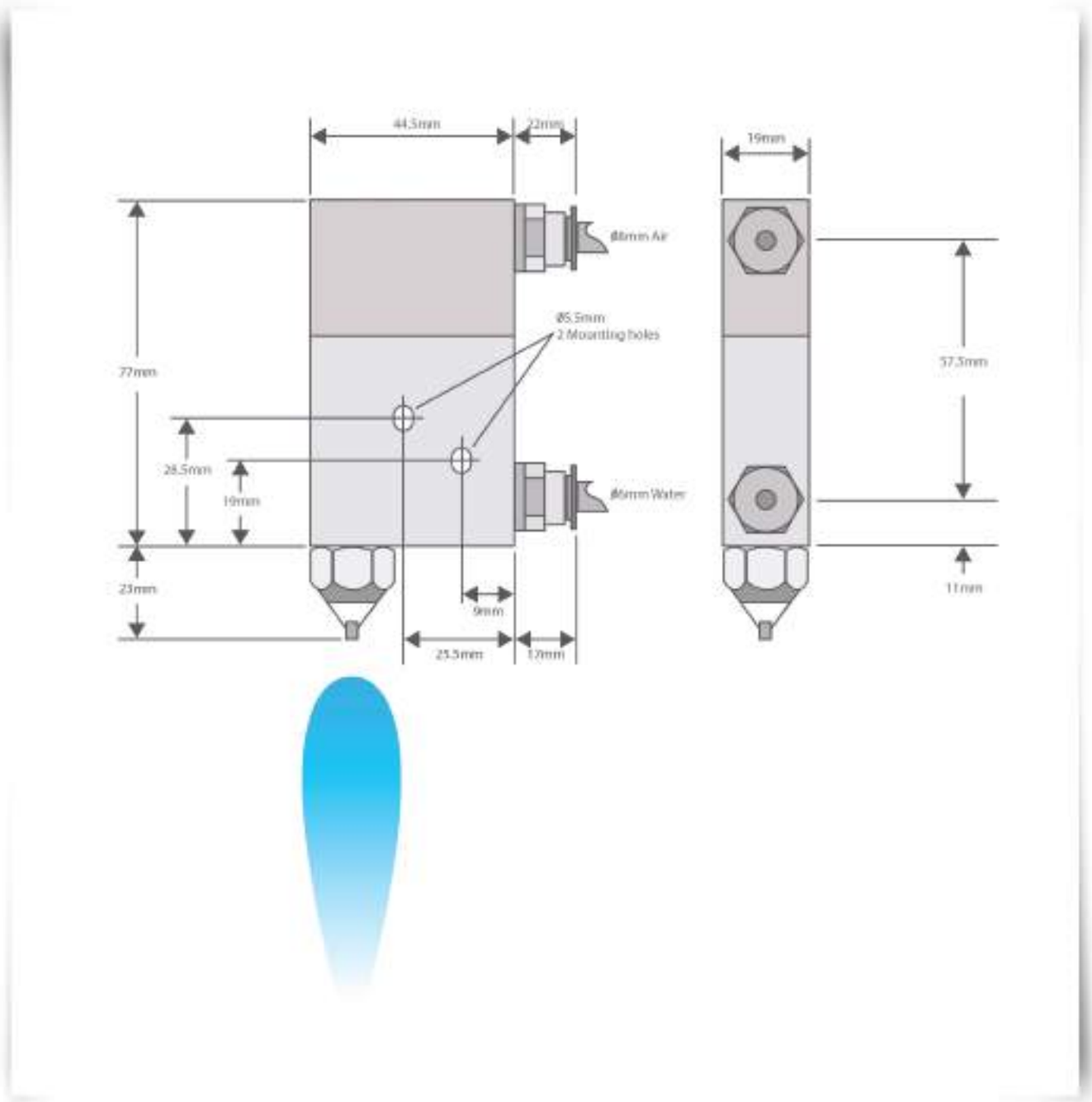
Dust Control
Humidity
Humidity in Drying Ovens
Adding moisture to product
Cooling

FEATURES

Consistent atomisation
Low water consumption
5 - 10 micron droplets
Self-cleaning
Non-drip
Low pressures

FINEST ATOMISATION

0.5 BAR LIQUID		1.0 BAR LIQUID		1.5 BAR LIQUID		2.0 BAR LIQUID	
AIR (BAR)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR	AIR (bar)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR
4	7.8	4	12.7	4	17.1	4	22.0
5	5.2	5	9.4	5	12.5	5	16.2



ST47 ULTRASONIC SPRAY NOZZLE

DESCRIPTION

Compressed air and liquid mixes within the resonator cap external to the nozzle and creates a straight spray pattern of ultra-fine spray droplets nominally 10-12 micron. The nozzle assembly offers both non-drip and self-cleaning functions to this nozzle range. The nozzle has a separate air and liquid connection being 1/8" female.

MATERIALS AVAILABLE

Stainless Steel

SPRAY ANGLES AVAILABLE

Straight

ORDERING EXAMPLE

ST47 Ultrasonic Spray Assembly

APPLICATION

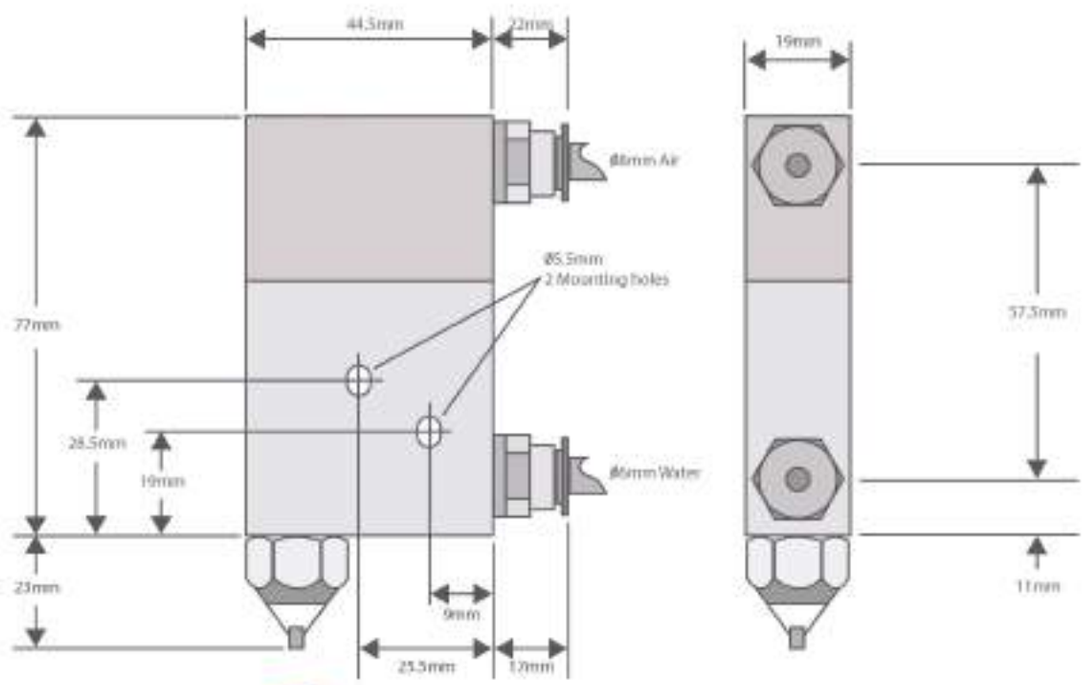
Dust Control
Adding moisture to products
Tobacco processing
De-contamination Showers
Cooling
Disinfection

FEATURES

Consistent atomisation
Low water consumption
10-12 micron droplets
Self-cleaning
Non-drip
Low pressures

FINEST ATOMISATION

0.5 BAR LIQUID		1.0 BAR LIQUID		1.5 BAR LIQUID		2.0 BAR LIQUID	
AIR (BAR)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR	AIR (bar)	LITRES PER HOUR	AIR (BAR)	LITRES PER HOUR
4	12.0	4	22.4	4	31.2	4	40.8
5	11.2	5	18.0	5	27.3	5	36.0



TANK WASHING NOZZLE

Whether your tanks require a light rinse or high-impact wash, Sealpump offer a variety of tank washing nozzles available with technical expertise to assist in selecting the most suitable product for your application.

A number of key factors are to be considered before selecting a tank washing nozzle

- Size and shape of the tank to be cleaned
- Vessel opening for the tank washing nozzle to fit
- Type of material to be removed
- Spray coverage
- Operating pressure

In conjunction with our range of tank washing nozzles we offer the design and supply of automated tank washing systems, such systems are key in achieving cost savings, examples as follows

- Reduced labour cost
- Reduced down-time
- Reduced water and chemical costs
- Reduced waste water disposal costs.
- Quicker cleaning times

Sealpump have helped solved numerous tank washing problems: - From Clean in Place Systems for brewing companies to washing heavily soiled tanks at cosmetics manufacturers.

Contact our office for further details.

PRECISION TANK WASHING NOZZLES

Stainless Steel Spray Ball	Available Angle	Min/Max Flow	Application	Connection	Page Number
	180° up 180° down or 360°	14 - 859 litres per min	Washing of tanks between 1 to 5 metre diameter	Threaded or clip on	80-81

Plastic Rotating Spray Head	Available Angle	Min/Max Flow	Application	Connection	Page Number
	180° up 180° down or 360°	12 – 60 litres per min	Washing of tanks up-to 1 metre diameter	½" BSP Female threaded connection	82-83

Stainless Steel Rotating Spray Heads	Available Angle	Min/Max Flow	Application	Connection	Page Number
	180° 360°	66 – 325 litres per min	Washing of tanks up-to 20 metres diameter	Threaded or clip on	84-85

STAINLESS STEEL SPRAY BALL

APPLICATION

For tanks and vessels from 1 – 5 metre diameter

DESCRIPTION

Our stainless steel static spray balls offer a low cost solution for the cleaning and rinsing of tanks and vessels of 1 – 5 Metre diameter.

These spray balls are a one piece design with multiple orifices and are available with either 180 degree upwards or downwards and 360 degree. The spray is produced through every orifice resulting in a low impact rinse for the tank.

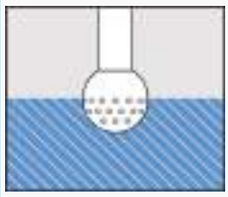
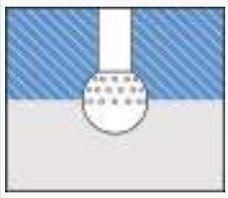
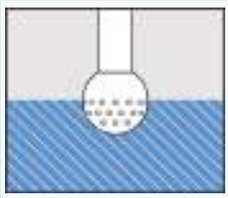
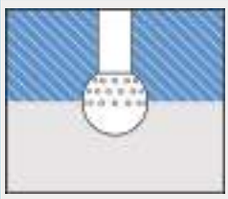
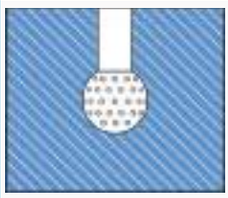
ORDERING EXAMPLE

Stainless Steel Spray Ball 1/2" BSP SVSTW295

FEATURES

- Popular spray ball design
- High flow rates
- Corrosion resisting stainless steel
- Threaded or clip-on connection
- Different sizes available

PRECISION STATIC SPRAY BALL

	Part Number	Coverage	To Fit Pipe / Size	Flowrate in Lpm at Bar				Rinsing Diameter	Orifices sizes mm	Dimension A mm
				0.5	1.0	2.0	3.0			
Clip on Series	SVSTW 290		22	27	38	54	66	5.9	1.6	40
			28	124	175	247	303	3.2	2.5	65
			38	136	193	273	334	4.9	2.5	65
			60	105	148	209	256	1.7	2.0	120
	SVSTW 291		22	27	38	54	66	5.5	1.6	40
			26	120	170	240	294	3.0	2.5	65
			38	95	135	191	234	2.4	2.5	65
			60	120	170	240	294	2.3	2.0	120
	SVSTW 292		22	44	62	88	107	3.8	1.6	40
			28	185	262	371	454	1.8	2.5	65
			38	216	305	431	528	3.0	2.5	65
			60	224	317	448	549	2.0	2.0	120
Female Threaded	SVSTW 293		1/4" BSP	16	23	33	40	2.2	1.3	28
			3/8" BSP	37	52	74	90	7.0	1.3	40
			1/2" BSP	37	52	74	90	3.2	1.6	50
			3/4" BSP	108	153	216	265	2.5	2.5	65
			1 1/4" BSP	187	265	375	459	3.4	2.5	90
	SVSTW 294		1/4" BSP	14	20	28	35	1.6	1.3	28
			3/8" BSP	35	50	71	87	6.4	1.3	40
			1/2" BSP	35	50	71	87	3.0	1.6	50
			3/4" BSP	103	145	205	251	2.2	2.5	65
			1 1/4" BSP	150	212	300	367	2.2	2.5	90
	SVSTW 295		1/4" BSP	21	30	42	52	1.0	1.3	28
			3/8" BSP	60	85	120	147	4.7	1.3	40
			1/2" BSP	64	90	127	156	2.4	1.6	50
			3/4" BSP	156	220	311	381	1.3	2.5	65
			1 1/4" BSP	351	496	701	859	3.1	2.5	90

PLASTIC ROTATING SPRAY HEAD

APPLICATION

For small tanks, beer kegs and containers up to 1 metre diameter

DESCRIPTION

Our plastic rotating spray heads are designed for better and faster cleaning of small containers, beer kegs and tanks of sizes up to 1 metre diameter. They are manufactured from PVDF for enhanced performance and durability. There are two versions of this nozzle available, the 360 degree plastic tank cleaning head and the 180 degree plastic container cleaning nozzle. Both these nozzles have 1/2" BSP female threaded connection and are compact in size meaning that they can fit inside small openings in vessels where required.

FEATURES

- ½" BSP Female Thread
- Optimum cleaning pressure 2 to 5 bar
- Compact size
- PVDF material
- Multiple rotating fan jets

ORDERING EXAMPLE

Plastic 360° Rotary Spray Head Low Flow

PLASTIC SPRAY HEAD FOR SMALL CONTAINERS, BEER KEGS AND TANKS

Nozzle Reference	Spray Angle	Thread Connection	Flowrate in Lpm at Bar				
		BSP FEM	1	2	3	4	5
180° BACKWARD SPRAY HEAD		½" BSP	9	13	16	18	20
180° FORWARD SPRAY HEAD		½" BSP	9	13	16	18	20
360° SPRAY HEAD LOW FLOW		½" BSP	14	20	24	28	31
360° SPRAY HEAD HIGH FLOW		½" BSP	28	38	46	54	60

STAINLESS STEEL ROTATING SPRAY HEADS

APPLICATION

Tanks and vessel up-to 20 meter in diameter

DESCRIPTION

These stainless steel rotating spray heads are designed to rinse and clean tanks and vessels up-to 20metres in diameter. They are designed to meet the required standards needed for a wide range of industries such as Chemical, Dairy, Food and Beverage.

The high quality design allows for high performance cleaning efficiency while helping to extend operating life and reduce life cycle costs.

ORDERING EXAMPLE

RSB 65-Stainless Steel

FEATURES

- Self-cleaning, Media Lubricating
- Designed for use when high impact cleaning is required
- Ideal for large tanks where the products is difficult to clean
- 360° wash patterns
- Variable cycle times
- Female connections
- High impact jets
- Minimum moving parts, to ensure extended operating life and reduce downtime
- Working pressure 3 – 12 bar
- Max working temp 95° C

ROTATING SPRAY HEADS FOR TANKS AND VESSELS UPTO 20 METRES

Up to 3 Metre Diameter Spray

RSB Model	RSB45		RSB45i		RSB65		RSB65i	
Pressure Bar	Flow lpm	Max Clean Radius m	Flow lpm	Max Clean Radius m	Flow lpm	Max Clean Radius m	Flow lpm	Max Clean Radius m
1.0	66.00	1.15	76.67	1.35	166.67	1.95	183.33	2.4
1.5	80.00	1.2	93.34	1.4	200.00	1.97	225.00	2.42
2.0	88.33	1.25	110.00	1.45	241.67	2.0	266.67	2.45
2.5	103.33	1.25	121.67	1.43	266.66	1.97	300.00	2.44
3.0	106.67	1.2	126.27	1.42	291.67	1.95	325.00	2.43

Up to 20 Metre Diameter Spray

Supply Pres KG/cm²	4 x 5mm		2 x 6mm		2 x 7mm		4 x 8mm		2 x 10mm		2 x 12.5mm	
	Flow lpm	Jet lgth m	Flow lpm	Jet lgth m	Flow lpm	Jet lgth m	Flow lpm	Jet lgth m	Flow lpm	Jet lgth m	Flow lpm	Jet lgth m
5	156.66	1.9	105.00	6.5	135.00	7.8	333.33	9.0	290.00	13.0	440.00	13.0
6	173.33	5.5	118.33	7.1	153.33	8.5	366.67	9.9	320.00	14.5	480.00	15.0
7	185.00	6.4	130.00	8.0	166.67	9.5	393.33	10.6	350.00	16.0	520.00	17.0
8	195.00	7.3	138.33	9.2	180.00	10.4	416.67	11.2	370.00	17.5	550.00	18.5
9	201.66	8.5	146.66	10.2	191.67	11.5	440.00	12.2	390.00	19.0	580.00	20.0
10	206.67	9.0	153.33	11.5	200.00	12.5	458.33	13.0	403.33	20.0	591.67	21.0

EDUCTORS & AIR NOZZLES

Eductor nozzles provide an effective and economical way to circulate and mix liquids in both open and closed tanks. These eductors have no moving parts, are clog resistant and require little or no maintenance. The Eductor nozzles will reduce settling of suspended solids, improve circulation, maintain uniform liquid characteristics, mix chemicals, or move solids along the bottom of the tank. This nozzle offers a light weight inexpensive alternative to mechanical mixing methods.

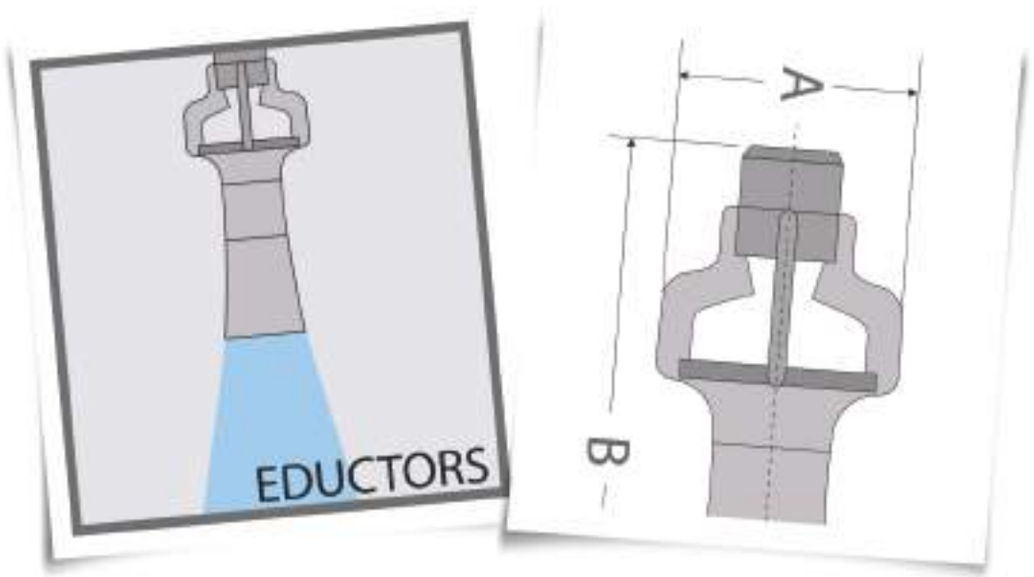
The operation of the eductor nozzle creates a multiplying effect of fluid flow. Depending on the model and operating pressure the volume of liquid discharged from these nozzles can be 4 to 5 times greater than the fluid pumped.

Positioning for eductor nozzles: in order to agitate liquids or liquids with suspended solids, position the eductor nozzle at the bottom of one side of the tank and direct the plume upwards towards the opposite side of the tank, aiming at the highest likely liquid level.

If you need to sweep solids along the tank bottom: direct the eductor plume downward at a 10 to 20 degree angle, using a sufficient number of units to cover the bottom surface of the tank.

OPTIMISATION TIPS:

- Evaluate your specific spraying application and implement a regular nozzle maintenance plan.
- Be sure to use the best type of eductor nozzle for your application, contact our office for assistance with this.
- Monitor flow rate and pressure to detect wear of the orifice.



CLOG RESISTENT AND LOW MAINTENANCE EDUCTOR NOZZLES

Plastic Eductor Nozzle	K Factor	Min/Max Flow	Application	Connection	Page Number
	33.2-155	27.8-1450 litres per min	Phosphating Plating Sludge Pre-treatment Electro Coating	3/8" – 1 ½"	88-89

Metal Eductor Nozzle	K Factor	Min/Max Flow	Application	Connection	Page Number
	31.9-4550	26.7-48100	Phosphating Plating Sludge Pre-treatment Electro Coating Anodizing Agricultural Fertilisers and Chemicals	3/8" – 8"	90-91

Flat Fan Air Nozzle	Air Consumption	Application	Connection	Page Number
	5-14Nm³/h	Blowing off/out Cleaning Drying Cooling Conveying with air	½"	92-93

PLASTIC EDUCTOR NOZZLE

DESCRIPTION

Plastic Eductor nozzles will reduce suspended solids settling, improve circulation, maintain uniformed characteristics, mix chemicals, and help move solids along the bottom of the tank. There are two basic elements to the eductor nozzle, a discharge orifice and venturi section. The Eductor nozzles are submersed inside the tank. Motive liquid is pumped under pressure through the discharge orifice, the jet of motive liquid enters the venturi section taking additional liquid from the tank and moving it through the venturi. A discharge plume of combined motive and liquid exits the venturi and continues the mixing and agitating action for a substantial distance. This creates a multiplying effect on fluid flow. Depending on the model and operating pressure the volume of liquid discharged can be up to four to five times greater than the volume of fluid pumped. This operation reduces energy used and saves money.

MATERIALS AVAILABLE

Polypropylene
Maximum temperature limit 170° F (77° C)

ORDERING EXAMPLE

Plastic Eductor Nozzle 1/2" BSP 120

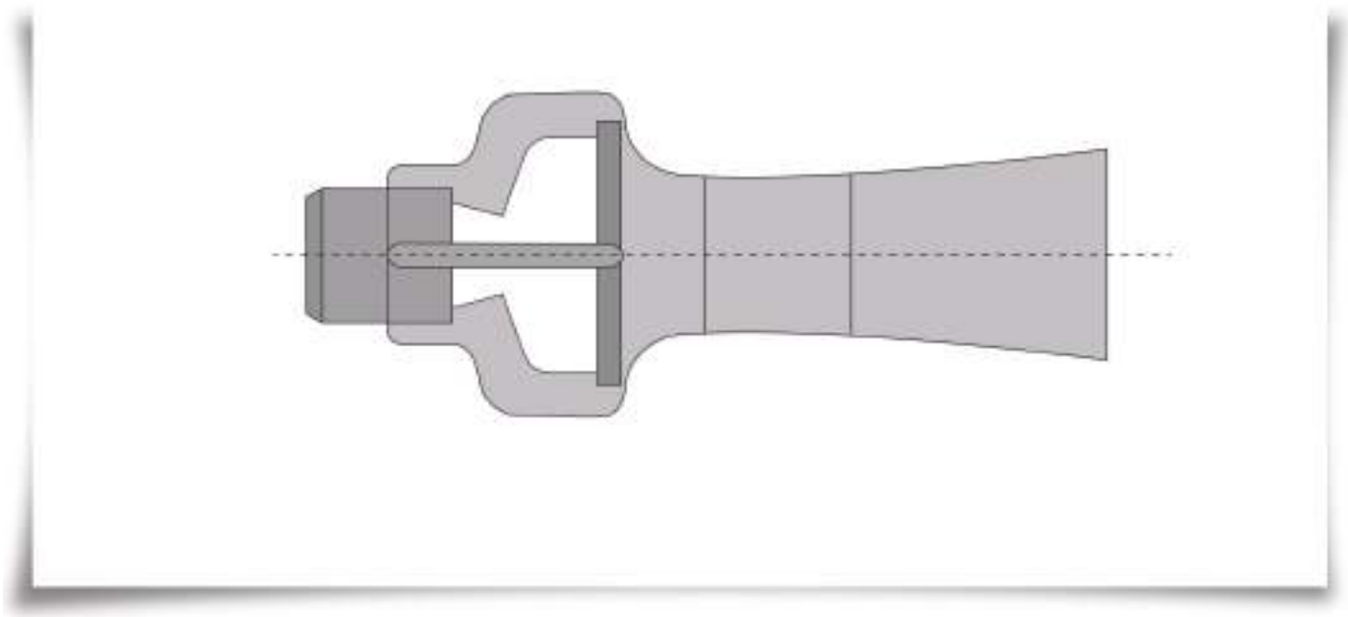
APPLICATION

Phosphating
Plating
Sludge
Pre-treatment
Electro Coating

FEATURES

Clog resistant
Low maintenance
Quality construction
Highly efficient operation
Lightweight

NPT or BSP Connection Size	Number	K Factor	LITERS PER MINUTE @ bar							Dimensions (mm)	
				0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	A	B
3/8 Male	73	33.2	Motive	27.8	33.2	40.7	47	52.5	57.6	62.2	54	114
			Discharge	139	166	204	235	263	288	311		
1/2 Male	120	54.3	Motive	45.4	54.3	66.5	76.7	85.8	94	101	64	140
			Discharge	227	272	333	384	429	470	508		
3/4 Male	137	62.4	Motive	52.2	62.4	76.4	88.2	98.6	108	117	73	162
			Discharge	261	312	382	441	493	540	585		
1 Male	240	109	Motive	90.8	108	133	153	172	188	203	89	191
			Discharge	454	543	665	768	858	940	1015		
1 1/2 Male	340	155	Motive	130	155	190	219	245	269	290	114	248
			Discharge	649	775	950	1095	1225	1345	1450		



METAL EDUCTOR

DESCRIPTION

Metal Eductors nozzles will reduce suspended solids settling, improve circulation, maintain uniformed characteristics, mix chemicals, and help move solids along the bottom of the tank. There are two basic elements to the eductor nozzle, a discharge orifice and venture section. The Eductor nozzles are submersed inside the tank. Motive liquid is pumped under pressure through the discharge orifice, the jet of motive liquid enters the venturi section taking additional liquid from the tank and moving it through the venturi. A discharge plume of combined motive and liquid exits the venturi and continues the mixing and agitating action for a substantial distance. This creates a multiplying effect on fluid flow. Depending on the model and operating pressure the volume of liquid discharged can be up to four to five times greater than the volume of fluid pumped. This operation reduced energy use and saves money.

MATERIALS AVAILABLE

316 Stainless Steel
Bronze
Cast Iron
Other materials available on request

ORDERING EXAMPLE

Bronze 3" Metal Edcutor - 1500

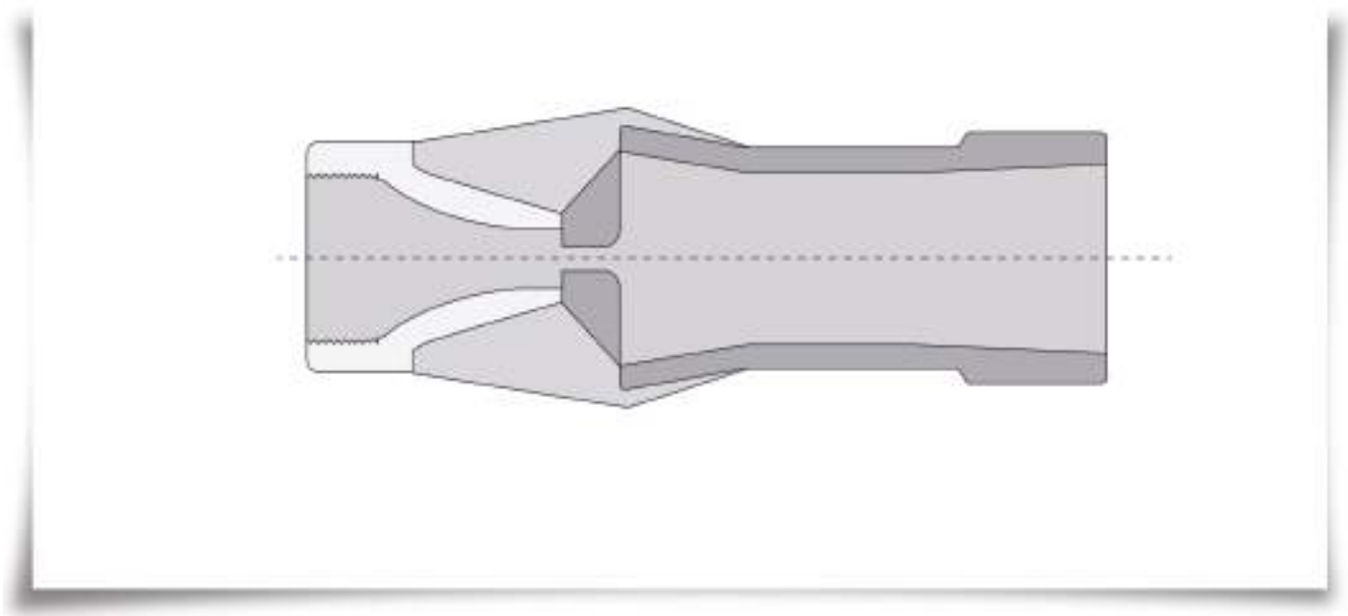
APPLICATION

Phosphating
Plating
Sludge
Pre-treatment
Electro Coating
Anodizing
Agricultural Fertilisers and Chemicals

FEATURES

Clog resistant
Low maintenance
Quality construction
Highly efficient operation

NPT or BSP Connection Size	Number	K Factor	LITERS PER MINUTE @ bar							Dimensions (mm)	
				0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	A	B
3/8 Male	70	31.9	Motive	26.7	31.9	39.1	45.1	55.3	71.4	84.4	44	114
			Discharge	107	128	156	180	221	286	338		
1/2 Mal	110	50.1	Motive	41.9	50.1	61.3	70.8	87	112	132	51	127
			Discharge	168	200	245	283	348	446	528		
3/4 Male	150	68.4	Motive	57.2	68.4	83.7	96.7	118	153	181	57	152
			Discharge	229	274	335	387	472	612	724		
1 Male	230	105	Motive	87.7	105	128	148	182	234	277	70	165
			Discharge	351	419	514	593	728	936	1108		
1 1/2 Female	320	146	Motive	122	146	179	206	253	326	386	76	184
			Discharge	488	584	716	824	1010	1300	1540		
2 Female	620	282	Motive	236	282	345	399	489	631	746	108	286
			Discharge	944	1130	1380	1600	1960	2520	2990		
3 Female	1500	684	Motive	572	684	837	967	1180	1530	1810	165	492
			Discharge	2290	2740	3350	3970	4740	6120	7240		
4 150# Flange	2510	1130	Motive	950	1130	1390	1610	1970	2540	3000	213	864
			Discharge	3800	4540	5560	6420	7870	10200	12000		
6 150# Flange	6010	2720	Motive	2270	2720	3330	3840	4710	6080	7190	321	1321
			Discharge	9100	10900	13300	15400	18800	24300	28800		
8 150# Flange	10050	4550	Motive	3800	4550	5570	6430	7870	10200	12000	416	1727
			Discharge	15200	18200	22300	25700	31500	40700	48100		



FLAT FAN AIR NOZZLE

DESCRIPTION

The flat fan air nozzles produce a flat fan shaped air pattern, replacing open ended pipe while offering major advantages in efficiency & performance.

Compressed air is required for blowing off, drying, cooling, conveying and many more applications.

By using a dedicated air nozzle rather than relying on open ended pipe, it means you not only greatly reduce and control the amount of expensive compressed air used, but noise levels are reduced significantly. By channelling the air through multi-channel air nozzles you also increase the blowing power.

This performance is based on partitioning the air inflow into single air jets. These separate orifices are arranged to ensure optimum flow conditions, provide a uniform, straight and powerful overall air jet.

MATERIALS AVAILABLE

PVDF, Aluminium

ORDERING EXAMPLE

Plastic Flat Fan Air Nozzle – ¼"

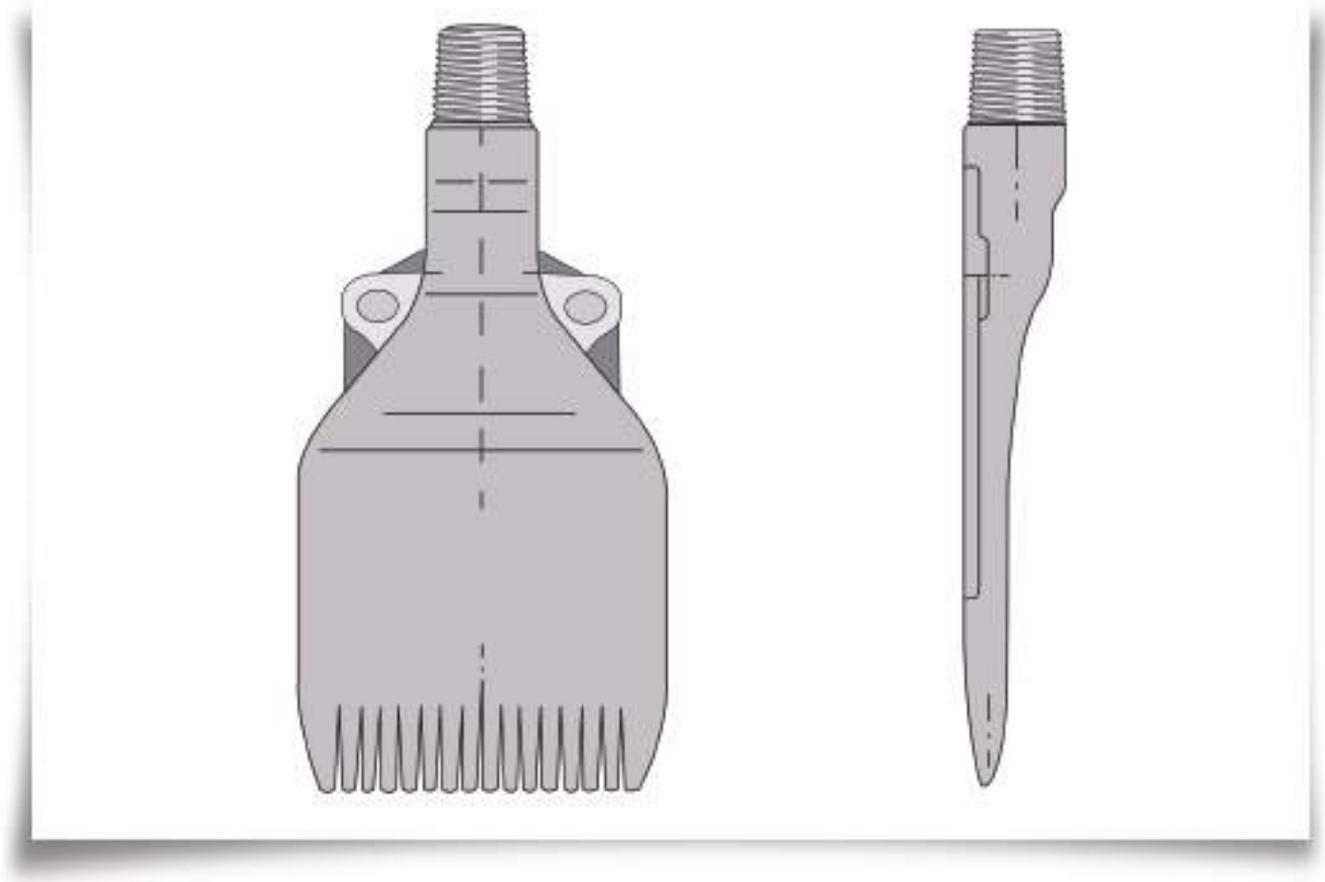
APPLICATION

Blowing off/Out
Cleaning
Drying
Cooling
Conveying with air

FEATURES

¼" BSP Male Connection
Reduction of noise levels of up to 12 dB
Low service air pressure with the same blowing power
Low air consumption
Low operating costs
High blowing power

MULTI-CHANNEL FLAT FAN NOZZLES, PARTICULARLY SILENT



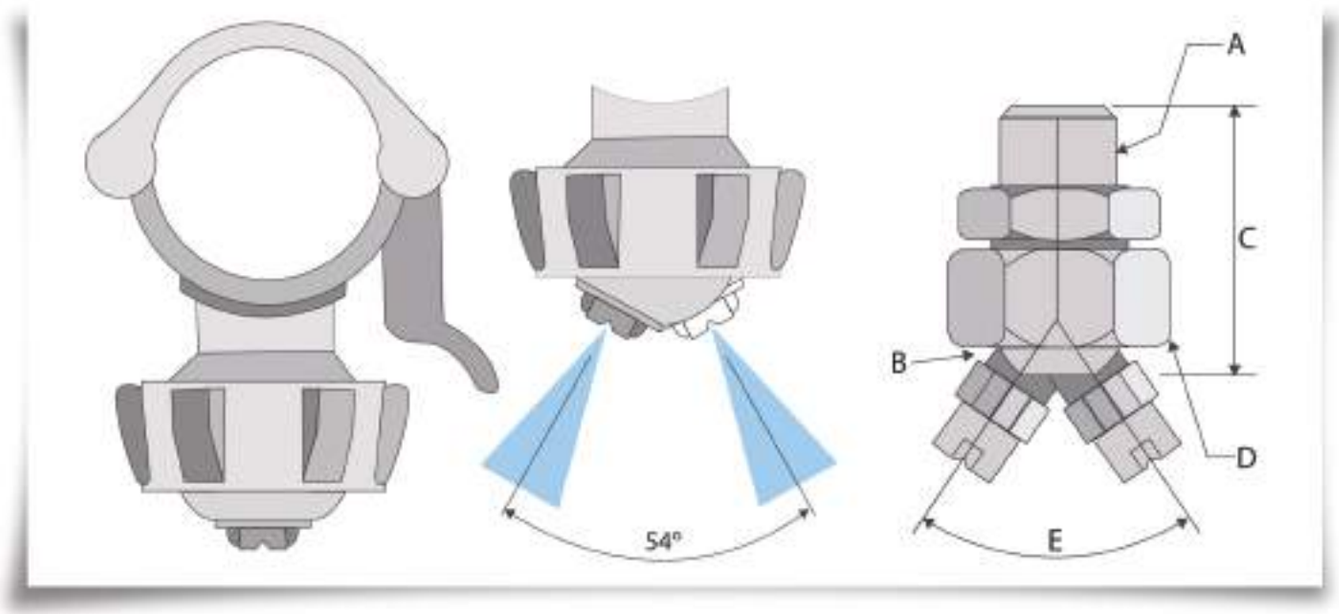
NOZZLE ACCESSORIES

Sealpump Engineering Ltd offer a wide variety of spray nozzle and system accessories designed to make the installation and maintenance of whichever nozzle you use as easy as possible, while helping maintain the performance of the spray nozzles.

This range of accessories allows easy access and ensures easy cleaning, re-direction by hand and quick and easy installation.

Optimisation Tips

- Evaluate your specific spray application and implement a regular nozzle and accessory maintenance plan
- Use nozzle strainers and in-line filters to reduce blockage
- Be sure to use the best type of nozzle and accessory for your application, contact our office for assistance



NOZZLE ACCESSORIES TO SUIT YOUR SPRAYING APPLICATION

Nozzle Bodies	Available Sizes	Available Material	Application	Page Number
	Male x 3/8" BSP	Brass Stainless Steel Polyacetal	Industrial Wash Machine Product/Wheel Washing Degreasing Circuit Board	96-97

Swivel Joints	Available Sizes	Available Material	Application	Page Number
	¼" – ¾" BSP	Stainless Steel Brass	For use with threaded nozzles where angle of spray needs to be adjusted	98-99

Nozzle Pipe Clamp Holders	Available Sizes	Available Material	Application	Page Number
	½" NB – 1 ½" NB	Polyprop PVDF	Industrial washing machines Pre-treatment lines Washing and treatment of food stuffs	100-101

Water Filters	Available Sizes	Available Material	Application	Page Number
	½" + 1 ½" BSP	Stainless Steel Polyprop	All spraying applications	102-103

NOZZLE BODIES

DESCRIPTION

Our nozzle bodies and retaining caps are manufactured in chemical resistant Polyacetal, Polyproplene, Brass and Stainless Steel, allowing them to be used in not only a wide range of applications but also with many different types of spray nozzles.

We offer threaded bodies to be used with spray nozzle tips and also dovetail nozzle bodies to suit dovetail nozzle tips for application where nozzle alignment is key.

MATERIALS AVAILABLE

Polyacetal
Polyproplene
Brass
Stainless Steel

APPLICATION

Industrial Washing Machines
Product and Wheel Washing
Degreasing
Circuit Board Washing
Roll Cooling and Washing Strip in Steel Mills

FEATURES

Three piece construction – nozzle body/retaining nut/ nozzle tip
Easy maintenance
Easy installation
Swivel Joints offer adjustable spray angles

Threaded nozzle holders and retaining caps		
Female x 3/8" BSP (M)	Male x 3/8" BSP (M)	Spray tip retaining caps
Brass 1/8" BSP (F)	Brass 1/8" BSPT (M)	Polypropylene 3/8" Grey
Brass 1/4" BSP (F)	Brass 1/4" BSPT (M)	Polypropylene 3/8" Black
Stainless Steel 1/8" BSP (F)	Brass 3/8" BSPT (M)	Brass 3/8"
Stainless Steel 1/4" BSP (F)	Polyacetal 1/8" BSPT (M)	Stainless Steel 3/8"
Polyacetal 1/8" BSP (F)	Polyacetal 1/4" BSPT (M)	
Polyacetal 1/4" BSP (F)	Stainless Steel 1/8" BSPT (M)	
	Stainless Steel 1/4" BSPT (M)	
	Stainless Steel 3/8" BSPT (M)	

Dovetail Nozzle Bodies and Retaining Caps

Our Dovetail nozzle bodies and retaining caps are available in both Brass and Stainless Steel in sizes 3/8" BSP and ¾" BSP and a large range of nozzle tips to suit.

SWIVEL JOINTS

DESCRIPTION

Our range of swivel joints allow you to adjust the angle and direction of the spray nozzle used without expensive piping changes.

Using these swivel joints allows greater control of spray direction for precise coverage.

MATERIALS AVAILABLE

Stainless Steel

Brass

APPLICATION

Industrial Washing Machines

Product Washing

Pre-treatment

FEATURES

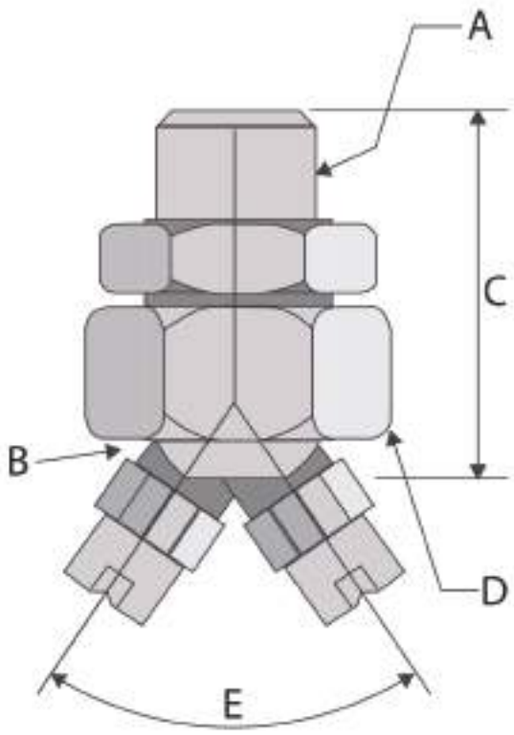
Swivel Joints allow adjustable alignment of spray nozzles

Greater control over spray direction

From 40° to 70° adjustment

SWIVEL JOINTS ALLOW FOR ADJUSTABLE SPRAY DIRECTION

Swivel Joint Dimensions						
Part Number	A Inlet Pipe Conn. BSP or NPT	B Outlet Pipe Conn. BSP or NPT	C Outlet Length (mm)	D Hex Size (mm)	E Angle of Adjustment	Net Wt. (g)
1/4 x 1/4	1/4M	1/4F	44.5	38.1	70°	227
3/8 x 1/4	3/8M	1/4F	44.5	38.1	70°	227
3/8 x 3/8	3/8M	3/8F	44.5	38.1	55°	227
1/2 x 3/8	1/2M	3/8F	44.5	38.1	55°	227
1/2 x 1/2	1/2M	1/2F	61.9	38.1	60°	425
1/2 x 3/4	1/2M	3/4F	61.9	38.1	40°	425
3/4 x 1/2	3/4M	1/2F	61.9	38.1	60°	425
3/4 x 3/4	3/4M	3/4F	61.9	38.1	40°	425



NOZZLE PIPE CLAMP HOLDERS

DESCRIPTION

These nozzle pipe clamp holders are ideal for a large number of applications due to its quick release design. Nozzles can be changed quickly and aligned by hand without tools. These holders make maintenance easier as the nozzle tip is easily accessable.

MATERIALS AVAILABLE

Polypropylene

PVDF

APPLICATION

Pre-treatment

Washing Vehicles

Industrial Washing Machines

Washing Metals

Degreasing

Washing printed circuit boards

FEATURES

Nozzle Orientates 54 degree in any direction

Max Operating pressures 10 bar

Nozzle can be aligned by hand and changed quickly

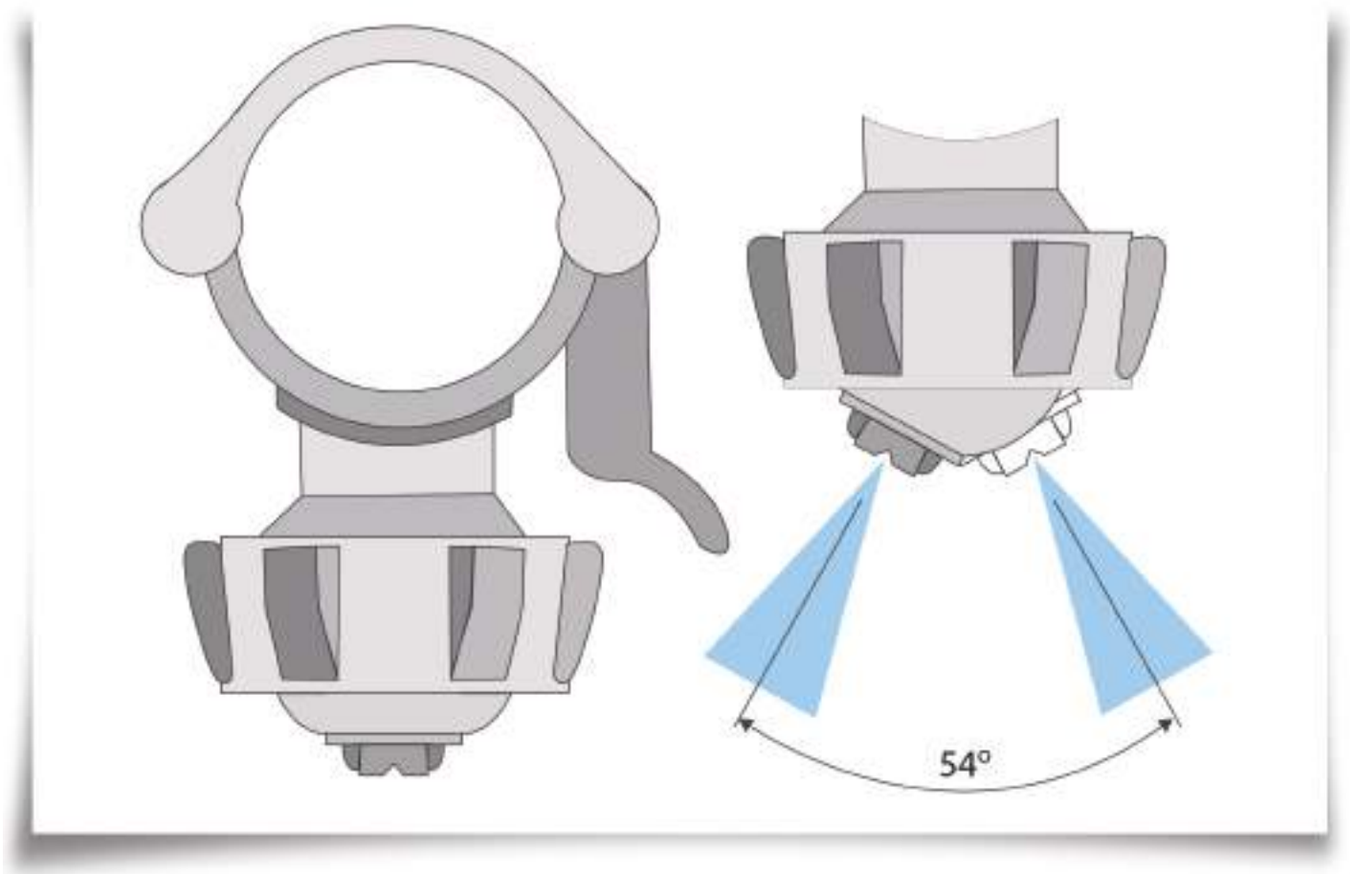
Quick set-up system features 'snap in' tips

Pipe sizes ½" NB to 1 ½" NB

QUICK RELEASE NOZZLE HOLDERS FOR ANY SPRAYING APPLICATION

NPT OR BSP CONNECTION	PIPE SIZE	DIMENSIONS						
		D	BR	B1	B2	B3	H1	H2
3/8" BSP	½"	20.22	6.2	21.2	23.8	18.5	36.5	16.5
3/8" BSP	3/8"	16.5-18.0	6.2	19.0	22.0	18.5	34.5	14.5
3/8" BSP	¾"	25-27.5	7.8	24.5	26.5	22.0	39.5	17.5

HOLDERS FOR PIPE SIZES ¾" – 1 ½" NB			DIMENSIONS		
THREADED BALL CONNECTION	PIPE SIZE	SPIGOT SIZE	A	B	C
1/8", ¼" 3/8" NPT	1"	10, 14, 17MM	62	39	67
1/8", ¼" 3/8" NPT	1 ¼"	10, 14, 17MM	67	43	72
1/8", ¼" 3/8" NPT	1 ½"	10, 14, 17MM	71	46	75



WATER FILTERS

APPLICATION

All spraying applications
All process water lines

DESCRIPTION

By using a water filter in your delivery line to your spray application, you are increasing the potential life cycle of the spray nozzles you are using by filtering the water and therefore reducing any blockages that may occur when using dirty water or water with particles.

Our range of filters offer an easy to use and reliable way of filtering your process water and are available for pipe sizes from ½" – 1 ½" and come with the option of different screen types.

FEATURES

½" – 1 ½" Pipe Sizes
Max Working Pressures
14 – 15 bar
Filtering capacity 80 – 280 Lpm
Fixing point on both sides
32 – 250 Mesh available

MATERIALS AVAILABLE

Polypropylene Body with EPDM Gallet
Stainless Steel

1/2" & 3/4" Line Filters & Spares

1/2" and 3/4" BSP threads, max. Working pressure 14 bar, filtering capacity 80-100 L/min, cartridge ø 38 x 39mm, fixing points on both sides, polypropylene body, EPDM gaskets.

F (BSP)	Screen Type	H (mm)	Effective Area	
			cm^2	sq. in
1/2	32 mesh	21	30	4.7
1/2	50 mesh	21	28	4.3
1/2	80 mesh	21	25	3.9
1/2	250 mesh	21		
3/4	32 mesh	23	30	4.7
3/4	50 mesh	23	28	4.3
3/4	80 mesh	23	25	3.9
3/4	250 mesh	23		

1" Line Filters & Spares

1" BSP threads, max. working pressure 14 bar, filtering capacity 150 - 160 L/min, cartridge ø 38 x 125mm, fixing points on both sides, polypropylene body, EPDM gaskets.

F (BSP)	Screen Type	H (mm)	Effective Area	
			cm^2	sq. in
1	32 mesh	23	41	6.4
1	50 mesh	23	38	5.9
1	80 mesh	23	34	5.3

1 1/4" & 1 1/2" Line filters standard/ flushing & spares

1 1/4" and 1 1/2" BSP threads, max. working pressure 15 bar, filtering capacity 200 - 280 L/min, cartridge ø 58 x 210mm, fixing points on both sides, polypropylene body, EPDM gaskets. Flushing option has a ball valve fitted to the bottom of the bowl.

F (BSP)	Screen Type	H (mm)	Effective Area	
			cm^2	sq. in
1 1/4	32 mesh	21	115	17.9
1 1/4	50 mesh	21	106	16.4
1 1/4	80 mesh	21	97	15.0
1 1/4	250 mesh	21		
1 1/2	32 mesh	21	115	17.9
1 1/2	50 mesh	21	106	16.4
1 1/2	80 mesh	21	97	15.0
1 1/2	250 mesh	21		

AUTOMATED SPRAYING SYSTEMS

DESCRIPTION

Sealpump's Automated Variable Spraying Systems offer an advanced and self-contained control package which enables extremely accurate control over the spraying of liquids and more viscous solutions in many spray applications.

Each system comes complete with precision spray nozzles selected specifically for each application, fluid delivery system and variable spray controller complete with HDMI touch screen panel.

The system is available with pre-set spraying software allowing for easy operator use and complete automation which can be linked to your production or process machinery or software meaning that you will be up and running quickly and seeing the benefits.

Our tailored systems allow customers to greatly improve their processes in applications such as coating, cooling and cleaning while gaining quick payback by:

- Minimising Labour Costs
- Controlling waste product & eliminating overspray
- Increasing production speed & product quality

Every enquiry and application is treated on an individual basis and Sealpump's team of sales engineers work closely with each customer to tailor a solution and system to match your needs.

TOTAL SOLUTIONS & CONTROL THROUGH SPRAY TECHNOLOGY

CONFIGURE YOUR SPRAY SYSTEM

To allow for ease of integration and installation in your process we offer different mounting options on our systems.

The Automated Variable Spray system is available either in two separate panels mounted on a trolley meaning the system can be moved around easily, or in a one panel version which can be machine or wall mounted.

There are also a number of mobile spray trolley designs available to cater for the different requirements of various applications.

However, should you require a bespoke design, please let us know and we will work with you to create the best possible solution.

The mobility of the Mobile System means that the system is very versatile and is suited to applications where a panel cannot be mounted on a production line or conveyor.

The Panel/Wall Mounted System offers an all in one control system, which can be mounted in a fixed position in a process, with only the fluid delivery system mounted on a stand or trolley.

FEATURES

- Unique Pre-Set Spray Program
- Integrated Software Program
- HDMI Touch Screen Controls
- Mounting & Trolley Options
- Food grade material component option
- Spray control cabinet IP65 rated
- System status shown on touch screen panel
- Easy to use, step by step controls
- Automatically adjusting flow & spray coverage to suit individual products.
- Heated nozzles, headers, pressure vessels and delivery line options with controllable heating panel
- Different mounting & cabinet options available

ADVANTAGES

- Improve product quality and control
- Controlled costs
- Less wasted product
- Increase profitability
- Easy Operation & maintenance
- Automation of Production Line
- Complete Integration into each production line/process
- Cost effective solutions
- Each system tailored to the customer's requirements

DUST CONTROL SYSTEMS

DESCRIPTION

Dust control systems are an important factor in meeting both environmental and health and safety requirements, while also helping and protecting employees and reducing site emissions. We offer complete solutions for the control of dust in all material handling processes, ranging from our dry fog dust suppression systems to rain gun and sprinkler systems.

Our dry fog dust suppression systems control airborne dust without wetting the product while adding very little moisture (usually less than 0.1% moisture addition). Our systems are fully installed and integrated into all processes and control dust without the need for expensive extraction systems or chemical additives.

DUST SUPPRESSION THEORY & APPLICATION

Dry Fog fugitive dust suppression works like a combination of a wet scrubber and a fabric filter. The generated ultra-fine fogging blanket acts like a fabric filter in that a dust particle cannot pass through it without colliding with a droplet. Since the droplet consists of water, the dust particle does become somewhat wet as in a true flooded scrubber. This phenomenon can be called agglomeration. Solving fugitive dust emission problems using ultra-fine water droplet atomisation begins with the theory of agglomeration. Agglomeration can be defined as the gathering of mass into a larger mass, or cluster.

Agglomeration probability is greatly increased between bodies of similar size. The agglomeration of these bodies produces a large enough mass to cause settling. For example, a dust particle of 5 microns will continue to follow the air stream around a water droplet of 200 microns, therefore, avoiding collision. With the dust particle and a water droplet of similar size, the air stream is not as great and collision occurs, causing agglomeration.

The diagram below shows the aerodynamics of what can happen when the water droplets are larger than the dust particle.

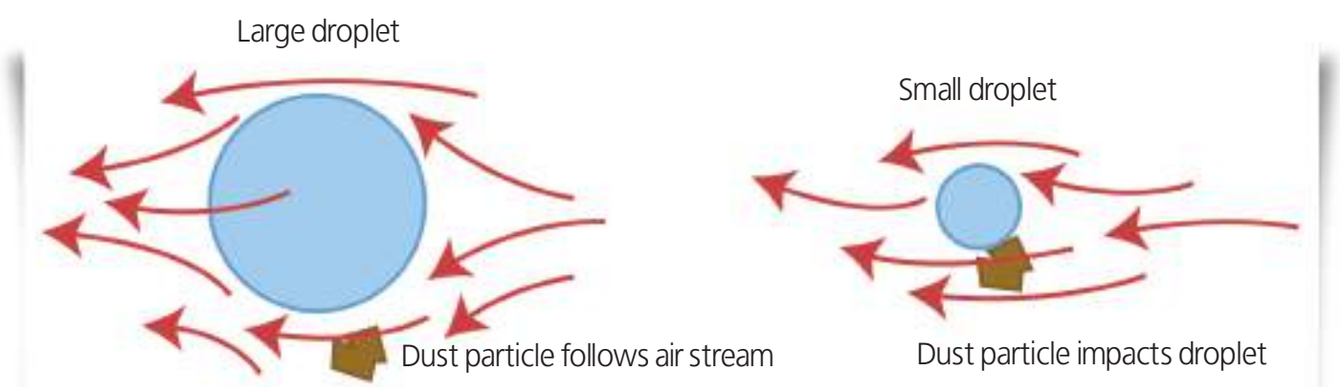


Diagram illustrates the importance of droplet size for particle agglomeration. Airflow around the large water droplet (left) prevents the dust from contacting the droplet. However, the dust particle easily impacts the small droplet (right) triggering agglomeration.

Fog suppression is one method to optimise the application of water to dusty materials. These systems use special ultrasonic nozzles to produce extremely small water droplets (10 microns or less) in a dispersed mist. These droplets mix and agglomerate with dust particles of similar size, with the resulting larger combined particles falling back to the material body.

Dry Fog Dust Suppression Systems control virtually all types of less than 5 micron breathable as well as larger size fugitive dust up to 600 microns. Control is accomplished through agglomeration of ultrasonically produced water droplets equal or close to the size of the dust particles. These include silica sand, dried clay, dry sand, limestone, aggregate, road stone, phosphate, coal, quartz, fibreglass and many others. The Dry Fog system suppresses visible emissions from primary and secondary crushing, screening, transfer and loading-unloading facilities such as hoppers, feeders, bins, docks, silos, terminals and vehicles.

The sonicom atomising nozzle along with a compressed air supply and simple on/off controls will suppress respirable dust as small as 0. 1 to 3 microns as well as larger size particles. The initial cost, operation and maintenance of a Dry Fog System is much lower than a ventilation type control system. In contrast to the use of large ducts and related equipment, the sonicom system operates with smaller diameter tubing on as little as 5% of the total energy of conventional systems. Dry Fog systems can be installed for as little as 40% of the installation cost of a conventional bag filter type system.

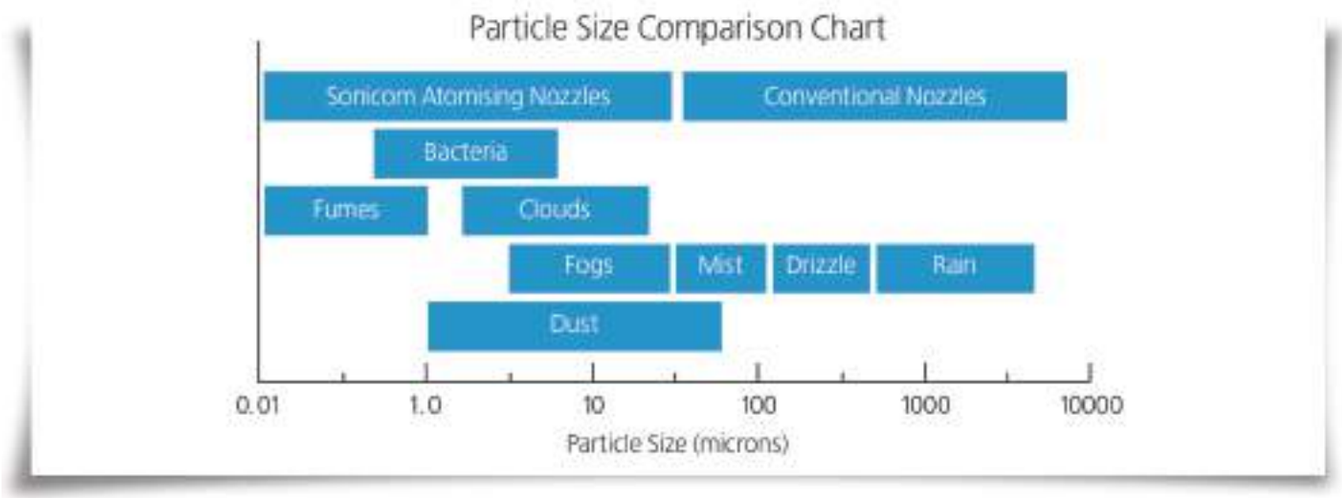
They offer the following advantages:

- water consumption averages 20 litres per hour per nozzle
- nozzles operate on low air and water pressures to eliminate need for pumping systems
- air consumption approximately 4. 72 lt/sec (10 scfm) per nozzle
- water addition to process, less than 0. 1%
- costly wetting agents and their controls eliminated
- water source and disposal problems eliminated
- needs no significant modifications to existing plant for installation
- low maintenance
- nozzles are self-cleaning
- airborne water freezing avoided by producing same size droplets found in clouds

Basic research in the development of the sonicom Dry Fog Dust Suppression System showed that if a sufficient number of water droplets of approximately the same size as the dust particles could be produced, the possibility of collision between the two would be extremely high. It was also determined that if the droplet exceeded the size of the dust particle, there was little probability of impact and the desired precipitation. Instead, the dust particle would move around the droplet.

The sonicom nozzle assembly is ideally suited for generating a dense fog of ultra fine droplets to envelop and bring down the dust particles at their source. By controlling air pressure, atomisation quality can be varied from course - 200 microns - to an ultra-fine fog of 1 to 10 microns. When the nozzle is complemented with our special water valve assembly, the unit becomes a highly efficient self cleaning atomiser.

The heavy duty stainless steel water valve is controlled by the same compressed air supply used to activate the nozzle. A simple on/off signal is required to activate the system and when the signal is removed, the water valve self cleans the nozzle every time by blowing excess water away, significantly reducing lime, salts and chalk build-up.



The "dry fog" dust suppression system controls respirable particulates down to the 0.1 to 3 microns which are considered to be the principal source of dust clouds, haze and accompanying low levels of visibility. In most applications where respirable dust particles can be settled out of the atmosphere quickly, the sonicom system makes it unnecessary to add a tension additive product to the water.

Total water consumption is extremely low - only 0.1% of production at each point of concern (less than 0.5% of that consumed by conventional sprays) ensuring that conveyor belt wetting and other accompanying tracking problems are avoided. Control of water output is achieved by simple pressure control. The volume of water can be modified in relation to the humidity content of the pulverised silica. The sonicom system also provides these benefits:

1) less product wetting than conventional water spray systems (less than 0.5%).
2) micron size water droplets multiply surface area while decreasing total water needed.
3) costly wetting agents and their controls eliminated.
4) no conveyor belt wetting or accompanying tracking problems.
5) less conveyor downtime and fewer conveyor belt replacement parts.
6) agglomeration of dust helps improve performance of precipitators, baghouses and collectors.
7) nozzles operate on low pressure air and water to eliminate need for expensive pumping systems.
8) improved working conditions enables compliance with applicable health and safety regulations.
9) cleaning and maintenance costs reduced.
10) permits recovery of spilled materials.

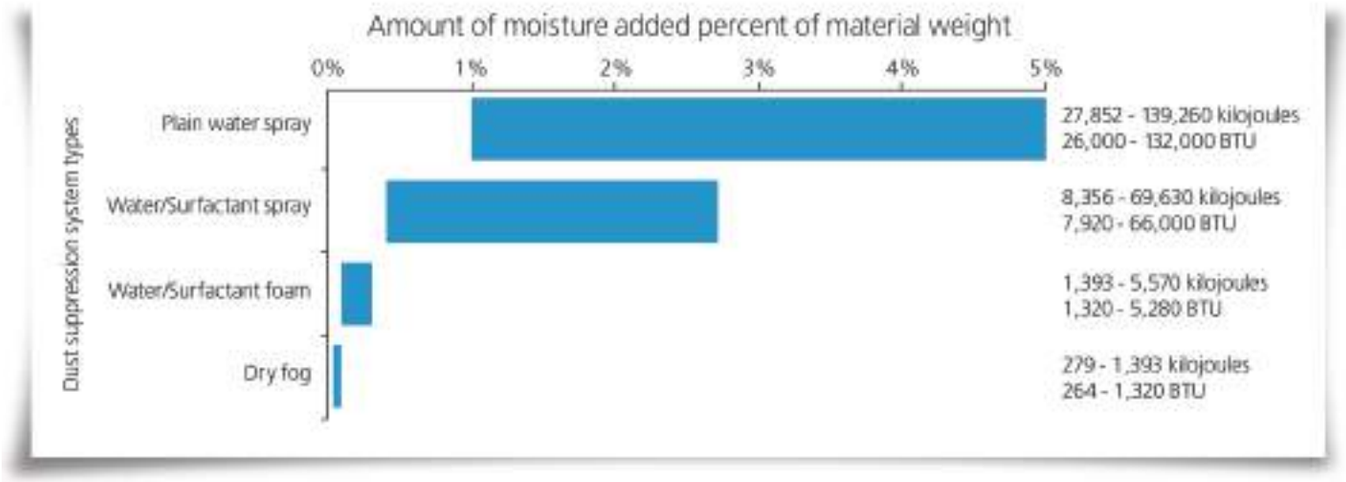
The Thermal Penalty for Added Moisture

There is a substantial performance penalty added to combustion and other thermal processes when the water content of the fuel is increased. In applications like coal-fired power plants and cement plants, water added to the material going into the thermal process must be "burned off" by the process. This can dramatically reduce the process efficiency and increase fuel costs.

It requires 3,064 kilojoules per litre (1,320 BTU per pound) to raise water from 21°C (70°F) to it's vaporisation temperature of 149°C (300°F). It only takes 9.1 kg or 9.1 litres (20 pounds) of water to increase the moisture content of one tonne of material by one percent. As a gallon of water weighs approximately

4.5 kg (10 pounds), the addition of less than 2.0 gallons (9.1 litres) of water to a tonnne of material will raise the moisture content of a tonnne of material by 1 percent. Vaporizing this modest amount of water produces a heat loss of 27,850 kilojoules (26,400 BTU).

The thermal penalty typically created by the various dust suppression methods is displayed below.



Because a "plain" water spray requires the highest volume of moisture for effective dust suppression, this method extracts the highest thermal penalty. While the use of a simple water spray for dust suppression may be a lower cost because the water is readily available and there is less "out-of-pocket" expense, the penalty for the addition of surplus moisture can be very costly indeed.

Principle of Ultrasonic Nozzle

Compressed air passes through the nozzle's inner bore through a convergent/divergent section at high velocities and expands into a resonator cavity where it is reflected back to complement and amplify the primary shock wave. The result is an intensified field of sonic energy focused between the nozzle body and the resonator cap.

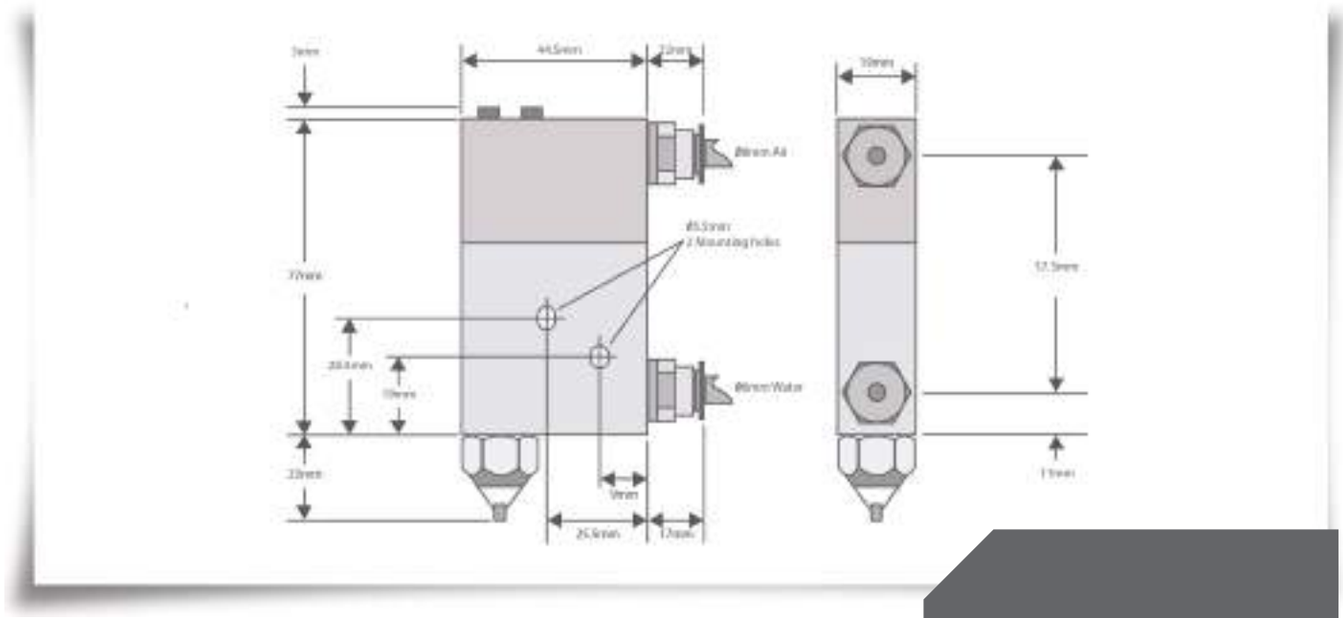
Any liquid capable of being pumped into the shock wave is vigorously sheared into fine droplets by the acoustic field. Air bypassing the resonator carries the atomised droplets downstream in a soft plume shaped spray.

The droplets have low mass and low forward velocity with low impingement characteristics. Fine atomisation ensures uniform distribution of the liquid with minimum over spray and waste.

Ultrasonic atomising nozzles operate at very low liquid pressures and have large orifices. The large orifices and low pressures virtually eliminate orifice wear and prevent deterioration of the quality of atomisation while greatly extending useful nozzle life.

The plume leaving the fog system nozzles is so fine it will not freeze, but the water supply system itself can freeze if drain or heating elements are not provided.

SONICOM ULTRASONIC FOGGING NOZZLE



DESCRIPTION

The sonicom ultrasonic atomising nozzle shatters liquid into micron size droplets ranging from 20µm down to 1µm and less by means of a compressed air supply at 5 Bar (75psi) and liquid supply at 1 Bar (15psi).

When assembled with it's own unique stainless steel water valve, the nozzle assembly becomes non-drip, is self cleaning after every operation and reduces control requirements to a simple on/off air supply. The same air supply is used to control the valve and activate the nozzle atomisation.

MATERIALS AVAILABLE

Nozzle Head: Stainless Steel

Water Valve: Stainless Steel

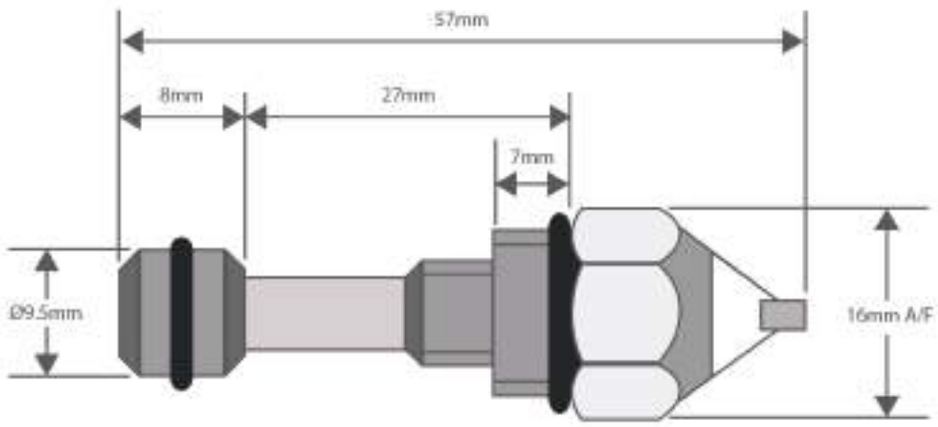
Internal Seals: Viton

Temperature Range: -20° to +180°C

APPLICATION

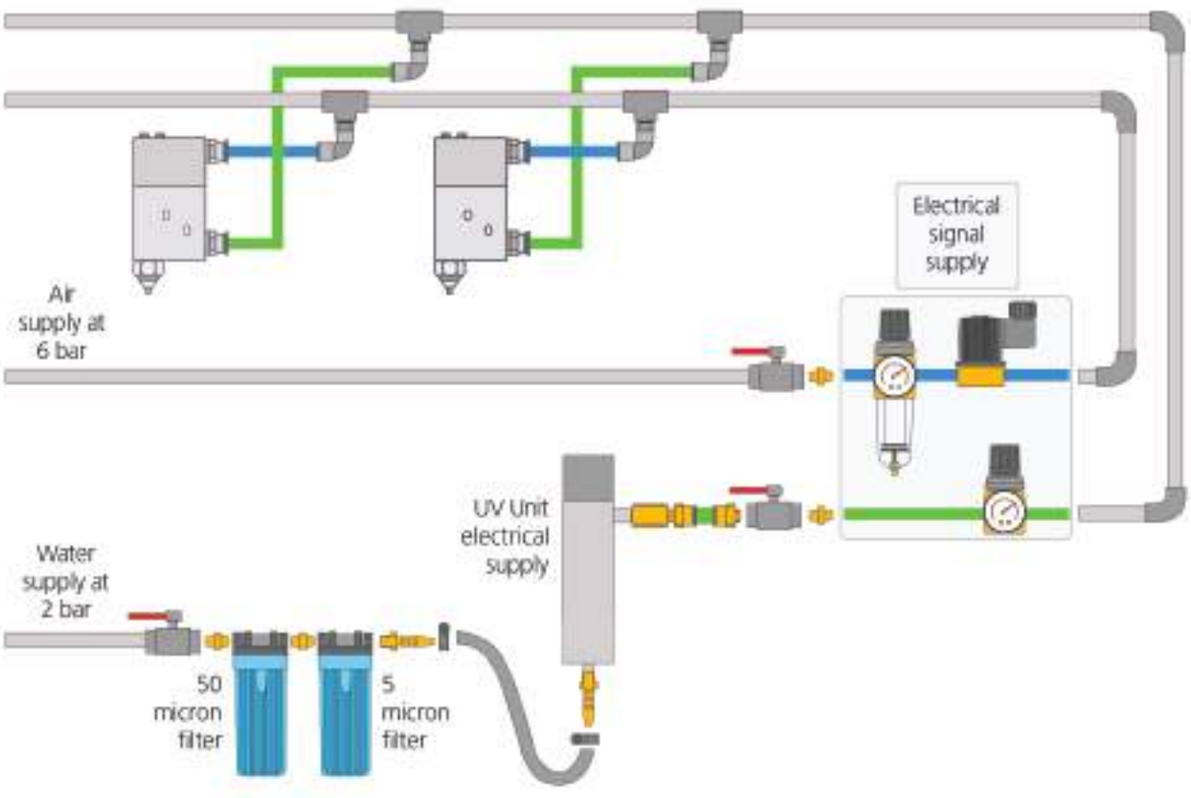
- Smaller water droplets
- Mains water pressure – no pump required
- Minimal water consumption
- Simple to install
- Low pressures
- Range of nozzle sizes
- Self cleaning every cycle
- Each nozzle fitted with non-drip valve
- Easy to operate
- Large liquid ports – prevents clogging
- Reduced wear and maintenance
- Consistent quality of atomisation

FORWARD PROJECTING PLUME WITH VARIOUS DROPLET DIAMETER DISTRIBUTION



Sonicom Nozzle

GENERAL LAYOUT DRAWING FOR A DRY FOG DUST SUPPRESSION SYSTEM



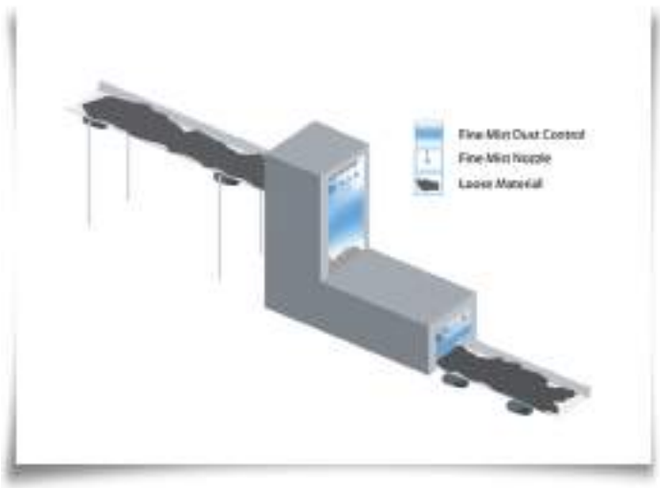
CONTROL PANELS

A full range of control cabinets are available built to customer specifications which include all necessary pressure regulators, valves and electrical terminals.

We offer full PLC control systems which can link into existing controls with the addition of touch screen HMI units when specified.

Enclosures are manufactured to industry standards and can be of either steel, plastic or stainless steel construction. All systems are fully tested prior to leaving our manufacturing facility.

CONVEYOR TRANSFER CHUTES



The placement of the dry fog nozzles is the most important aspect to achieving effective dust suppression and ensuring no wetting of material, the dry fog spray should be generated and contained in well designed shrouding, for example a conveyor chute, this eliminates dissipation due to wind and also ensures treatment time necessary to suppress and control airborne dust.

The dry fog spray is generated above the dust problem area – not directly onto the material, as the airborne dust is generated within the conveyor transfer chute the dry fog suppresses the dust through particle agglomeration, ensuring that the dust is controlled within the conveyor transfer chute.

GENERAL CONSIDERATIONS

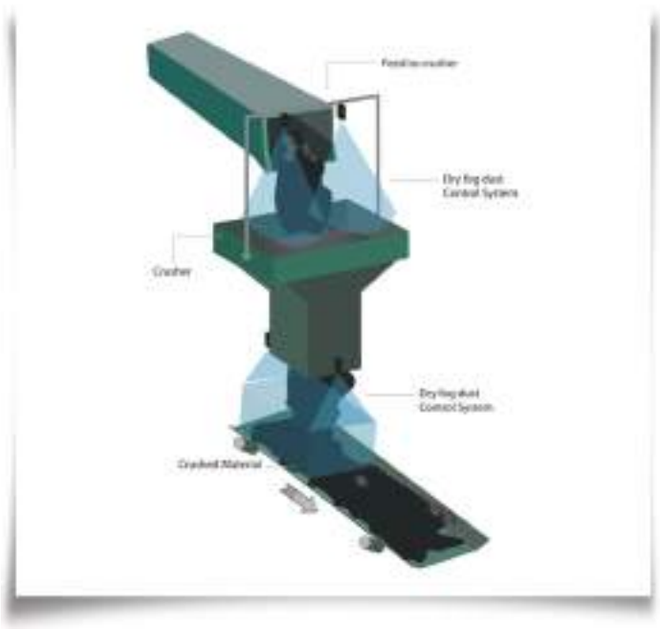
There are several factors to consider when specifying the number of nozzles required at a given problem area:

- Tonnage per hour.
- Type of material being conveyed.
- Condition of material.
- Future use of the material.
- Belt width.
- Height of fall.
- Convenience of mounting space / maintenance.

A general rule of thumb is that the height of the conveyor cover be approximately 1 metre above the product level on the belt. And the cover length 3 times the belt speed (m/s). The basic principles involved for location of the nozzles are as follows:

- Nozzle spray pattern must not directly impinge upon any surface.
- Nozzles should be mounted in order to maximize the ability to fill the shrouding.
- The fog should avoid direct contact with the material being suppressed.
- Nozzles must be protected or shielded to avoid damage from falling material.
- Nozzles should be mounted to minimize exposure to a heavy-laden dust air stream. This will avoid erosion of the nozzle components.
- Spray pattern of nozzles should be generated so that all the fugitive dust emissions are forced to pass through the blanket of fog.

CRUSHING



The placement of the dry fog nozzles is the most important aspect to producing effective results with no wetting of material. Ideally the fog should be generated at three points and contained in properly designed shrouding. This eliminates dissipation due to wind and also produces the treatment time necessary to suppress the dust. With crushing machines the fog is generated at the loading point allowing the droplets to be "taken in" to the crusher body. If possible, a second nozzle should be mounted at the tail end of the receiving conveyor spraying in the direction of the belt travel. Ensure any falling material cannot cause nozzle damage. As the airborne dust enters the confine, dry fog agglomeration occurs and the dust is suppressed in situ and returned to the conveying material.

GENERAL CONSIDERATIONS

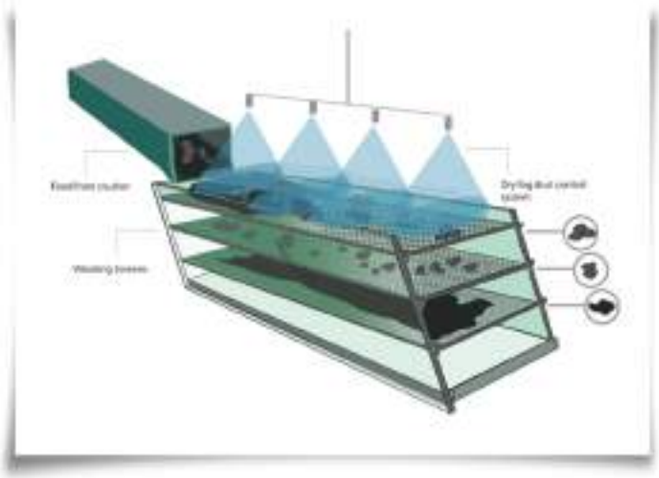
There are several factors to consider when specifying the number of nozzles required at a given problem area:

- Tonnage per hour.
- Type of material being crushed.
- Condition of material.
- Future use of the material.
- Crusher size / capacity.
- Convenience of mounting space / maintenance.

A general rule of thumb is that the height of the conveyor cover be approximately 1 metre above the product level on the belt. And the cover length 3 times the belt speed (m/s). The basic principles involved for location of the nozzles are as follows:

- Nozzle spray pattern must not directly impinge upon any surface.
- Nozzles should be mounted in order to maximize the ability to fill the shrouding.
- Where possible the fog should avoid direct contact with the material being suppressed.
- Nozzles must be protected or shielded to avoid damage from falling material.
- Spray pattern of nozzles should be generated so that all the fugitive dust emissions are forced to pass through the blanket of fog.

SCREENS



Because the water consumption of an ultrasonic dry fog nozzle is extremely low and droplet size is reduced to less than 5 microns, such nozzles can be utilised above screens and in the roof areas of screen houses without concern for over wetting and build-up of clogged fines in the mesh of the screen itself.

By raising the humidity level of the air in a screen house, airborne fines will be suppressed down to ground level thus avoiding Health & Safety concerns for employees.

Nozzles mounted above or around screen areas will suppress dust clouds created due to the particulates being encouraged to become airborne through vibration and the natural fall of the conveying bulk. Truly effective suppression is difficult to achieve above a screen due to the openness of such equipment and general air movement, however the use of additional nozzles in the roof area will help with suppression.

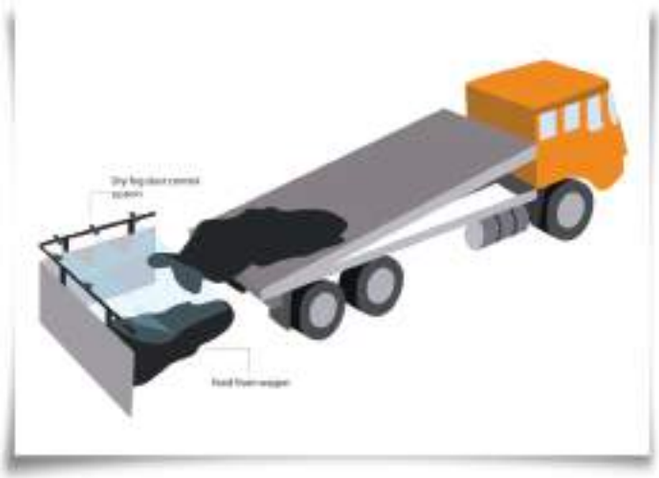
Spray pattern of nozzles should be generated so that all the fugitive dust emissions are forced to pass through the blanket of fog.

HOPPERS

The unloading process from wagons, trucks and dumper trucks generates a large dust cloud very quickly due to the speed and volume of material flow, the finer and dryer the material the more airborne dust is generated.

The dry fog dust suppression system is very effective at suppressing and controlling the airborne dust, even with materials that cannot accept a large percentage of moisture, for example; limestone / gypsum etc.

The dry fog dust suppression system is located around the area where the material is to be unloaded, creating a dry fog mist that controls the uplift of airborne dust.



ODOUR CONTROL SYSTEMS

Innovative engineering has resulted in the creation of an effective solution for odour control. The atomiser uses a revolutionary misting system that is more powerful and effective than most nozzle based systems.

The atomiser uses two opposing meshes that slice up the water into tiny droplets. The result is no blockages and droplets at an optimum uniform size to suppress odours even in the most challenging environments.

Already being used in a range of industrial and utility businesses, the atomiser is providing a range of important benefits to users:

- Although using leading edge technology the atomiser is simple to use and requires little maintenance.
- Each atomiser can cover an impressive 20 metre range, stretching over a full 180 degree.
- By producing optimum droplet size the atomiser actually uses less water and power than other systems.
- The atomiser leaves the ground virtually dry, allowing it to be used both inside and out.
- Never blocks no need for filters.
- Uses less water than most nozzle systems.
- Gives greater spray coverage.

The atomiser head works by pumping water through two opposing meshes spinning at 12,000 rpm which pulverises the liquid into an incredible 238 billion droplets per litre. The droplets are mono-dispersed (all the same size) at a carefully computed size enabling them to combine most effectively with odour molecules.

Atomisers can be fitted with an oscillating motor. This turns the head gently to and fro through a user-defined arch of up to 180 degree. The effect is to create a permanent mist for as long as the unit is switched on.

ODOUR CONTROL ATOMISER HEADS

WALL MOUNTED DESCRIPTION

This unit is secured to walls using either rawl bolts or clamps, the static wall mounted atomiser gives a linear spray of between 20 and 25 metres with a 10 degree diameter. This unit can also be fitted with an optional extra oscillating kit, which increases the spray coverage to 180°.

FLOOR MOUNTED DESCRIPTION

The floor mounted unit stands 2. 5 metres high and is secured to either a concrete base or similar fixed level surface using rawl bolts or clamps, the floor mounted atomiser gives a linear spray of between 20 – 25 metres with a 10 degree diameter. This unit can also be fitted with an optional extra oscillating kit, which increases the spray coverage to 180 degree.

MAIN USES

The wall mounted atomiser can be located internally or externally, when used in conjunction with Airopure ™ odour control agent this equipment becomes most effective.

APPLICATION

Waste transfer stations
Material recovery facilities
Composting plants
Sewage treatment works
Foundries
Any industry producing odour

FEATURES

Never blocks
Uses less water than nozzle based systems
Little or no maintenance
Greater coverage
Quickly installed
Uniformed droplets
Flow rate from 30 – 180 litres per hour (adjustable)

MOBILE ATOMISER

DESCRIPTION

If you have an odour issue on site where power or water are not readily available, or should you need to move the spraying location then the mobile atomiser can solve your problem. The unit can be quickly towed to the required location, is fully self-sufficient with its own water and power supply and can handle most terrain. When used with Airopure™ odour control agent this unit becomes a powerful effective solution for odour control.

ADVANTAGES

- Never blocks
- Uses less water than nozzle systems
- Low maintenance
- Greater coverage
- Totally self-sufficient
- Can handle any terrain
- Uniformed droplets reducing risks from legionella

FEATURES

- Power input 110v/petrol or diesel generator
- 1,000 litre water tank
- Atomiser speed 2,000 – 11,000 rpm
- Eye or ball hitch available
- Atomiser head extendable up to 4 metres
- Flow rate from 30 – 180 litres per hour (adjustable)

AIROPURE ODOUR CONTROL AGENT

DESCRIPTION

Unlike alternative odour control additives Airopure's sophisticated science means it combines physically with the odour molecules and destroys them completely. Airopure is available as an odourless product or now with new "fresh" or "berry" fragrance.

MAIN USES

Airopure technology has been designed to eliminate odours including hydrogen sulphide, ammonia, organic sulphur and nitrogen compounds.

Airopure also inhibits the growth of gram positive and gram negative bacteria such as: Legionella, E-coli, MRCS, CDIFF, Listeria and many more.

ADVANTAGES

- 100% Biodegradable
- Environmentally friendly
- Non carcinogenic
- Non-hazardous, non-irritant and safe under CHIP, COSHH, REACH
- Recognised as safe in the food industry
- Non-acidic or caustic

APPLICATIONS

- Head space spraying at a concentration as low as 500:1 with water
- Direct spray onto waste material at a concentration as low as 50-1
- Direct injection into liquids at a concentration of as low as 1000:1 with water
- Control of Legionella at a concentration as low as 150-1 with water

HUMIDIFICATION SYSTEMS

Humidification is the artificial regulation of humidity in environments. When the atmosphere becomes too dry, moisture is drawn from surrounding materials within the environment such as furniture, paper, textiles, fruit, animals and even people. Low relative humidity is not only uncomfortable, it can be damaging to equipment and materials. It also causes static electricity to generate which in turn produces unpleasant effect in many cases.

The Sonicom™ fogging nozzle is ideal for increasing the level of relative humidity within a room by introducing moisture back into the air without causing wet areas or excessive water drop out.

Ultra-fine fogs down to only 1 micron (0.001mm) are possible therefore ensuring the soft plume of water droplets remain in suspension until evaporation takes place. When complemented with our special water valve assembly, the unit becomes a highly efficient non-drip, self-cleaning atomiser.

The heavy duty stainless steel water valve is controlled by the same compressed air supply used to activate the nozzle. A simple on/off signal is required to activate the system and when the signal is removed, the water valve self-cleans the nozzle every time by blowing excess water away, significantly reducing lime, salts and chalk build-up.

In large industrial applications, nozzles can be mounted in the roof space to raise humidity levels without over fogging. Significant advantages may be achieved without reducing visibility and safety. Factories where inflated humidification is needed can be economically improved.

The dry fog humidification system provides an economical, low maintenance and low energy consuming humidification system, capable of achieving up to 99% rH.

The dry fog nozzles are strategically located to give an even humidity level. Mains water can be used incorporating a water purifier (ultraviolet disinfection unit), and due to the unique self-cleaning nozzle design, there is no risk of blocked nozzles.

Nozzles are controlled by a Sealpump Control Panel, which switches the system on and off automatically to provide the stable humidification levels required.

ADVANTAGES

Close humidity control
Low energy consumption
Low running costs
Low maintenance
Significant cooling effect
Less than 5 micron droplets
No pump required
Can be duct mounted
Saves up to 90% on steam energy
Self-cleaning nozzles
Non drip system

APPLICATIONS AND RECOMMEDED LEVELS

Art/Antiques	45-55%rH
Botanical Gardens	70-90%rH
Car Paint Preparation Areas	60-80%rH
Computer Rooms & Offices	45-55%rH
Cold Stores	95% rH
Electronics & PCB	50-55%rH
Fruit & Vegetables Storage	75-98%rH
Hospitals	50-60%rH
Printing & Paper Storage	50-60%rH
Textiles (Wool & Cotton)	65-75%rH
Timber & Woodworking	45-65%rH
Tobacco Processing	55-70%rH

CONTROL SYSTEMS

Sealpump design and manufacture a full range of control panels and systems in order to offer a complete humidification system to suit customer specification.

These systems include water filtration, humidity measuring and control devices, control panels and all fixtures and fittings.

A wide and various range of control panels and cabinets are custom made to suit our clients individual requirements. Control options range from single basic pneumatic equipment to sophisticated PLC electrical systems.

Enclosures are manufactured to industry standard and can be of either stainless steel, plastic or steel construction. All systems are fully tested prior to leaving our manufacturing facility.

We endeavour to meet our customers exacting needs to ensure we build a complete control system to perform at its very best.

Our team of engineers are available for installation and will continue to fine tune every control until it functions correctly to the specification required. Further assistance is always available should the need for change develop at some time in the future.

Our installation engineers are fully trained and passport qualified for working in environments where strict working practices are enforced.

AUTOMOTIVE

To ensure as little paint as possible is wasted when the paint is being transferred from the spray gun to the vehicle bodywork a humidity level of around 70%rH is needed. This will help avoid the problem of paint evaporation and in turn reduce paint costs.

Vehicle engines are tested in a number of different humidities and temperatures to ensure the engine functions correctly in different conditions.

During sanding it is important to maintain a relative humidity of 55% moisture to reduce the electrical static charge of the surrounding air so that the dust created is of a similar electrical charge to that of the car body surface. This causes the dust to flow off the bodywork rather than be attracted to it.

COLD STORES

Cold air is unable to hold as much moisture as warm air, as ambient air enters a cold store the air temperature reduces and the moisture falls out condensing onto cold surfaces and the refrigeration coils. Although the air has a high relative humidity the actual moisture content is quite low.

The warmer ambient air absorbs moisture from the produce within the cold store which leads to weight loss and in turn financial loss. In addition a lack of correct humidity results in a poor quality product with reduced shelf life.

To avoid such a situation the installation of a humidity system controlled by a humidistat within a closed loop would maintain the desired humidity level at all times without over wetting the produce and other surfaces.

PRINTING

Numerous problems occur within the printing, paper and cardboard manufacturing industries, which can be associated with low, or incorrect humidity levels.

Paper curl, cracking during folding, static, and airborne dust are all problems caused by dry air in the printing industry, introducing humidity into the workplace solves such quality problems and makes the working conditions more comfortable.

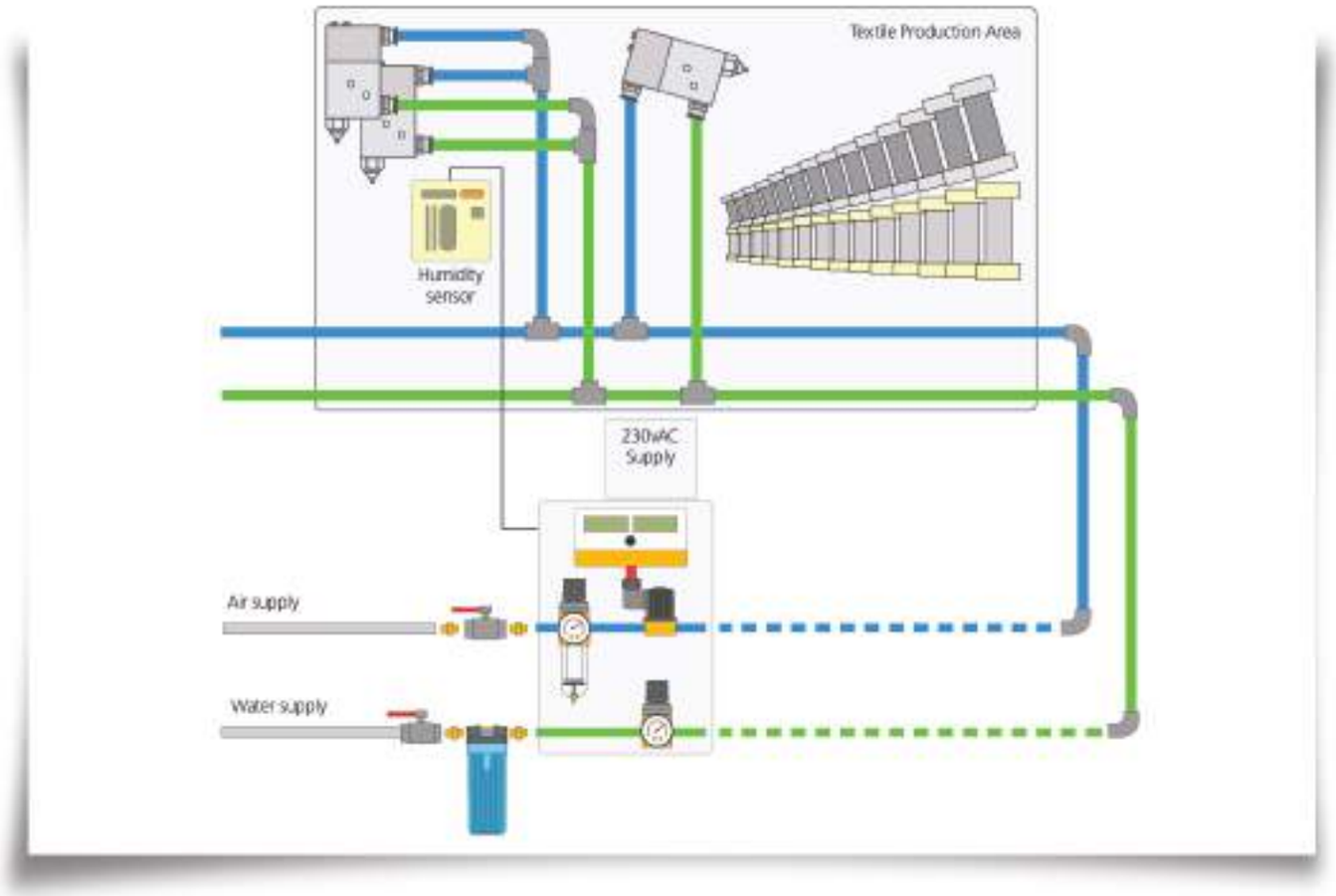
Ultrasonic nozzles mounted within the roof areas of the printing workshop will maintain relative humidity artificially high even as the warm machines dry the air throughout the working shift. Additional nozzles can be positioned around machines and the product to focus additional moisture where it is needed most.

TEXTILES

Severe dust and production issues are frequently present during production in the textile industry. Static build-up, dust, breakages can be common place if the atmosphere becomes too dry. Heat generated by machinery contributes to the problems, which need to be combated by putting moisture back into the atmosphere.

Correct humidity levels maintain materials at their standard weights and give greater reliability when cutting and producing garments. Reduction in static electricity plus added moisture yarns give additional strength and reduce brittleness and weakness making materials more manageable and increasing production speeds.

The use of atomised cold water sprays help to reduce airborne dust and cool the workplace providing more comfortable working conditions.



TIMBER WORKING AND STORAGE

Timber by nature is hygroscopic – if the environment is wet the wood will swell and if it is dry then the wood will shrink and warp.

During the manufacture of window frames, furniture and other similar products a dry atmosphere will cause the wood to shrink and this will result in gapping at joints and in the corners of frames. Where veneers are also used additional problems will occur causing the edges to become uneven and in some cases develop cracks.

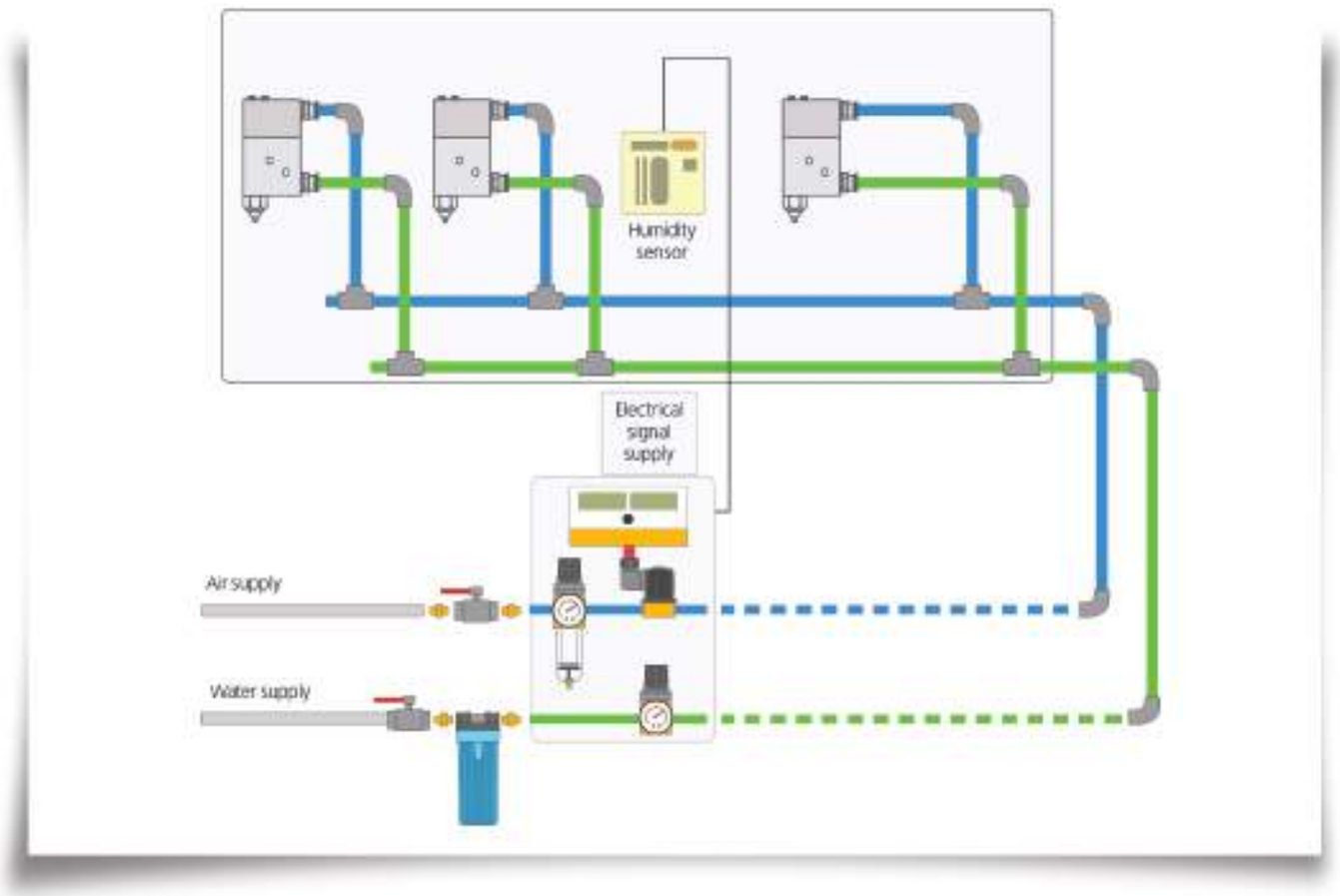
By maintaining an even and correct humidity level during manufacturing process a good quality finish will be achieved with the additional advantage of airborne saw dust being suppressed from the surrounding air providing a safer environment for the workforce.

TOBACCO

Maintaining the correct relative humidity during tobacco and cigarette production is crucial for retaining the quality of the product. Shrinkage, flaking, brittleness, splitting and weight loss all result if the environment becomes too dry. If the correct level of humidity is achieved, these problems can be prevented ensuring that the tobacco leaves and associated production equipment are always at their highest level of efficiency.

The optimum moisture content for tobacco is around the 15% by weight. Adding moisture during production is vital to keep the tobacco in first class condition as it progresses through manufacture.

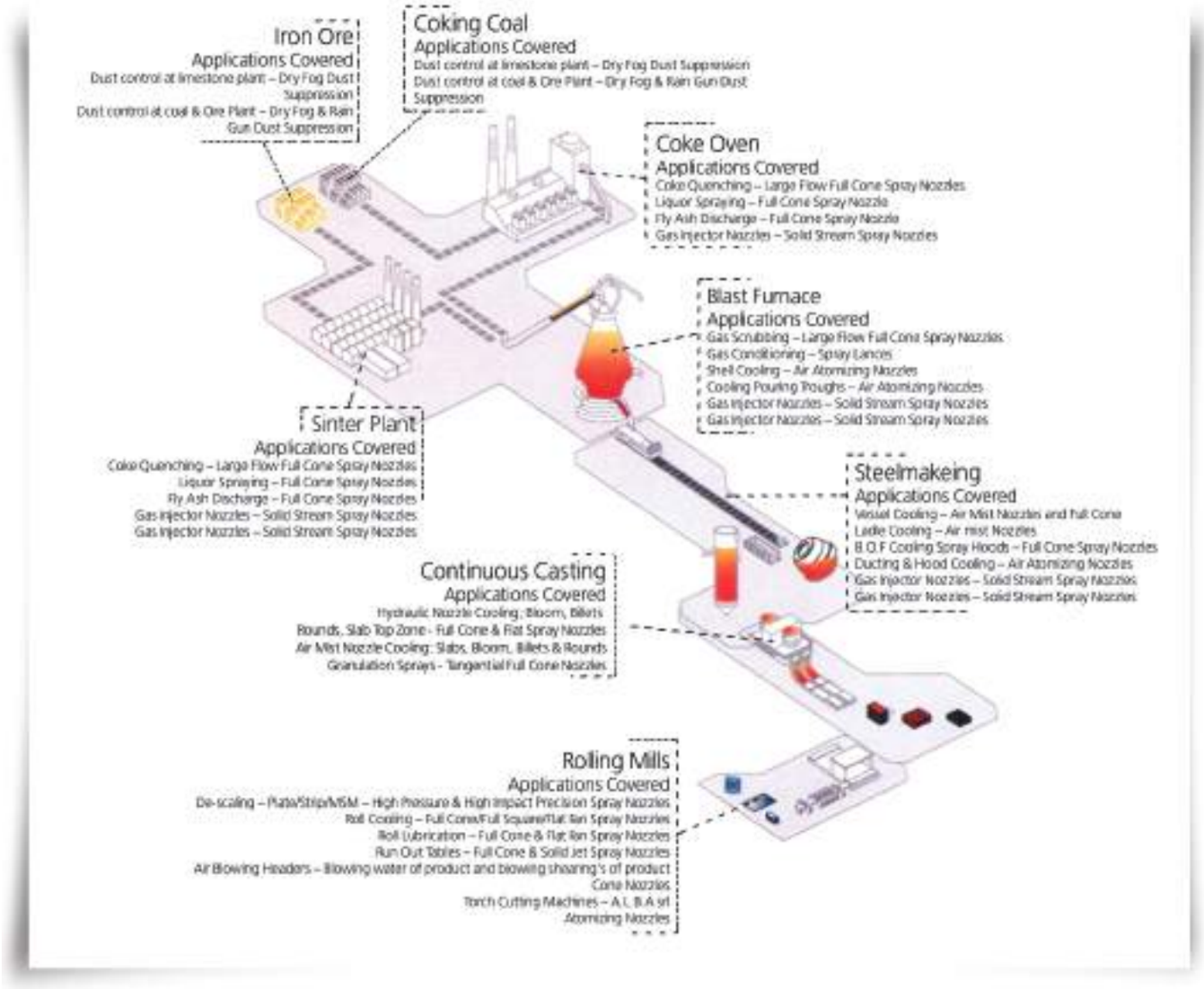
Storage areas within the factory are also subject to environmental concern as these facilities need to maintain a minimum of 60%rH to keep the tobacco in good condition. Other considerations should be given to the paper used during cigarette production as any variation from the ambient will cause paper misfeeds, electrostatic, tearing and lesser quality finish on the final product.



STEEL INDUSTRY NOZZLES

With over 30 years experience, we offer a complete range of spray nozzles and spraying systems for use in steel mills, with processes ranging from cooling of slabs, blooms and billets to the cooling, cleaning and rinsing of steel and strip. We also have nozzles for roll cooling, nozzles for rinsing and cooling in pickling lines, nozzles for quenching and cooling in coke plants and nozzles for liquor flushing. In addition we have nozzles and systems for dust and pollution control.

Below we show a flow line of the steel making process and areas that benefit from quality spray nozzle products.



STAINLESS STEEL AIRMIST COOLING NOZZLES

DESCRIPTION

This nozzle design is available in both block and round version, both designs produce a spray pattern with highly uniform droplets. This makes the cooling process more controllable, with reduced tendency for water puddling and localised uneven cooling or thermally induced roller deflection. The flat spray pattern is thick, even with angles from 60 degree to 120 degree offering good coverage with few nozzles.

MATERIALS AVAILABLE

Stainless Steel

SPRAY ANGLES AVAILABLE

60 – 120 degree

APPLICATION

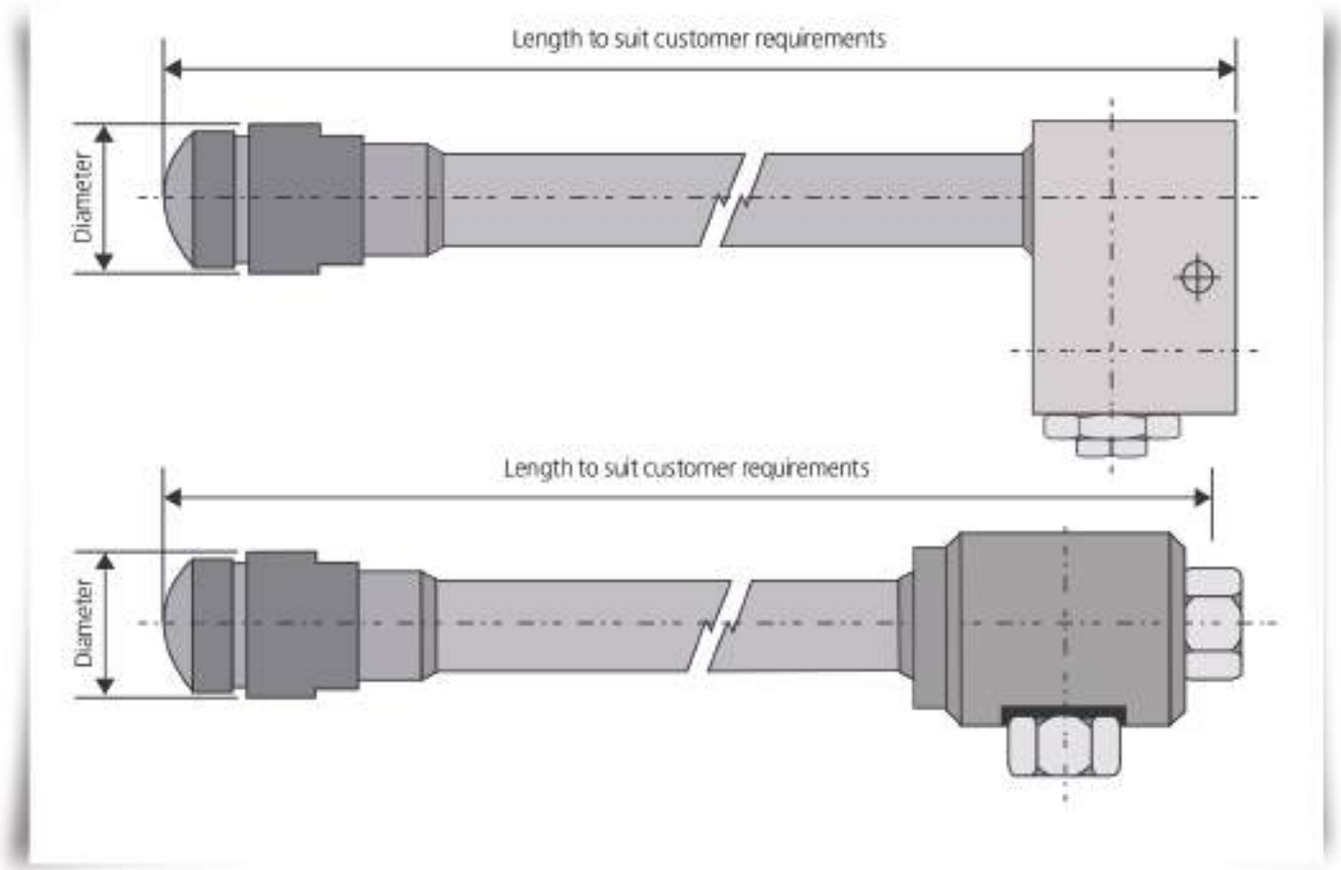
Continuous Casting
Secondary Cooling

FEATURES

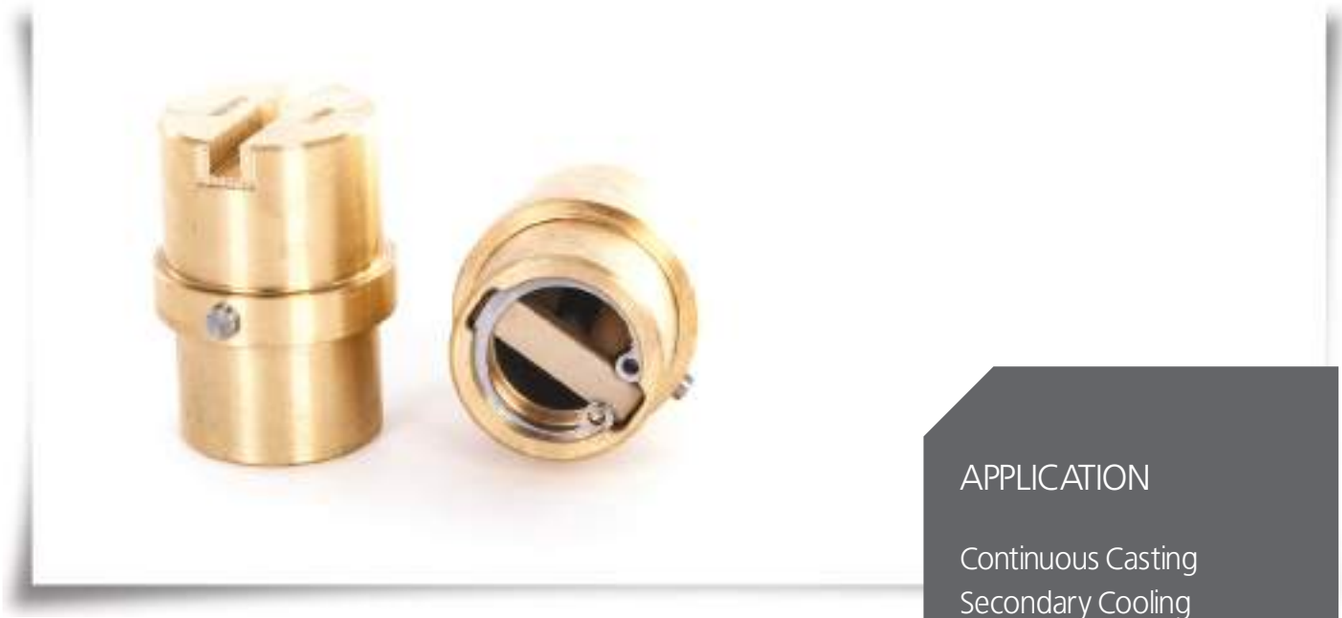
- Highly uniformed distribution
- Highly uniform droplet size
- Even cooling characteristics
- Wide passages prevent blockage
- Large turn down ratio
- Fluid orifice can be removed and cleaned/replaced without removing nozzle assembly

AIR MIST NOZZLE WITH UNIFORM COVERAGE AND DROPLETS

Connection Size/Model			Tip Size/Spray Angle											Nozzle Length
Block Version		Round Version	Nozzle	Flow Rate		Spray Angle								Length (Straight)
Liquid	Air	Liquid/ Air	Ref No:	USGPM	LPM	60	70	80	90	95	100	110	120	90-1000mm
3/8"	½"	3/8"	2	2	6.7	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
3/8"	½"	3/8"	2.5	2.5	9.5	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
3/8"	½"	3/8"	3	3	11.4	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
3/8"	½"	3/8"	4	4	15	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
3/8"	½"	3/8"	5	5	19	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
3/8"	½"	3/8"	6.5	6.5	24.6	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
3/8"	½"	3/8"	8	8	30.3	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
3/8"	½"	3/8"	9	9	34	✓	✓	✓	✓	✓	✓	✓	✓	90-1000mm
½"	¾"	½"	10	10	38		✓	✓	✓	✓	✓	✓	✓	150-1000mm
½"	¾"	½"	12	12	45.5		✓	✓	✓	✓	✓	✓	✓	150-1000mm
½"	¾"	½"	15	15	56		✓	✓	✓	✓	✓	✓	✓	150-1000mm
½"	¾"	½"	17	17	64.4		✓	✓	✓	✓	✓	✓	✓	150-1000mm



RE SERIES NOZZLE



APPLICATION

Continuous Casting
Secondary Cooling

DESCRIPTION

The RE Series nozzle produces a rectangular spray foot print with uniform spray distribution. The nozzle orifice profile ensures a precise and even spray with the additional benefit of having removable internals, thus allowing ease for maintenance.

MATERIALS AVAILABLE
Brass

SPRAY ANGLES AVAILABLE
60 – 120 degree

ORDERING EXAMPLE
RE11 18-80/24

Size of nozzle body:	RE11
Water flow at 2.8 bar (litre/min):	18 LPM
Spray Angle – Major axis:	80°
Spray Angle – Minor axis:	24°

FEATURES

Removable circlip to allow for easy cleaning and maintenance
Even Distribution
Brass construction with stainless steel circlip and locating pin
Working pressure between 2 – 20 bar
Brass retaining nut

SPRAY NOZZLE WITH UNIFORM COVERAGE AND DROPLETS

NOZZLE SIZE CHART			
RE1 4-80-24	RE1 6-80-24	RE11 10-80-36	RE11 18-80-20
RE1 4-80-26	RE1 6-80-26	RE11 12-80-24	RE11 18-80-24
RE1 4-80-28	RE1 6-80-30	RE11 12-80-28	RE11 18-80-26
RE1 4-80-32	RE1 6-80-32	RE11 12-80-30	RE11 18-80-30
RE1 4-80-36	RE1 8-80-24	RE11 12-80-36	
RE1 5-80-24	RE1 8-80-28	RE11 15-80-30	
RE1 5-80-28	RE1 8-80-30	RE11 15-80-32	
RE1 5-80-32	RE11 10-80-24	RE11 16-80-26	
RE1 5-80-36	RE11 10-80-28	RE11 16-80-28	

LF SERIES NOZZLE

APPLICATION

Continuous Casting
Secondary Cooling

DESCRIPTION

Commonly used for billet casting or edge spraying of slabs/blooms. This full cone nozzle produces an even distribution using a secure vane design. The hexagon body allows for easy installation and removal.

MATERIALS AVAILABLE
Brass
Stainless Steel

SPRAY ANGLES AVAILABLE
35 – 120 degrees

ORDERING EXAMPLE: BRASS LF4065 FEMALE

FEATURES

One piece body with internal core
Full cone spray pattern
Even distribution
Male or female connections
3/8" BSP Threaded

FULL CONE SPRAY PATTERN NOZZLE FOR STEEL APPLICATIONS

Nozzle Ref	Orifice Width (mm)	Flow in LPM @ Bar					
		1.0	2.8	3.0	4.0	5.0	7.0
LF15	1.0	0.9	1.5	1.6	1.8	2.0	2.4
LF20	1.6	1.2	2.0	2.1	2.4	2.7	3.2
LF25	1.8	1.5	2.5	2.6	3.0	3.3	4.0
LF30	1.9	1.8	3.0	3.1	3.6	4.0	4.7
LF35	2.0	2.1	3.5	3.6	4.2	4.7	5.5
LF38	2.2	2.3	3.8	3.9	4.5	5.1	6.0
LF40	2.3	2.4	4.0	4.1	4.8	5.3	6.3
LF45	2.4	2.7	4.5	4.7	5.4	6.0	7.1
LF50	2.6	3.0	5.0	5.2	6.0	6.7	7.9
LF55	2.7	3.3	5.5	5.7	6.6	7.3	8.7
LF60	2.9	3.6	6.0	6.2	7.2	8.0	9.5
LF70	3.0	4.2	7.0	7.2	8.4	9.4	11.1
LF75	3.5	4.5	7.5	7.8	9.0	10.0	11.9
LF80	3.6	4.8	8.0	8.3	9.6	10.7	12.6
LF85	3.8	5.1	8.5	8.8	10.2	11.4	13.4
LF90	3.9	5.4	9.0	9.3	10.8	12.0	14.2
LF120	4.0	7.2	12.0	12.4	14.3	16.0	19.0
LF137	4.3	8.2	13.7	14.2	16.4	18.3	21.7

C TYPE SERIES NOZZLE

APPLICATION

Continuous Casting
Secondary Cooling

DESCRIPTION

The C Type Series nozzle produces a evenly distributed deflected flat fan spray pattern and is designed only for the process of continuous casting within the Steel Industry.

MATERIALS AVAILABLE
Brass
Stainless Steel

SPRAY ANGLES AVAILABLE
80° or 100°
Examples in table only show 80°

ORDERING EXAMPLE:
Stainless Steel C1000100 complete with retaining cap.

FEATURES

Three piece construction
With internal nozzle to produce flat fan pattern
Designed to fit inside 1" Retaining Nut

DEFLECTED FLAT FAN STEEL INDUSTRY NOZZLE

Nozzle Ref	Orifice Width (mm)	Flow in LPM @ Bar						Spray Angle
		1	2	2.8	3	5	7	
C050080	0.6	3.0	4.2	5.0	5.2	6.7	7.9	80°
C100080	0.8	7.7	9.2	10.0	10.2	11.6	12.6	80°
C150080	0.9	13.2	14.4	15.0	15.1	16.1	16.8	80°
C200080	1.1	18.8	19.6	20.0	20.0	20.7	21.2	80°
C300080	1.6	29.1	29.7	30.0	30.1	30.5	30.9	80°

ROLL COOLING NOZZLE

DESCRIPTION

The roll cooling nozzle is a self-aligning nozzle assembly, this ensures the spray performance remains consistent after replacement or maintenance. In just a matter of seconds, nozzle tips can be changed. Simply loosen the retaining cap, replace the nozzle tip and replace the cap to secure.

The spray pattern is offset by 15 degrees from the dovetail axis to ensure trouble free performance. Nozzle bodies are welded to the spray headers and as the complete unit is Stainless Steel, this nozzle type is ideal for high temperature applications.

MATERIALS AVAILABLE

Brass

Stainless Steel

SPRAY ANGLES AVAILABLE

15° to 110°

ORDERING EXAMPLE

Roll Cooling Nozzle 10-65 Stainless Steel

APPLICATION

Roll Cooling

FEATURES

Produces a uniform, flat spray without hard edges

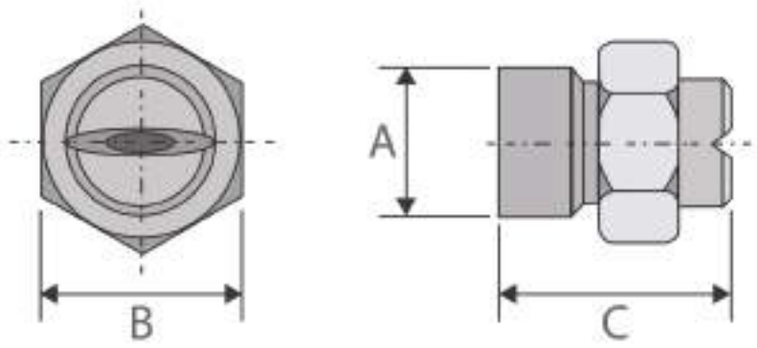
Tapered edges of pattern allow overlapping for even distribution

Orifice is offset 15 degree to axis of dovetail

Dovetail connection for consistent alignment

SELF ALIGNING ROLL COOLING NOZZLE

Nozzle Number	Equiv Orifice Dia. (mm)	Flow rate in litres/min at Bar. G								
		0.7	1.0	2.0	3.0	5	7	10	15	20
10	2.0	1.92	2.28	3.22	3.93	5.1	6.0	7.2	8.84	10.2
12.5	2.2	2.30	2.90	4.00	4.97	6.5	7.55	9.15	11.15	12.8
15	2.4	2.84	3.44	4.92	6.16	7.9	9.2	10.7	13.20	15.2
20	2.8	3.80	4.47	6.26	8.05	10.2	12.4	14.7	17.70	20.4
25	3.1	4.60	5.80	8.00	9.94	13.0	15.1	18.3	22.30	25.5
30	3.6	6.00	6.70	9.80	11.84	15.3	17.9	21.4	26.50	30.4
40	4.0	7.80	9.40	13.00	15.62	20.8	24.3	28.6	35.40	41.1
50	4.4	9.60	11.60	16.10	19.89	25.4	30.2	36.2	44.10	51.0
60	4.8	11.40	13.90	19.20	23.67	30.5	36.2	43.4	52.90	61.2
70	5.2	13.30	16.10	22.80	27.46	36.1	42.6	50.5	61.80	71.5
80	5.6	15.10	18.80	25.50	31.72	41.2	48.1	57.2	70.60	81.3
100	6.4	19.20	22.80	31.70	39.30	50.9	60.5	72.4	88.40	102
120	7.1	22.90	27.30	38.90	47.40	61.1	72.4	86.3	106	122
150	7.5	28.80	34.40	48.30	59.19	76.8	90.2	108	132	153
200	8.8	38.00	48.70	64.40	79.07	102	120	144	175	204



DIMENSIONS

A (mm)	B (mm)	C (mm)
27	31.8	37.6

SPRAY HEADERS

DESCRIPTION

Our custom-designed spray headers improve production quality, reduce water consumption, eliminate frequent clogging of spray nozzles and minimize production downtime for nozzle maintenance.

Common uses for our spray headers include cooling before the coiler to eliminate cracking and extend roll life, cleaning strip steel before galvanizing, cooling rolls on a rolling mill high temperature/ high pressure rinsing in the sheet steel picking operation.

Spray headers feature an internal rotating brush assembly that sweeps debris away from the nozzle without shutting the system down. During the cleaning cycle, the brushes scrub the interior wall of the header as well as the nozzle orifices. In a matter of seconds, accumulated debris is removed and discharged through a flush-out valve restoring full liquid flow to the system without contaminating the spray surface.

There are three styles from which to choose:

- Brushless.
- Manual brush type with handwheel operation.
- Automated brush type with motor and timer for completely automated operation.

SPECIFICATIONS

- Capacities: 0.04 to 53.74 gpm (0.15 to 203.4 l/min).
- 1-1/2" to 6" pipe sizes with customer specified lengths.

MATERIALS AVAILABLE

Stainless Steel

SPRAY ANGLES AVAILABLE

0°, 30°, 60° and 75°

ORDER EXAMPLE

Contact us with the following information

Pipe size
Material
Number of showers
Number of nozzles per shower
Spray angle
Operating pressure
Total Flow rate per shower
Type of liquid being sprayed
Machine manufacturer and model
Control unit or control unit plus optional timer

SPECIFICATION SHEET

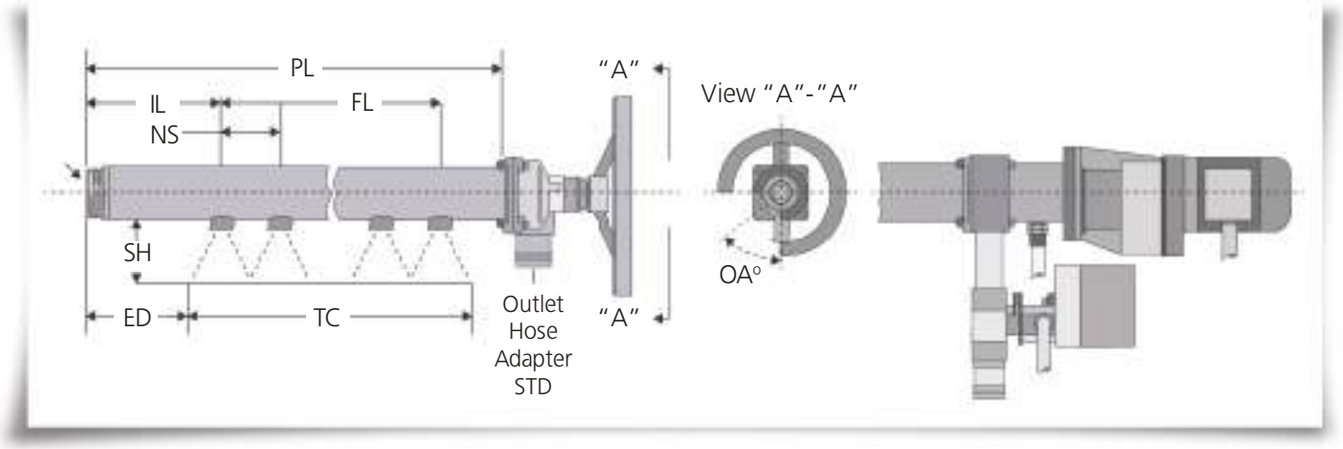
Company _____ Date _____

Address _____

Name _____ Phone _____

Type of business _____ Fax No. _____

Location in plant _____ Date req'd _____



PL*: _____ IL: _____ FL: _____ ED: _____

TC*: _____ OA: _____ NS: _____ SH*: _____

(See view "A"-"A")

*Note: Dimension MUST be provided.

Legend

PL: Pipe length

IL: End of inlet to centreline of first nozzle

FL: Centreline of first nozzle to centreline of last nozzle

NS: Nozzle spacing

SH: Shower height

TC: Theoretical coverage

ED: End of inlet to the edge of sprayed surface

OA: Angle between plane of sprays and outlet centreline

Engineering recommendations

PL Must be greater than IL+FL+2.0" (5.08 cm)

IL Must be greater than 4.0" (10.16cm)

SH Minimum is 2.5" (6.35cm)

Please provide as much information as possible

Shower head type required: Brushless [ ] Brush-type [ ] Auto brush [ ] Oscillating [ ]

Pipe size: _____ Material: 304LSS [ ] 316LSS[ ] Stroke: _____

No. of headers required _____ Quantity of nozzles per header: _____ Orifice size: _____

Angle: _____ Operating pressure: _____ (40 psig min. recommended) _____ Total flow rate per header: _____

Type of liquid being sprayed: _____ Manufacturer and model of machine: _____

Distance from pivot to first nozzle (oscillating): _____

Comments or special requirements: _____

INDEX

INDEX