BEX SPRAY NOZZLES - KATALOG NO. 60

BEX

Welcome

With over 50 years of design and manufacturing experience, BEX is a leader in spray nozzle and tank mixing eductor technology. Our sales specialists, engineers, and technical support staff are capable and willing to help solve the toughest of application problems in industries ranging from cleaning, rinsing, and washing to food and beverage, from chemical processes to dust control, and many more.

Innovative Design and Flexibility of Use

BEX's commitment to innovation has made us an industry leader. At BEX we are constantly expanding and improving our product line. This catalog shows the most popular of spray nozzles and tank mixing eductor products. However, BEX also makes a wide range of specialty products to each customer's own demanding specifications.

BEX is known not just for our exceptional quality, but also for our industry leading delivery and customer service.

Featured Products

visit : www.bex-europe.eu
for further information and literature to our products.

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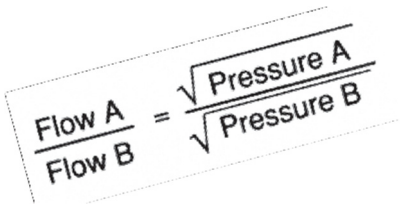
This catalog lists the most popular models of BEX spray nozzles and accessories. Many others are available, often in special materials.
PLEASE NOTE THAT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



Design and Engineering Information

Nozzle selection
Technical information
Conversion factors
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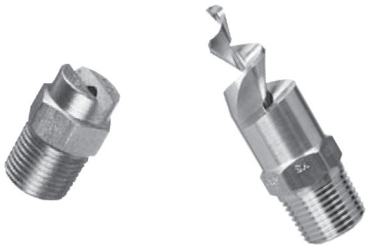
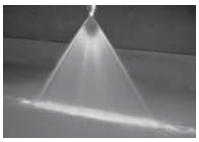
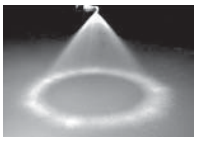
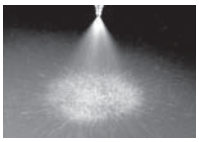
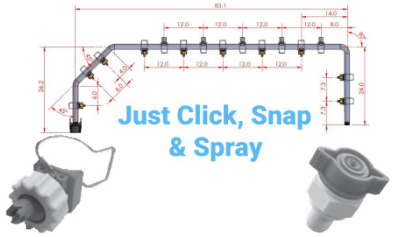


Threaded Nozzles


Flat Spray

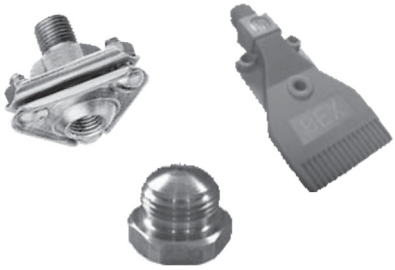

Hollow Cone


Full Cone



Quick Disconnet

BEX ZipTip and K-Ball Clip-On Nozzles
K-Riser Assemblies (page 102)



Other Types of Nozzles

Industry specific nozzles
Rotating nozzles
Accessories

Air Atomizing

Various spray set-ups
Connection types
Extensions

For a detailed listing of parts please see the index on page 103.

This section describes some of the questions to be considered when selecting spray nozzles. In addition, answers for uncomplicated situations are provided where possible. In some applications, because of the large number of variables involved, accurate answers are not always possible except through actual testing or simulation. Our technical staff, however, may be able to lend assistance in their areas of expertise. Please feel free to give us a call.

WHAT SPRAY NOZZLE CONSTRUCTION DO I REQUIRE?

The basic elements of spray nozzle construction are assembly configuration, spray pattern, flow rate, connection size, physical dimensions, and material of construction.

ASSEMBLY CONFIGURATION

Refers to the mechanical style of the nozzle, It could be a pipe thread, a clip-on nozzle, or a nozzles that has no thread at all, such as nozzles with flanges. This aspect of nozzle selection is often determined by the industry or application.

PIPE CONNECTION

Is described by type, size, male, female, or flange. Nozzles described in this catalog have NPT threaded pipe connections (BSPT are also available for most models).

SIZE

Standard sizes from 1/8 NPT to 4” NPT, or as indicated.

MALE AND FEMALE

Connections are available where indicated.
The images on page 5 will help you determine the size of each specified pipe thread. Please note that the name of the thread, for example 1/4, does not refer to the threads actual dimensions.

PHYSICAL DIMENSIONS

are listed throughout this catalog for each specific style of nozzle.

MATERIAL OF CONSTRUCTION

Standard materials are available as noted in this catalog. In addition, many models are available in special materials.
Our technical staff will be pleased to discuss your special material requirements with you. BEX nozzles have been produced in the following materials:

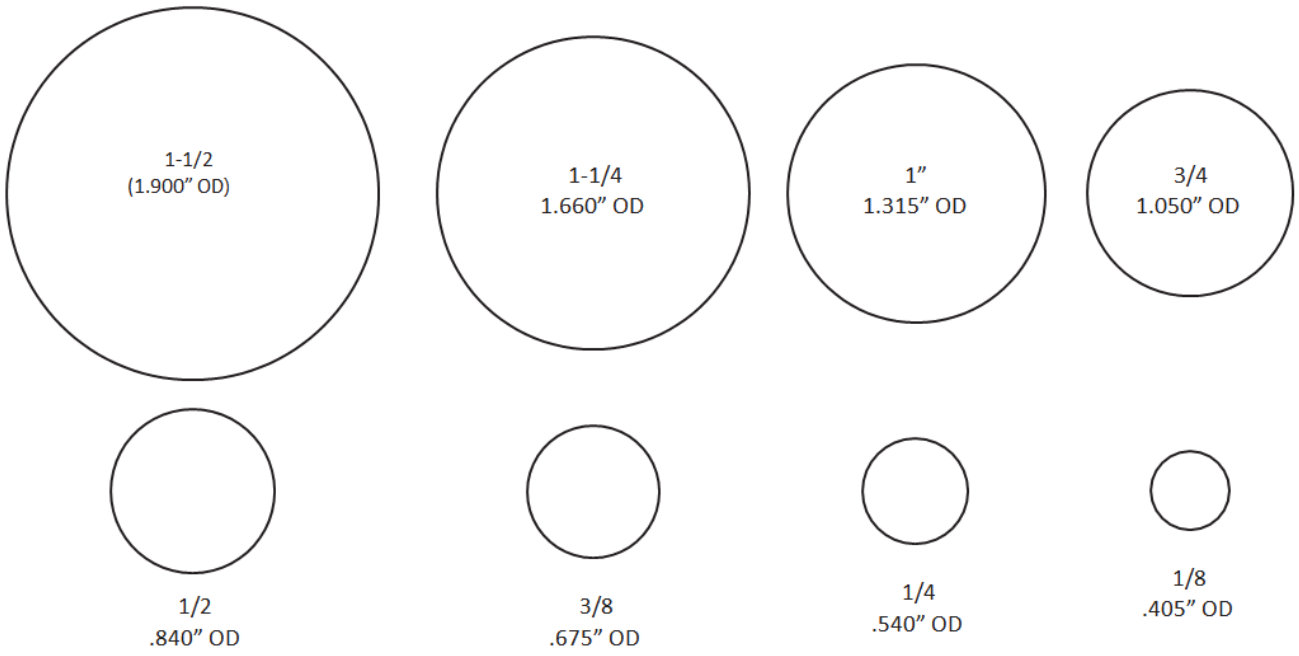
BEX nozzles have been produced in the following materials :

brass	B	
Steel / Cast Iron	I	
303 stainless steel	3	
316 stainless steel	6	
Hastelloy®	E	
Titanium Monel®	N	
Carpenter 20®	O	
PVC	V	
CPVC	C	
Teflon	T	
Polypropylene	L	(glass reinforced)
	LN	(glass reinforced, molded, natural)
	LL	(glass reinforced, molded, green)
PVDF / Kynar	K	
	KN	(molded, natural)
	KK	(molded, red)

WHAT TYPE OF CONNECTION DO I REQUIRE?

BEX spray nozzles are available in many different connection styles. The most common connection types depend on the industry where the nozzles are being used. Generally, however, the most common connection is the standard tapered, or NPT, pipe thread. The outside diameters of NPT threads are shown below. Most BEX nozzles are also available with BSPT threads. The chart below can also be used for those.

Other common connections include the quick disconnect style, or BEX Zip-Tip®, which is a bayonette style of connection whereby a tip is inserted into a threaded body, and the BEX clip-on K-Ball® series, which is a style of nozzle which connects to a pipe by means of a heavy duty stainless steel clip and eliminates the need for threaded connectors.



WHAT SPRAY CHARACTERISTICS DO I REQUIRE?

A spray may be characterized by describing it's spray pattern, flow rate, atomization and spray angle.
This catalog describes these characteristics for the listed nozzles, for spraying water under controlled conditions.

SPRAY PATTERN: Common spray patterns (flat, full cone, hollow cone) are all described in this catalog.
The spray pattern of a nozzle will generally travel further under higher fluid pressures.
However, fine mist-like sprays are very susceptible to air movement, and may be carried away by such movement of air.

FLOW RATE: The flow rates listed in this catalog are for water in U.S. gallons per minute, unless otherwise indicated.
"--" in the capacity table means "not recommended at this pressure."

ATOMIZATION: Atomization is primarily dependent on pressure and viscosity, and varies from point to point within a spray pattern. A range of particle sizes is produced, with some average value which varies according to conditions. For this reason, spray droplet sizes are not listed in this catalog. If you require spray droplet information for critical applications, BEX will be pleased to provide you with measurements, using our in-house laser doppler anemometry equipment.

SPRAY ANGLES: The spray angles listed in this catalog are for water spray under controlled conditions.
Under low pressure, the sides of the spray may curve in due to the acceleration of gravity. Spray angles may also be reduced due to the tendency of spray patterns to interfere with themselves or with spray patterns from adjacent nozzles. Table 1 on page 7 lists theoretical spray coverage for a variety of spray angles at various distances from the nozzle.

WHAT FACTORS WILL AFFECT MY SPRAY CHARACTERISTICS?

When the conditions controlling spray nozzle performance change, the spray characteristics may change. This section lists conditions which may vary, and how those conditions may affect the spray characteristics.
PRESSURE: The flow rate of a liquid is proportional to the square root of the pressure difference between the pressure liquid and external (usually atmospheric) conditions, thus higher pressure generally results in finer spray atomization, greater spray impact, and greater spraying distance.

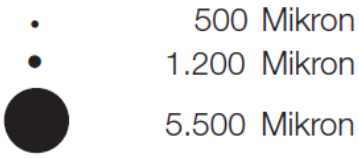
$$\frac{Flow\ A}{Flow\ B} = \frac{\sqrt{Pressure\ A}}{\sqrt{Pressure\ B}}$$

VISCOSITY: Spraying liquids with higher viscosity than water generally results in reduced atomization, and impact. Spray angle will usually decrease.

SPECIFIC GRAVITY: Flow rates shown in this catalog are for water. (The specific gravity of water is 1.0). For liquids with a different specific gravity, flow is given by the formula:

$$Flow = \frac{Water\ Flow}{\sqrt{spec.\ Gravity}}$$

SURFACE TENSION: An increase in surface tension generally results in an increase in spray droplet size, and a reduction in spray angle.



SPRAY DROP SIZE (Atomization)

IMPACT

Spray impingement, or "spray impact" as it is otherwise known, can be calculated using several different methods. The most widely used value with regards to nozzle performance is "impact per square cm." However, it is dependent on spray pattern and spray angle. In order to calculate the impact per square inch for a given nozzle, you must first determine the theoretical total impact using the formula below:

$I_{theo.\ total\ impact} = 0{,}024 \times V \times \sqrt{P}$

$I_{theo.\ total\ impact}$ = theoretical total impact
V = flow rate (l/min)
P = pressure (bar)

Next, using the chart to the right, find the relevant Percent Impact per cm² in of the theoretical total impact and multiply this by the theoretical total.
The result of this equation is the spray impact in kg/cm². The greatest impact in kg/cm² is attained by solid stream nozzles and can be calculated using the formula:

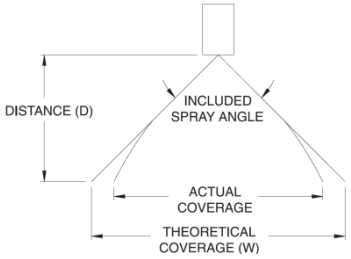
$I_{nozzle} = 1{,}9 \times P\ [kg/cm^2]$

Spray Pattern	Spray Angle	Theoretical total impact in % per cm²
Flat Spray	15°	30%
	25°	20%
	35°	15%
	40°	12%
	50°	10%
	65°	7%
	80°	5%
Full Cone	15	10%
	30°	2%
	50°	1%
	65°	0.50%
	80°	0.20%
	100°	0.10%
Hollow Cone	70°	1.50%

At a distance of 30cm from nozzle.

SPRAY COVERAGE :

Spray-angle	W/D Ratio	Theoretical coverage (W) at various distances (D) from the nozzle Distance (D) in cm 5	10	15	20	30	40	60	80	100	150
5°	0,087	0,4	0,9	1,3	1,7	2,6	3,5	5,2	7,0	8,7	13,1
10°	0,175	0,9	1,7	2,6	3,5	5,2	7,0	10,5	14,0	17,5	26
15°	0,263	1,3	2,6	3,9	5,3	7,9	10,5	15,8	21	26	39
20°	0,353	1,8	3,5	5,3	7,1	10,6	14,1	21	28	35	53
25°	0,443	2,2	4,4	6,6	8,9	13,3	17,7	27	35	44	66
30°	0,536	2,7	5,4	8,0	10,7	16,1	21	32	43	54	80
35°	0,630	3,2	6,3	9,5	12,6	18,9	25	38	50	63	95
40°	0,728	3,6	7,3	10,9	14,4	22	29	44	58	73	109
45°	0,828	4,1	8,3	12,4	16,6	25	33	50	66	83	124
50°	0,932	4,7	9,3	14,0	18,6	28	37	56	75	93	140
55°	1,04	5,2	10,4	15,6	21	31	42	62	83	104	156
60°	1,15	5,8	11,5	17,3	23	35	46	69	92	115	173
65°	1,27	6,4	12,7	19,1	25	38	51	76	102	127	191
70°	1,40	7,0	14	21	28	42	56	84	112	140	210
75°	1,53	7,7	15,3	23	31	46	61	92	123	153	230
80°	1,68	8,4	16,8	25	34	50	67	101	134	168	252
85°	1,83	9,2	18,3	27	37	55	73	110	147	183	275
90°	2,00	10,0	20	30	40	60	80	120	160	200	300
95°	2,18	10,9	22	33	44	65	87	131	175	218	327
100°	2,38	11,9	24	36	48	71	95	143	191	238	357
110°	2,86	14,3	29	43	57	86	114	171	228	286	428
120°	3,46	17,3	35	52	69	104	139	208	277	346	519
130°	4,29	21	43	64	86	129	171	257	343	429	643
140°	5,49	27	55	82	110	165	220	329	439	549	824
150°	7,46	37	75	112	149	224	298	447	597	746	1119



Spray coverage's shown in Table 1 are based on straight sided spray patterns. At low pressures the sides may curve in, as shown at the right, because of the acceleration due to gravity.

To find the width of a spray (W) at any distance (D), multiply the W/D ratio by the distance.

Preventing Nozzle Problems :

Monitor Nozzle Performance

Flow rate
Flow rate can be measured by connecting a flowmeter in series with the nozzle, or collecting the output from the nozzle in a container of known volume over a measured period of time. If the flow rate is higher than the nozzle specifications then it is possible that the orifice has partially corroded or eroded away. If the flow rate is lower than specified then the nozzle could be clogged or caked. Such problems are often accompanied by a change in spray pattern or distribution.

Pressure
A decrease in your system pressure could indicate excessive nozzle wear, due to corrosion or erosion. An increase in pressure could indicate clogging of your spray nozzles.

Distribution
All nozzles have a specified spray pattern, distribution, and spray angle. If any one of these is not as you expect it could indicate that the nozzles are worn or clogged.

Finished Product Quality
Sometimes nozzles are difficult to see while in use because they are in enclosed systems which are difficult to monitor. If the products coming out of these systems, such as a washer, are not as expected, it could indicate that the nozzles are not performing as expected. A closer inspection is recommended.

Methods to Maintain Peak Performance and Reduce Potential Problems.

Alternative Materials
Some materials are better suited than others for certain applications. The incorrect material can wear very quickly due to both corrosion and erosion, given the proper chemicals, temperature, or pressure. If this is the case you should check with your chemical supplier or system designer to determine the best possible nozzle material.

Clean Nozzles Regularly
Regular nozzle inspection will help identify nozzles which need cleaning. Be careful to clean nozzles only with soft tools or the orifice or other important edges and surfaces could be damaged. Remember, however, that a new nozzle will perform better that a cleaned nozzle and could save thousands of dollars.

Change Nozzle Type or Size
If the same problems keep occurring then a change in the style of nozzle might be the best solution.

Decrease Operating Pressures or Temperatures
Higher operating pressures can result in higher wear. With plastic nozzles temperature can also have a significant effect on nozzle life. While your process may require such operating conditions, it may also be possible that either pressure or temperature could be reduced.

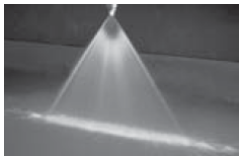
Reduce Amount of Abrasives in the System
Nozzles will often wear out prematurely as a result of excessive abrasion. Without proper filtration a system may have unexpected abrasives in the fluids which cause excessive wear on not just the spray nozzles but also piping and pumps.

There are thousands of different spray nozzles to choose from. If the incorrect nozzle is chosen for your application then problems could arise. Furthermore, nozzles can develop problems under normal use. Below is a list of some of the more common problems which can arise.

Corrosion
The nozzle degrades due to chemical reactions between the nozzle material and the chemicals in the process.

Temperature
If nozzles are subjected to temperatures greater than recommended then physical damage can occur.

Erosion/Wear
As fluid passes through the orifice and internal passages of the nozzle the critical surfaces can become worn, thereby creating a poor spray.



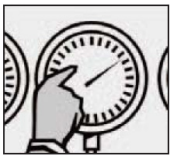
Clogging
Many chemical compounds and particles larger than the maximum free passage of the nozzle will clog the nozzle.

Caking
Many chemicals will slowly build up on the nozzle surfaces and restrict the flow or otherwise prevent correct operation and performance.

Mechanical Damage
Cross threading, over tightening, and stripping the hex are just some examples of ways a spray nozzle can be damaged. Spray nozzles in this condition will usually need replacing.

Incorrect Assembly
Care must be taken when reassembling a nozzle. Internal components must be installed correctly or the result will be an bad spray.

Low Flow Rate
If the flow rate is lower than expected then make sure that there are no significant pressure losses between the pump and the nozzle. Measuring pressure right at the nozzle is the most accurate method.



Conversion Factors:

Volume	U.S. gallon = 3.785 litre = 0.1337 ft^3 = .003785 m^3 1 ft^3 = 0.02832 m^3 = 7.48 U.S. gallons
Pressure	1 psi = 6895 N/m2 = 6895 Pa = .069 bar = .069 Kg/cm^2 1 in Hg = 25.4 mm Hg = .4912 psi = 3386 N/m^2 1 in H2O = 25.4 mm H2O = .0361 psi = 249.1 N/m^2 1 atmosphere = 14.7 psi = 29.92 in Hg = 760 mm Hg = 101.325 kN/m² m^2 1 bar = 14.504 psi = 100 kN/m^2 = 1.02 Kg/cm^2 1 foot head (water) = .433 psi
Flow Rate	1 U.S. gallon per minute = 0.1337 ft^3/min = 3.785 l/min 1 ft^3/sec = .02832 m^3/sec = 28.32 l/sec
Length	1 in = 25.4 mm 1 ft = .3048 m 1 mile = 1.609 km

EASY PUMP HEAD TABLE

meter	bar
3,05	0,3
6,10	0,6
9,15	0,9
12,20	1,2
15,3	1,5
18,3	1,8
21,3	2,1
24,4	2,4
27,4	2,7
30,5	2,9
33,5	3,2
36,6	3,5
39,6	3,8
42,7	4,1
45,7	4,3

VOLUMETRIC UNITS - EQUIVALENTS

Volumetric Unit	Cubic Centimeter	Fluid Ounce	Pound Wasser	Liter	US Gallon	Cubic Foot	Cubik Meter
Cubic Centimeter	•	0.034	$2.2x10^3$	0.001	$2.64x10^{-4}$	$3.53x10^{-5}$	$1.0x10^{-6}$
Fluid Ounc	29.4	•	0.065	0.030	$7.81x10^{-3}$	$1.04x10^{-3}$	$2.96x10^{-5}$
Pound Wasser	454	15.4	•	0.454	0.12	0.016	$4.54x10^{-4}$
Liter	1,000	33.8	2.2	•	0.264	0.035	0.001
US Gallon	3,785	128	8.34	3.785	•	0.134	$3.78x10^{-4}$
Cubic Foot	28,320	958	62.4	28.3	7.48	•	0.028
Cubic Meter	1.0x106	$3.38x10^4$	2202	1000	264	35.3	•

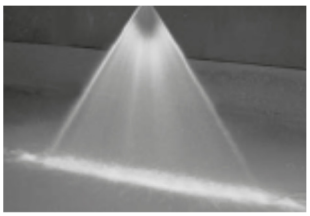
LINEAR UNITS – EQUIVALENTS

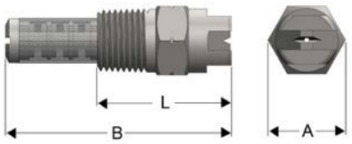
Linear Unit	Mμ	Milli-Inch	Millllimeter	Centimeter	Inch	Foot	Meter
Micron	•	0.039	0.001	$1.0x10^{-4}$	$3.94x10^{-4}$		
Mil	25.4	•	$2.54x10^{-2}$	$2.54x10^{-3}$	0.001	$8.33x10^{-5}$	
Millimeter	1000	39.4	•	0.10	0.0394	$3.28x10^{-3}$	0.001
Centimeter	10,000	394	10	•	0.394	0.033	0.01
Inch	$2.54x10^4$	1,000	25.4	2.54	•	0.083	0.0254
Foot	$3.05x10^5$	$1.2x10^4$	305	30.5	12	•	0.305
Meter	$1.0x10^6$	$3.94x10^4$	1,000	100	39.4	3.28	•

LIQUID PRESSURE – EQUIVALENTS

Liquid Pressure	Lb/In^2 (psi)	Ft Water	Kg/Cm2	Atmosphere	Bar	Inch Mercury	kPa (kilopascal)
Lb/In^2 (psi)	•	2.31	0.070	0.068	0.069	2.04	6.895
Ft Water	0.433	•	0.030	0.029	0.030	0.882	2.99
Kg/Cm^2	14.2	32.8	•	0.968	0.981	29.0	98
Atmosphere	14.7	33.9	1.03	•	1.01	29.9	101
Bar	14.5	33.5	1.02	0.987	•	29.5	100
Inch Mercury	0.491	1.13	0.035	0.033	0.034	•	3.4
kPa (kilopascal)	0.145	0.335	0.01	0.009	0.01	0.296	•

Threaded Nozzles – Flat Spray Series FV





Model	Length L (mm)	Dim. A (mm)	Internal Thread	Dim. B (mm)
1/8	20,6	11 HEX	¼-32 NEF	34,1
1/4	23,8	14 HEX	3/8-24 UNF	42,7

SPRAY CHARACTERISTICS:

FV-Series low flow rate spray nozzles produce a flat, fan-shaped spray pattern, with spray angles available from 0° to 110°. Spray density tapers off toward the outside of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

CONSTRUCTION:

The models listed are machined from bar stock and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Other materials may be available upon request. All parts are made with a female thread on the inlet to install BEX® strainers.

TYPICAL APPLICATIONS:

- Metal Washing
- Foam Control
- Wetting
- Vehicle Washing
- Fertilizer Spraying
- Food Processing

available with strainer assembly

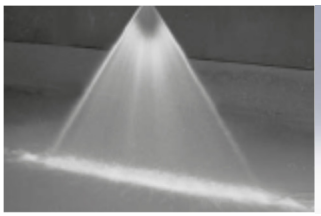
Available Spray Angles	Equiv. Orifice Diameter (mm)	BEX Size	Thread BSPT	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										
				0.4 bar	0.7 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	7 bar	15 bar	20 bar	35 bar
	0.64	01	1/8" - 1/4"	0.16	0.19	0.28	0.30	0.39	0.50	0.60	0.60	0.87	1.01	1.33
110° 95°	0.76	015	1/8" - 1/4"	0.20	0.31	0.43	0.50	0.59	0.70	0.80	0.90	1.34	1.53	2.02
80°	0.89	02	1/8" - 1/4"	0.29	0.38	0.55	0.60	0.79	0.90	1.10	1.20	1.78	2.05	2.71
65° 50°	1.09	03	1/8" - 1/4"	0.45	0.57	0.83	1.00	1.18	1.40	1.70	1.80	2.65	3.05	4.04
40° 25°	1.27	04	1/8 " - 1/4"	0.57	0.76	1.11	1.30	1.58	1.80	2.30	2.40	3.51	4.09	5.38
15°	1.42	05	1/8" - 1/4"	0.73	0.95	1.38	1.60	1.97	2.30	2.80	3.00	4.42	5.10	6.75
05° 0°-Full Stream	1.55	06	1/8" - 1/4"	0.86	1.14	1.66	1.90	2.37	2.70	3.40	3.60	5.29	6.10	8.09
	1.8	08	1/8" - 1/4"	1.14	1.53	2.25	2.60	3.16	3.70	4.50	4.80	7.07	8.15	10.8

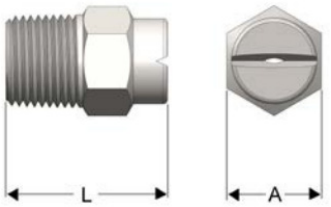
How to Order :

B1/8"	FV	65	01	-3
Thread	**Series/**	**Spray Angle**	**Size (capacity)**	**Material**
B – BSPT thread	**Nozzle-Type**	0° - 110°	01 - 08	see table on page 4
N – NPT thread				

BEX Flat Spray Nozzles Series „FV" Item : B1/8"FV6501-3

Threaded Nozzles – Flat Spray Series F





Thread	Length L (mm)	Dim. A (mm)
1/8F	20.6	11 HEX
1/4F	23.8	14 HEX
3/8F	30.2	17 HEX
1/2F	33.3	22 HEX
3/4F	42.8	27 HEX
1F	63.5	35 HEX
11/4F	92	44.5 HEX
11/2F	114.3	50.8 Dia.
2F	127	60.3 Dia.

SPRAY CHARACTERISTICS:

F-Series spray nozzles produce a flat, fan-shaped spray pattern, with spray angles available from 5° to 110° measured at 3 bar. Spray angles generally increase with pressure. Spray density tapers off toward the outside of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

CONSTRUCTION:

The models listed are machined from bar stock and are one piece construction. Standard materials are brass, mild steel, 303 stainless steel and 316 stainless steel. Some models are also stocked in Carpenter 20®, PVC, CPVC and polypropylene. All models are available in either NPT or BSPT threads. For molded plastic models, please see page 14.

TYPICAL APPLICATIONS:

- Metal Washing
- Foam Control
- Wetting
- Vehicle Washing
- Fertilizer Spraying

F-Series flat "V" spray nozzles are also offered in the FT-Series 3-piece setup.

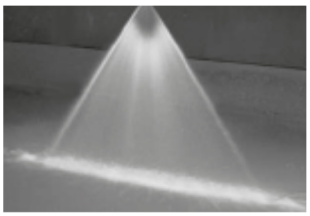
Available Spray Angles	Equiv. Orifice Diameter (mm)	BEX Size	Thread BSPT	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	10 bar	20 bar
	1.91	10	1/8" – 1/4"	1.25	1.61	1.91	2.27	2.80	3.24	3.95	4.57	5.08	5.57	6.44	7.22	10.0
	2.08	12	1/8" – 1/4"	1.50	1.93	2.29	2.72	3.36	3.87	4.74	5.46	6.12	6.71	7.75	8.56	12.2
	2.31	15	1/8" – 1/4"	1.87	2.42	2.86	3.42	4.18	4.84	5.92	6.85	7.66	8.29	9.79	10.7	15.2
110°	2.67	20	1/8" – 1/4"	2.50	3.20	3.81	4.54	5.57	6.44	7.90	8.97	9.99	11.1	13.1	14.5	20.4
95° 80°	3.28	30	1/8" - 1/4" – 3/8"	3.70	4.80	5.72	6.85	8.29	9.68	11.8	13.6	15.4	16.6	19.1	21.5	30.5
65°	3.78	40	1/4" – 3/8"	5.00	6.40	7.63	8.93	11.1	13.0	15.8	18.5	20.4	22.5	25.6	28.6	40.9
50°	4.24	50	1/4" – 3/8"	6.20	8.10	9.54	11.5	13.8	16.0	19.7	22.3	25.4	28.1	32.2	36.1	50.9
40° 25°	4.62	60	1/4" – 3/8" – 1/2"	7.50	9.70	11.4	13.8	16.6	19.3	23.7	27.2	30.4	33.5	38.7	43.1	61.0
15°	5.00	70	1/4" – 3/8" – 1/2"	8.70	11.3	13.4	16.0	19.3	22.7	27.6	31.8	35.8	39.1	45.2	50.6	71.4
05°	5.99	100	3/8" – 1/2"	12.5	16.1	19.1	22.7	28.0	32.4	39.5	44.5	49.9	55.3	65.2	70.7	100
0°-Full Stream	7.34	150	3/8" – 1/2"	18.7	24.2	28.6	34.2	41.8	48.4	59.2	69.3	74.9	82.9	97.9	108	152
	8.46	200	1/2" – 3/4"	25.0	32.0	38.1	45.4	55.7	64.4	78.9	89.7	99.9	110	130	145	204
	10.36	300	3/4"	37.0	48.0	57.2	68.5	82.9	96.8	118	138	154	165	191	215	305
	11.96	400	3/4"	50.0	64.0	76.3	89.3	110	130	157	183	203	225	256	286	409
	13.39	500	1"	62.0	81.0	95.0	114	140	161	197	228	255	301	360	510	624
	16.38	750	1" – 1 ¼"	94.0	121	143	171	209	242	296	342	382	452	540	764	936
	18.92	1000	1" – 1 ¼"	125	161	191	228	279	322	395	456	510	603	721	1019	1248

How to Order :

B1/8"	F	65	15	-3
Thread	**Series/ Nozzle-Type**	**Spray Angle**	**Size (capacity)**	**Material**
B – BSPT thread N – NPT thread		0° - 110°	10-1000	see table on page 4

BEX Flat Spray Nozzles Series „F" Item : B1/8"F6515-3

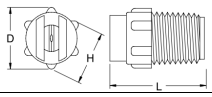
Threaded Nozzles – Flat Spray Series F Molded Plastic



Polypropylene

PVDF

Non-Pigmented



Model	Length D (mm)	Dim. H (mm)	Dim. L (mm)
1/8F	16	14	20
1/4F	16	14	25
3/8F	20	18	25

SPRAY CHARACTERISTICS:

BEX F series spray nozzles produce a flat spray pattern with spray angles of 0° to 110° @ 3 bar.

CONSTRUCTION:

Each BEX molded nozzle is designed with a series of “knobs” which makes them easier to finger tighten than a hex, especially when wet. The design feature of a small starter barrel greatly reduces the tendency to strip or cross-thread the nozzle during the installation.

TYPICAL APPLICATIONS:

- Printed Circuit Board Washing
- PCB-Etching/Developing
- Semiconductor Manufacturing
- Pressure Washers
- Car Washing
- Street Sweeping
- Carpet Cleaning
- Fruit and Vegetable Washing
- Plating Processes
- Dust Suppression
- Acid Spraying

MATERIALS AVAILABLE:

POLYPROPYLENE (LL) - (Green) excellent chemical and corrosion resistance. Useful up to 80°C.

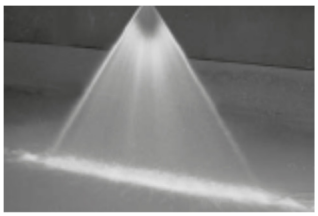
NATURAL POLYPROPYLENE (LN) - non-pigmented for optimum purity.

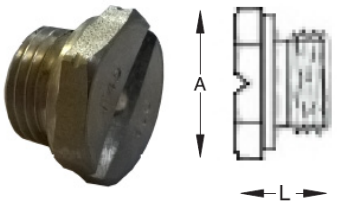
PVDF (KK) - (Red) excellent durability and abrasion resistance and is inert to most chemicals. Useful up to 150°C.

NATURAL PVDF (KN) - non-pigmented for optimum purity.

Thread BSPT	Spray Angle									Capacity	
	0°	15°	25°	40°	50°	65°	80°	95°	110°	0.7 bar	3 bar
1/8” - 1/4”	F0002	F1502	F2502	F4002	F5002	F6502	F8002	F9502	F11002	0.38	0.79
1/8” - 1/4”	F0025	F15025	F25025	F40025	F50025	F65025	F8025	F95025	F110025	0.48	0.99
1/8” - 1/4”	F0003	F1503	8F2503	F4003	F5003	F6503	F8003	F9503	F11003	0.57	1.18
1/8” - 1/4”	F0004	F1504	F2504	F4004	F5004	F6504	F8004	F9504	F11004	0.76	1.58
1/8” - 1/4”	F0005	F1505	F2505	F4005	F5005	F6505	F8005	F9505	F11005	0.95	1.97
1/8” - 1/4”	F0006	F1506	F2506	F4006	F5006	F6506	F8006	F9506	F11006	1.14	2.37
1/8” - 1/4”	F0007	F1507	F2507	F4007	F5007	F6507	F8007	F9507	F11007	1.33	2.76
1/8” - 1/4”	F0008	F1508	F2508	F4008	F5008	F6508	F8008	F9508	F11008	1.53	3.16
1/8” - 1/4” – 3/8”	F0010	F1510	F2510	F4010	5010	F6510	F8010	F9510	F11010	1.91	3.95
1/8” - 1/4” – 3/8”	F0015	F1515	F2515	F4015	F5015	F6515	F8015	F9515	F11015	2.86	5.92
1/8” - 1/4” – 3/8”	F0020	F1520	F2520	F4020	F5020	F6520	F8020	F9520	F11020	3.80	7.89
1/4” – 3/8	F0030	F1530	F2530	F4030	F5030	F6530	F8030	F9530	F11030	5.70	11.8
1/4” – 3/8	F0040	F1540	F2540	F4040	F5040	F6540	F8040	F9540	F11040	7.60	15.8
1/4” – 3/8	F0050	F1550	F2550	F4050	F5050	F6550	F8050	F9550	F11050	9.50	19.7
1/4” – 3/8	F0060	F1560	F2560	F4060	F5060	F6560	F8060	F9560	F11060	11.4	23.7
1/4” – 3/8	F0070	F1570	F2570	F4070	F5070	F6570	F8070	F9570	F11070	13.4	27.6

Threaded Nozzles – Flat Spray Series GF





A = 17 mm
L = 12 mm

SPRAY CHARACTERISTICS:

F-Series spray nozzles produce a flat, fan-shaped spray pattern, with spray angles available from 5° to 110° measured at 3 bar. Spray angles generally increase with pressure. Spray density tapers off toward the outside of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

CONSTRUCTION:

The models listed are machined from bar stock and are one piece construction. Standard materials are brass, mild steel, 303 stainless steel and 316 stainless steel. All models have ¼" threads.

TYPICAL APPLICATIONS:

- Metal Washing
- Foam Control
- Wetting
- Vehicle Washing
- Fertilizer Spraying
- Food Processing

Available Spray Angles	Equiv. Orifice Diameter (mm)	BEX Size	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)													
			0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	15 bar	20 bar	30 bar
	0.80	0.4	0.15	0.20	0.24	0.28	0.34	0.40	0.49	0.57	0.63	0.75	0.89	1.10	1.26	1.54
	1.00	0.6	0.25	0.32	0.38	0.45	0.55	0.63	0.77	0.89	1.00	1.18	1.41	1.73	1.99	2.44
	1.27	1.0	0.39	0.50	0.59	0.71	0.87	1.00	1.22	2.44	1.58	1.87	2.24	2.74	3.16	3.90
	1.41	1.3	0.49	0.63	0.75	0.88	1.08	1.25	1.53	1.77	1.98	2.34	2.80	3.40	4.00	4.90
120°	1.60	1.6	0.62	0.80	0.95	1.13	1.38	1.60	1.96	2.26	2.53	2.99	3.60	4.40	5.10	6.20
90°	1.74	1.9	0.74	0.95	1.12	1.34	1.64	1.90	2.33	2.69	3.00	3.60	4.20	5.20	6.00	7.30
	2.00	2.5	0.97	1.25	1.48	1.77	2.17	2.50	3.06	3.53	4.00	4.70	5.60	6.80	7.90	9.70
60°	2.25	3.2	1.22	1.58	1.67	2.23	2.73	3.15	3.90	4.50	5.00	5.90	7.00	8.60	10.0	12.3
45°	2.53	4.0	1.55	2.00	2.37	2.83	3.50	4.00	4.90	5.70	6.30	7.50	8.90	11.0	12.6	15.4
30°	2.76	4.8	1.84	2.38	2.82	3.40	4.20	4.80	5.80	6.70	7.50	8.90	10.6	13.0	15.0	18.4
	3.18	6.3	2.44	3.15	3.70	4.50	5.50	6.30	7.70	8.90	10.0	11.8	14.1	17.3	19.9	24.4
20°	3.58	8.0	3.10	4.00	4.70	5.70	6.98	8.06	9.80	11.3	12.6	15.0	17.9	21.9	25.3	31.0
	4.00	10.0	3.90	5.00	5.90	7.10	8.70	10.0	12.2	14.1	15.8	18.7	22.4	27.4	32.0	39.2
	4.47	13.0	4.90	6.30	7.45	8.80	10.8	12.5	15.3	17.7	19.8	23.4	28.0	34.0	40.0	49.0
	5.06	16.0	6.20	8.00	9.50	11.3	13.8	16.0	19.6	22.6	25.3	29.9	36.0	44.0	51.0	62.0
	5.66	20.0	7.80	10.0	11.8	14.1	17.3	20.0	24.5	28.3	32.0	37.0	45.0	55.0	63.0	77.0

How to Order :

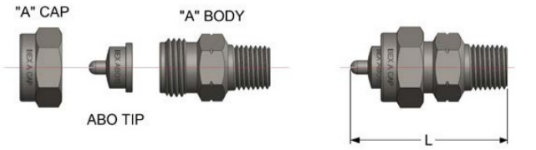
G1/4"	GF	45	3.2	-3
Thread	**Series/ Nozzle-Type**	**Spray Angle**	**Size (capacity)**	**Material**
		20° - 120°	0.4 – 20.0	see table on page 4

BEX Flat Spray Nozzles Series „GF" Item : B1/4"GF453.2-3

Threaded Nozzles – Air Blow Off Nozzles Series ABO

Three Piece Style - ABO

One Piece Style - ABP



Model	Thread	Length
1/8ABO	1/8”	45.0
1/4ABO	1/4”	46.5
3/8ABO	3/8”	48.3

SPRAY CHARACTERISTICS:

ABO Series air blow-off nozzles project a flat fan-shaped curtain of gas in a direction parallel to the axis of the nozzle body. Gases most commonly used are air and steam. ABO nozzles are designed with large maximum free passage sizes to reduce clogging and minimize the effects of minor tip damage.

SPECIAL FEATURES:

- Large maximum free passage
- Wider, more uniform coverage
- Easy assembly/disassembly and cleaning

CONSTRUCTION:

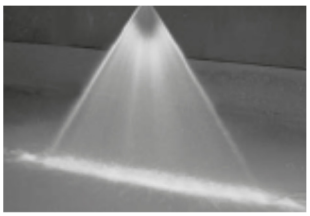
ABO assemblies comprise a body, a retaining cap and a nozzle tip. Standard materials are brass, 303 stainless steel and 316 stainless steel. Other materials are available on request.

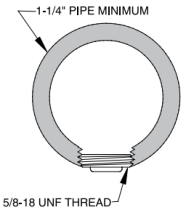
TYPICAL APPLICATIONS:

- Cooling of Components/Parts
- Debris Removal
- Cleaning and Drying of Parts
- Small Gas Curtains

MODEL NUMBER	Slot Width (mm)	Air Capacity (L/min)				Steam Capacity (kg/hr)				Distance from Nozzle (cm)	APPROX. WIDTH OF AIR COVERAGE (cm)						
		0.7 bar	1.5 bar	4 bar	6 bar	0 .7 bar	1.5 bar	4 bar	6 bar		0 .3 bar	0.7 bar	1.5 bar	3 bar	4 bar	5 bar	6 bar
ABO16	0.41	1.70	31	67	74	0.54	1.04	2.2	3.1	5	13	13	15	20	23	25	25
										10	18	20	23	30	36	41	41
										15	23	25	28	41	48	56	58
										25	25	33	38	53	64	71	74
										51	30	41	51	81	89	99	102
ABO20	0.51	40	57	121	134	1.32	2	4.3	6.0	5	13	15	18	23	25	28	28
										10	20	25	30	33	41	43	43
										15	25	33	41	43	53	61	61
										25	38	51	61	64	74	76	76
										51	61	71	79	84	97	104	107
ABO28	0.71	65	99	212	235	2.3	3.6	7.5	10.5	5	15	15	15	23	28	30	36
										10	20	23	23	36	14	46	58
										15	25	30	30	46	53	64	74
										25	38	43	46	66	74	86	94
										51	61	74	76	97	112	122	130
ABO40	1.02	119	170	364	403	4.1	5.9	12.4	17.3	5	18	20	20	28	28	30	30
										10	28	28	30	43	46	56	56
										15	33	33	41	58	61	74	76
										25	38	43	58	79	81	97	107
										51	56	71	102	114	117	127	140
ABO51	1.30	201	312	668	739	7.3	10.9	22.8	32	5	221	23	25	33	36	41	58
										10	30	38	41	53	61	71	81
										15	41	51	56	71	86	97	109
										25	61	74	76	102	117	124	135
										51	91	104	109	140	157	157	160
ABO72	1.83	368	538	1153	1277	12.3	20	40.9	57.3	5	18	23	30	41	51	56	58
										10	28	33	38	64	56	91	94
										15	36	43	48	86	104	114	119
										25	51	61	66	114	140	124	157
										51	84	99	104	140	178	188	193

Threaded Nozzles – Flat Spray Series STF





SPRAY CHARACTERISTICS:

STF spray nozzles produce a flat, fan-shaped spray pattern, similar to the F Series. Spray angles are available for a 0° solid stream to 90°, measured at 3 bar. Spray angles generally increase with pressure, as shown in the capacity table below. Spray density tapers off toward the outside edges of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

CONSTRUCTION:

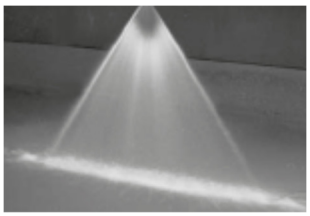
The STF are disc-shaped, with a male 5/8-18 straight thread. They are machined from bar stock, and are one piece construction. Standard materials are 303 stainless steel and 316 stainless steel. Some models are also available in other materials.

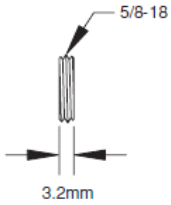
TYPICAL APPLICATIONS:

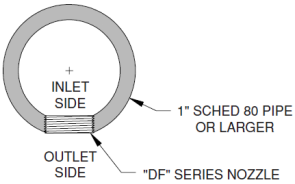
The STF series is designed for applications where space is at a minimum, or where the nozzles must not protrude from the header. Typically the outer surface of the nozzle is flush with the outside of the header.

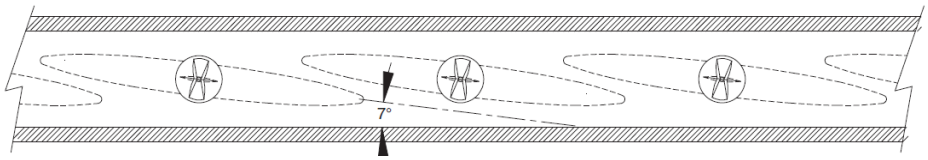
SPRAY-ANGLE @ 3 bar	MODEL NUMBER	Equiv. Orifice Diameter (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)													SPRAY ANGLE @ 3 bar		
			0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	5 bar	6 bar	8 bar	11 bar	15 bar	20 bar	1.5 bar	3 bar	5 bar
0°	**STF0003**	1.04	0.57	0.68	0.84	0.97	1.08	1.18	1.37	1.53	1.67	1.93	2.27	2.65	3.06	0°	0°	0°
	STF0007	1.57	1.33	1.60	1.95	2.26	2.52	2.76	3.20	3.60	3.90	4.50	5.30	6.20	7.10	0°	0°	0°
25°	**STF2507**	1.57	1.30	1.60	1.95	2.26	2.52	2.76	3.20	3.60	3.90	4.50	5.30	6.20	7.10	19°	25°	26°
50°	**STF50084**	1.73	1.60	1.91	2.30	2.71	3.03	3.30	3.80	4.30	4.70	5.40	6.30	7.40	8.60	42°	50°	57°
	STF5013	2.16	2.48	2.96	3.60	4.20	4.70	5.10	5.90	6.60	7.30	8.40	9.80	11.5	13.2	44°	50°	56°
	STF5019	2.59	3.60	4.30	5.30	6.10	6.80	7.50	8.70	9.70	10.6	12.2	14.0	16.8	19.4	45°	50°	54°
60°	**STF6003**	1.04	0.57	0.68	0.80	0.97	1.08	1.18	1.37	1.53	1.67	1.93	2.27	2.65	3.06	50°	60°	65°
	STF60054	1.40	1.03	1.23	1.50	1.74	1.95	2.13	2.46	2.75	3.01	3.50	4.10	4.80	5.50	52°	60°	64°
	STF60093	1.83	1.77	2.12	2.60	3.00	3.40	3.70	4.20	4.70	5.20	6.00	7.00	8.20	9.50	56°	60°	66°
	STF6013	2.16	2.48	2.96	3.60	4.20	4.70	5.10	5.90	6.60	7.30	8.40	9.80	11.5	13.2	55°	60°	64°
	STF6020	2.67	3.80	4.60	5.60	6.40	7.20	7.90	9.10	10.2	11.2	12.9	14.4	17.7	20.4	55°	60°	63°
	STF6024	2.92	4.60	5.50	6.70	7.70	8.60	9.50	10.9	12.2	13.4	15.5	18.1	21.2	24.5	58°	60°	66°
	STF6033	3.43	6.30	7.50	9.20	10.1	11.9	13.0	15.0	16.8	18.4	21.3	24.9	29.1	34.0	58°	60°	64°
	STF6040	3.76	7.60	9.10	11.0	12.9	14.4	15.8	18.2	20.4	22.3	25.8	30.2	35.0	41.0	57°	60°	62°
	STF6047	4.09	9.00	10.7	13.0	15.1	16.9	18.6	21.4	23.9	26.2	30.3	36.0	41.0	48.0	58°	60°	62°
	STF6088	5.59	16.8	20.1	25.0	28.4	32.0	35.0	40.0	45	49.0	57.0	67.0	78.0	90.0	58°	60°	62°
65°	**STF65054**	1.40	1.03	1.23	1.50	1.74	1.95	2.13	2.46	2.75	3.01	3.50	4.10	4.80	5.50	55°	65°	72°
	STF6513	2.16	2.48	2.96	3.60	4.20	4.70	5.10	5.90	6.60	7.30	8.40	9.80	11.5	13.2	57°	65°	70°
	STF6519	2.59	3.60	4.30	5.30	6.10	6.80	7.50	8.70	9.70	10.6	12.2	14.4	16.8	19.4	60°	65°	69°
	STF6520	2.67	3.80	4.60	5.60	6.40	7.20	7.90	9.10	10.2	11.2	12.9	15.1	17.7	20.4	62°	65°	69°
	STF6524	2.92	4.60	5.50	6.70	7.70	8.60	9.50	10.9	12.2	13.4	15.5	18.1	21.2	24.5	62°	65°	67°
	STF6588	5.59	16.8	20.1	25.0	28.4	32.0	35.0	40.0	45.0	49.0	57.0	6.00	78.0	90.0	61°	65°	69°
68°	**STF6824**	2.92	4.60	5.50	6.70	7.70	8.60	9.50	10.9	12.2	13.4	15.5	18.1	21.2	24.5	65°	68°	70°
80°	**STF8004**	1.19	0.76	0.91	1.10	1.29	1.44	1.58	1.82	2.04	2.23	2.58	3.02	3.50	4.10	75°	80°	84°
	STF80054	1.40	1.03	1.23	1.50	1.74	1.95	2.13	2.46	2.75	3.01	3.50	4.10	4.80	5.50	72°	80°	87°
	STF80084	1.73	1.56	1.87	2.30	2.64	2.95	3.20	3.70	4.20	4.60	5.30	6.20	7.20	8.40	76°	80°	84°
	STF80093	1.83	1.77	2.12	2.60	3.00	3.40	3.70	4.20	4.70	5.20	6.00	7.00	8.20	9.50	74°	80°	84°
	STF8010	1.88	1.91	2.28	2.80	3.20	3.60	3.90	4.60	5.10	5.60	6.40	7.60	8.80	10.2	75°	80°	86°
	STF8013	2.16	2.48	2.96	3.60	4.20	4.70	5.10	5.90	6.60	7.30	8.40	9.80	11.5	13.2	76°	80°	85°
	STF8024	2.92	4.60	5.50	6.70	7.70	8.60	9.50	10.9	12.2	13.4	15.5	18.1	21.2	24.5	75°	80°	83°
	STF8033	3.43	6.30	7.50	9.20	10.6	11.9	13.0	15.0	16.8	18.4	21.3	24.9	29.1	34.0	76°	80°	82°
90°	**STF90054**	1.40	1.03	1.23	1.50	1.74	1.95	2.13	2.46	2.75	3.01	3.50	4.10	4.80	5.50	82°	90°	96°
	STF90093	1.83	1.77	2.12	2.60	3.00	3.40	3.70	4.20	4.70	5.20	6.00	7.00	8.20	9.50	83°	90°	95°
	STF9013	2.16	2.48	2.96	3.60	4.20	4.70	5.10	5.90	6.60	7.30	8.40	9.80	11.5	13.2	85°	90°	93°

Threaded Nozzles – Flat Spray Series DF









10 - 15% overlap is recommended for complete coverage

SPRAY CHARACTERISTICS:

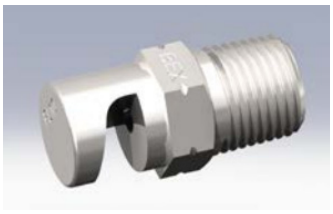
These thin-disc flat spray nozzles are used where the nozzle must not project beyond the wall of the header pipe. Minimum recommended pipe size is 1” schedule 80. Optimum thread engagement occurs on pipes of 1-1/4” schedule 80 and larger. Usual operating pressures are up to 10 bar.

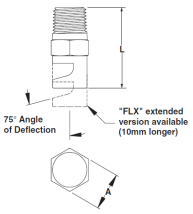
CONSTRUCTION:

Standard materials of construction are 316 stainless steel and 303 stainless steel. Other materials and capacities can be supplied.

MODEL NUMBER	Equiv. Orifice Diameter (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										SPRAY ANGLE @ 3 bar
		0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	13 bar	
DF35054	**1.40**	1.03	1.23	1.51	1.74	2.13	2.46	2.75	3.30	3.90	4.40	35°
DF3513	**2.16**	2.48	2.96	3.60	4.20	5.10	5.90	6.6	7.80	9.40	11.0	35°
DF3524	**2.92**	4.60	5.50	6.70	7.70	9.50	10.9	12.2	14.5	17.3	20.0	35°
DF3533	**3.43**	6.30	7.50	9.20	10.6	13.0	15.0	16.8	19.9	23.8	27.0	35°
DF4013	**2.16**	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.80	9.40	11.0	40°
DF4047	**4.09**	9.00	10.7	13.1	15.1	18.6	21.4	23.9	28.3	34.0	39.0	40°
DF4313	**2.16**	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.80	9.40	11.0	43°
DF5013	**2.16**	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.80	9.40	11.0	50°
DF55054	**1.40**	1.03	1.23	1.51	1.74	2.13	2.46	2.75	3.30	3.90	4.40	55°
DF55084	**1.73**	1.60	1.91	2.34	2.71	3.30	3.80	4.30	5.10	6.10	6.90	55°
DF5513	**2.16**	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.80	9.40	11.0	55°
DF5824	**2.92**	4.60	5.50	6.70	7.70	9.50	10.9	12.2	14.5	17.3	20.0	58°
DF5833	**3.43**	6.30	7.50	9.20	10.6	13.0	15.0	16.8	19.9	23.8	27.0	58°
DF6022	**2.79**	4.20	5.00	6.10	7.10	8.70	10.0	11.2	13.3	15.9	18.0	60°
DF65054	**1.40**	1.03	1.23	1.51	1.74	2.13	2.46	2.75	3.30	3.90	4.40	65°
DF6513	**2.16**	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.80	9.40	11.0	65°
DF6515	**2.31**	2.86	3.40	4.20	4.80	5.90	6.80	7.60	9.00	10.8	12.0	65°
DF6519	**2.59**	3.60	4.30	5.30	6.10	7.50	8.70	9.70	11.5	13.7	16.0	65°
DF6524	**2.92**	4.60	5.50	6.70	7.70	9.50	10.9	12.2	14.5	17.3	20.0	65°
DF6840	**3.76**	7.60	9.10	11.2	12.9	15.8	18.2	20.4	24.1	28.8	33.0	68°
DF70054	**1.40**	1.03	1.23	1.51	1.74	2.13	2.46	2.75	3.30	3.90	4.40	70°
DF80054	**1.40**	1.03	1.23	1.51	1.74	2.13	2.46	2.75	3.30	3.90	4.40	80°
DF80084	**1.73**	1.60	1.91	2.34	2.71	3.30	3.80	4.30	5.10	6.10	6.90	80°
DF8013	**2.16**	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.80	9.40	11.0	80°
DF8019	**2.59**	3.60	4.30	5.30	6.10	7.50	8.70	9.70	11.5	13.7	16.0	80°
DF8024	**2.92**	4.60	5.50	6.70	7.70	9.50	10.9	12.2	14.5	17.3	20.0	80°
DF8033	**3.43**	6.30	7.50	9.20	10.6	13.0	15.0	16.8	19.9	23.8	27.0	80°
DF90054	**1.40**	1.03	1.23	1.51	1.74	2.13	2.46	2.75	3.30	3.90	4.40	90°
DF11006	**1.47**	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.60	4.30	4.90	110°

Threaded Nozzles – Flat Spray Series FL





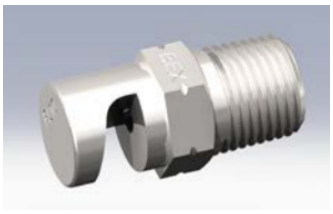
SPRAY CHARACTERISTICS:

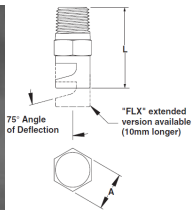
A wide, flat fan-shaped spray with low impact. The spray is deflected 75° away from the centerline of the pipe connection, as shown.

CONSTRUCTION:

The models listed are machined from bar stock, and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models are also available in other materials, such as PVC, CPVC, Teflon® and polypropylene.

Model	Thread BSPT	Equiv. Orifice Diameter (mm)	Dimension		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)									Spray Angle @					
			A	L	0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	0.2 bar	0.3 bar	0.5 bar	0.7 bar	1.5 bar	4 bar
FL.25	1/8" - 1/4"	0.43	11mm	16	--	--	--	0.1	0.11	0.14	0.16	0.20	0.23	--	--	--	90°	106°	120°
FL.50	1/8" - 1/4"	0.61	11mm	16	--	--	0.16	0.19	0.23	0.28	0.32	0.39	0.46	--	--	65°	78°	99°	120°
FL.75	1/8" - 1/4"	0.74	11mm	20	--	--	0.24	0.29	0.34	0.42	0.48	0.59	0.68	--	--	72°	85°	112°	140°
FL1	1/8" - 1/4"	0.84	11mm	20	--	--	0.32	0.38	0.46	0.56	0.64	0.79	0.91	--	--	90°	97°	135°	148°
FL1.3	1/8" - 1/4"	0.97	11mm	21	--	0.32	0.42	0.5	0.59	0.73	0.84	1.03	1.19	--	73°	80°	92°	115°	134°
FL1.5	1/8" - 1/4"	1.07	11mm	21	0.31	0.37	0.48	0.57	0.68	0.84	0.97	1.18	1.37	57°	69°	75°	87°	104°	125°
FL2	1/8" - 1/4"	1.19	11mm	21	0.41	0.5	0.64	0.76	0.91	1.12	1.29	1.58	1.82	60°	73°	82°	86°	104°	125°
FL2.5	1/8" - 1/4"	1.4	11mm	21	0.52	0.63	0.82	0.97	1.16	1.42	1.64	2.01	2.32	749°	87°	92°	101°	112°	130°
FL3	1/8" - 1/4"	1.5	11mm	21	0.61	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	84°	97°	106°	115°	130°	140°
FL4	1/8" - 1/4"	1.78	11mm	24	0.82	1.00	1.29	1.53	1.82	2.23	2.58	3.20	3.60	74°	87°	89°	101°	116°	127°
FL5	1/8" - 1/4"	1.93	11mm	24	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	78°	89°	97°	103°	113°	132°
FL7.5	1/8" - 1/4"	2.39	11mm	24	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	98°	105°	112°	120°	132°	144°
FL10	1/8" - 1/4"	2.79	11mm	24	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	116°	125°	135°	137°	144°	150°
FL12	1/8" - 1/4"	3.05	14mm	24	2.45	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	98°	105°	109°	118°	134°	139°
FL15	1/8" - 1/4"	3.28	14mm	27	3.06	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	100°	110°	115°	124°	131°	139°
FL18	1/8" - 1/4"	3.73	14mm	27	3.70	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	100°	112°	116°	124°	135°	137°
FL20	1/8" - 1/4"	3.91	14mm	27	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	115°	125°	128°	134°	142°	147°
1/4FL22	1/4"	4.09	14mm	33	4.50	5.50	7.10	8.40	10.0	12.3	14.2	17.4	20.1	97°	108°	114°	120°	128°	132°
1/4FL24	1/4"	4.29	14mm	33	4.90	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	106°	118°	121°	127°	136°	154°
1/4FL27	1/4"	4.5	14mm	33	5.50	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	110°	120°	124°	129°	139°	146°
3/8FL30	3/8"	4.78	17mm	33	6.10	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	104°	116°	121°	127°	135°	138°
3/8FL35	3/8"	4.98	17mm	33	7.10	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	104°	114°	118°	126°	130°	137°
3/8FL40	3/8"	5.31	17mm	33	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	109°	115°	123°	126°	135°	136°
3/8FL45	3/8"	5.79	17mm	33	9.20	11.2	14.5	17.2	20.5	25.1	29.0	36.0	41.0	117°	126°	134°	139°	142°	144°
1/2FL40	1/2"	5.31	22mm	43	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	106°	111°	119°	124°	129°	133°
1/2FL50	1/2"	6.15	22mm	43	10.2	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	106°	122°	130°	133°	139°	141°
1/2FL60	1/2"	6.76	22mm	43	12.2	15.0	19.3	22.9	27.3	33.0	39.0	47.0	55.0	110°	120°	124°	128°	133°	138°
1/2FL70	1/2"	7.37	22mm	51	14.3	17.5	22.6	26.7	32.0	39.0	45.0	55.0	64.0	105°	118°	119°	121°	124°	130°
1/2FL80	1/2"	7.92	22mm	51	16.3	20.0	25.8	30.5	36.0	45.0	52.0	63.0	73.0	114°	116°	124°	126°	130°	135°
3/4FL90	3/4"	8.03	31.8mm	60	18.3	22.5	29.0	34.0	41.0	50.0	58.0	71.0	82.0	104°	115°	120°	121°	125°	128°
3/4FL100	3/4"	8.74	31.8mm	60	20.4	25.0	32.0	38.0	46.0	56.0	64.0	79.0	91.0	105°	113°	115°	118°	121°	125°
3/4FL110	3/4"	8.84	31.8mm	60	22.4	27.5	35.0	42.0	50.0	61.0	71.0	87.0	100	106°	110°	116°	119°	120°	121°
3/4FL120	3/4"	9.53	31.8mm	60	24.5	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	119°	125°	129°	131°	133°	135°
3/4FL140	3/4"	10.21	31.8mm	65	28.5	35.0	45.0	53.0	64.0	78.0	90.0	111	128	115°	120°	128°	133°	137°	139°
3/4FL160	3/4"	11.92	38.1mm	65	33.0	40.0	52.0	61.0	73.0	89.0	103	126	146	117°	122°	130°	135°	139°	140°
3/4FL180	3/4"	11.68	38.1mm	67	37.0	45.0	58.0	69.0	82.0	100	116	142	164	117°	128°	131°	133°	136°	136°
3/4FL210	3/4"	12.7	38.1mm	67	43.0	52.0	68.0	80.0	96.0	117	135	166	191	122°	127°	132°	135°	136°	136°
1FL140	1"	10.21	38.1mm	73	29.0	35.0	45.0	53.0	64.0	78.0	90.0	111	128	117°	122°	126°	130°	133°	133°
1FL160	1"	10.92	38.1mm	71	33.0	40.0	52.0	61.0	73.0	89.0	103	126	146	117°	127°	131°	135°	136°	136°
1FL180	1"	11.68	38.1mm	73	37.0	45.0	58.0	69.0	82.0	100	116	142	164	115°	125°	128°	132°	135°	135°
1FL210	1"	12.7	38.1mm	73	43.0	52.0	68.0	80.0	96.0	117	135	166	191	117°	122°	127°	130°	133°	134°
1FL300	1"	14.68	44.5mm	92	61.0	75.0	97.0	114	137	167	193	237	273	114°	118°	120°	123°	124°	124°
1FL450	1"	17.88	44.5mm	92	92.0	112	145	172	205	251	290	355	410	128°	135°	139°	142°	144°	144°





FL Nozzles Air and Steam Specifications:

SPRAY CHARACTERISTICS:

A wide, flat fan-shaped spray with low impact. The spray is deflected 75° away from the centerline of the pipe connection, as shown.

CONSTRUCTION:

The models listed are machined from bar stock, and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models are also available in other materials, such as PVC, CPVC, Teflon® and polypropylene.

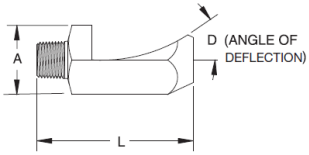
TYPICAL APPLICATIONS:

Wherever a low impact, wide angle spray is required.

- Rinsing and Cooling
- Dishwashing
- Fertilizer Spraying
- Metal Wash

Model Number	Thread BSPT	Equiv. Orifice Diameter (mm)	Air Capacity (L/min)					Steam Capacity (kg/h)					COVERAGE AT 15cm DISTANCE FROM THE NOZZLE	
			0.7 bar	1.5 bar	3 bar	4 bar	5 bar	0.7 bar	1.5 bar	3 bar	4 bar	5 bar	0.7 bar	1 bar
FL.25	1/8" - 1/4"	0.43	1.70	4.00	6.60	8.30	10.0	0.12	0.17	0.29	0.36	0.43	5	11
FL.50	1/8" - 1/4"	0.61	3.10	7.60	12.8	16.0	19.2	0.25	0.36	0.6	0.75	0.90	5	13
FL.75	1/8" - 1/4"	0.74	4.80	11.0	18.5	23.2	27.8	0.38	0.53	0.89	1.10	1.30	6	15
FL1	1/8" - 1/4"	0.84	6.20	14.4	24.2	30.3	36.3	0.49	0.69	1.20	1.40	1.70	8	15
FL1.3	1/8" - 1/4"	0.97	8.20	19.3	32.3	40.0	48.0	1.00	0.90	1.50	1.90	2.30	8	17
FL1.5	1/8" - 1/4"	1.07	9.90	23.5	39.0	49.0	59.0	1.00	1.10	1.90	2.40	2.90	9	17
FL2	1/8" - 1/4"	1.19	12.5	29.2	49.0	61.0	73.0	1.00	1.50	2.40	3.00	3.70	9	19
FL2.5	1/8" - 1/4"	1.40	17.0	40.0	67.0	84.0	101	1.00	2.00	3.40	4.20	5.00	10	19
FL3	1/8" - 1/4"	1.50	19.5	46.0	77.0	97.0	116	2.00	2.30	3.80	4.80	5.70	13	20
FL4	1/8" - 1/4"	1.78	27.7	65.0	109	137	164	2.00	3.30	5.50	6.90	8.20	13	23
FL5	1/8" - 1/4"	1.93	33.0	76.0	128	160	192	3.00	3.90	6.50	8.10	10.0	15	25
FL7.5	1/8" - 1/4"	2.39	50.0	119	199	249	299	4.00	5.90	10.0	12.0	15.0	17	25
FL10	1/8" - 1/4"	2.79	68.0	161	271	338	406	6.00	8.10	14.0	17.0	20.0	18	28
FL12	1/8" - 1/4"	3.05	82.0	193	323	404	484	7.00	10.0	16.0	20.0	24.0	18	29
FL15	1/8" - 1/4"	3.28	99.0	238	399	499	598	9.00	12.0	20.0	25.0	30.0	18	30
FL18	1/8" - 1/4"	3.73	122	292	489	611	734	10.0	15.0	24.0	30.0	37.0	20	33
FL20	1/8" - 1/4"	3.91	133	320	537	671	805	11.0	16.0	27.0	33.0	40.0	22	37
FL22	1/4"	4.09	147	348	584	730	876	13.0	39.0	30.0	37.0	45.0	22	37
FL24	1/4"	4.29	161	385	646	807	969	14.0	20.0	33.0	41.0	49.0	22	38
FL27	1/4"	4.50	178	422	708	885	1061	15.0	21.0	36.0	45.0	54.0	22	38
FL30	3/8"	4.78	201	476	798	997	1197	17.0	24.0	40.0	50.0	61.0	22	39

Threaded Nozzles – Flat Spray Series FP



SPRAY CHARACTERISTICS:

A flat and thin fan-shaped spray with sharp definition on all edges. This spray delivers very high impact over the area covered. The spray is deflected by angle D away from the centerline of the spray nozzle.

CONSTRUCTION:

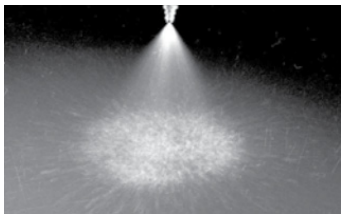
The models listed are machined from bar stock, and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel.

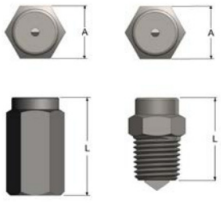
TYPICAL APPLICATIONS:

- High Impact Applications
- Metal Wash
- Gravel Washing
- Vehicle Washing

Spray Angle @3 bar	Model Number	Thread	Equiv. Orifice Diameter (mm)	Angle D @ 3 bar	Dimension (mm)		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)								Spray Angle @ bar		
					A	L	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	5 bar	6 bar	1 bar	3 bar	5 bar
50°	1/8 FP5001	1/8"	0.61	40°	17 Hex	21.1	0.23	0.28	0.32	0.36	0.39	0.46	0.51	0.56	30°	50°	58°
	¼ FP50025	1/4"	0.97	41°	17 Hex	27.3	0.57	0.70	0.81	0.90	0.99	1.14	1.27	1.40	29°	50°	57°
	¼ FP5005	1/4"	1.35	41°	17 Hex	28.3	1.14	1.40	1.61	1.80	1.97	2.28	2.55	2.79	30°	50°	59°
	¼ FP5010	1/4"	1.91	52°	17 Hex	31.8	2.28	2.79	3.20	3.60	3.90	4.60	5.10	5.60	32°	50°	59°
	¼ FP5025	1/4"	3.00	40°	17 Hex	33.3	5.70	7.00	8.10	9.00	9.90	11.4	12.7	14.0	41°	50°	58°
	3/8 FP5025	3/8	3.00	40°	17 Hex	34.9	5.70	7.00	8.10	9.00	9.90	11.4	12.7	14.0	41°	50°	58°
	¼ FP5040	1/4"	3.78	45°	22 Hex	47.7	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	42°	50°	59°
	3/8 FP5040	3/8"	3.78	44°	22 Hex	48.4	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	40°	50°	59°
	3/8 FP5060	3/8"	4.65	40°	22 Hex	55.5	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	41°	50°	52°
	3/8 FP50100	3/8"	5.99	38°	31.8 Hex	69.9	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	44°	50°	54°
	3/8 FP50125	3/8"	6.76	34°	31.8 Hex	65.3	28.5	35.0	40.0	45.0	49.0	57.0	64.0	70.0	39°	50°	57°
	3/8 FP50160	3/8"	7.57	37°	31.8 Hex	67.8	36.0	45.0	52.0	58.0	63.0	73.0	82.0	89.0	46°	50°	55°
	3/8 FP50200	3/8"	8.33	33°	34.9 Hex	73.0	46.0	56.0	64.0	72.0	79.0	91.0	102	112	47°	50°	55°
40°	3/8 FP4040	3/8"	3.78	34°	22 Hex	53.1	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	29°	40°	48°
	3/8 FP4050	3/8"	4.24	32°	31.8 Hex	56.9	11.4	14.0	16.1	18.0	19.7	22.8	25.5	27.9	30°	40°	47°
	3/8 FP4060	3/8"	4.65	31°	28.6 Hex	72.2	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	31°	40°	50°
	3/8 FP4070	3/8"	5.00	28°	31.8 Hex	71.9	16.0	19.5	22.6	25.2	27.6	32.0	36.0	39.0	33°	40°	50°
	3/8 FP4080	3/8"	5.36	28°	31.8 Hex	71.9	18.2	22.3	25.8	28.8	32.0	36.0	41.0	45.0	33°	40°	48°
	3/8 FP4090	3/8"	5.79	28°	31.8 Hex	71.9	20.5	25.1	29.0	32.0	36.0	41.0	46.0	50.0	34°	40°	46°
	3/8 FP40100	3/8"	5.99	31°	31.8 Hex	74.6	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	34°	40°	46°
35°	1/8 FP3504	1/8"	1.19	36°	11 Hex	49.2	0.91	1.12	1.29	1.44	1.58	1.82	2.04	2.23	20°	35°	41°
	¼ FP3510	1/4"	1.91	37°	17 Hex	36.5	2.28	2.79	3.20	3.60	3.90	4.60	5.10	5.60	18°	35°	38°
	¼ FP3520	1/4"	2.67	30°	17 Hex	39.4	4.60	5.60	6.40	7.20	7.90	9.10	10.2	11.2	25°	35°	42°
	3/8 FP3520	3/8"	2.67	32°	17 Hex	40.2	4.60	5.60	6.40	7.20	7.90	9.10	10.2	11.2	25°	35°	41°
	3/8 FP3525	3/8"	2.97	29°	17 Hex	50.8	5.70	7.00	8.10	9.00	9.90	11.4	12.7	14.0	24°	35°	41°
	3/8 FP3530	3/8"	3.25	28°	22 Hex	54.2	6.80	8.40	9.70	10.8	11.8	13.7	15.3	16.7	25°	35°	42°
	3/8 FP3540	3/8"	3.78	31°	22 Hex	60.4	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	29°	35°	42°
	3/8 FP3550	3/8"	4.24	26°	25.4 Hex	63.5	11.4	14.0	16.1	18.0	19.7	22.8	25.5	27.9	30°	35°	40°
	½ FP3560	1/2"	4.65	29°	27 Hex	73.0	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	27°	35°	40°
	½ FP3580	1/2"	5.36	22°	31.8 Hex	79.9	18.2	22.3	25.8	28.8	31.6	36.5	40.8	44.7	25°	35°	38°
	½ FP35100	1/2"	5.61	24°	31.8 Hex	88.9	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	25°	35°	40°
	¾ FP35160	3/4"	7.49	22°	31.8 Hex	117	36.0	45.0	52.0	58.0	63.0	73.0	82.0	89.0	26°	35°	39°
	¾ FP35200	3/4"	8.46	24°	31.8 Hex	110	46.0	56.0	64.0	72.0	79.0	91.0	102	112	31°	35°	42°
25°	¼ FP2540	1/4"	3.78	24°	22 Hex	68.2	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	22°	25°	27°
15°	¼ FP1510	1/4"	1.91	22°	17 Hex	49.0	2.28	2.79	3.20	3.60	3.90	4.60	5.10	5.60	--	15°	21°
	¼ FP1520	1/4"	2.67	16°	17 Hex	57.2	4.60	5.60	6.40	7.20	7.90	9.10	10.2	11.2	--	15°	18°
	3/8 FP1530	3/8"	3.28	20°	22 Hex	73.4	6.80	8.40	9.70	10.8	11.8	13.7	15.3	16.7	8°	15°	24°
	3/8 FP1540	3/8"	3.78	13°	22 Hex	95.3	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	8°	15°	20°
	3/8 FP1550	3/8"	4.24	14°	22 Hex	92.1	11.4	14.0	16.1	18.0	19.7	22.8	25.5	27.9	8°	15°	22°
	½ FP1560	1/2"	4.65	14°	25.4 Hex	112	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	11°	15°	18°
	½ FP1580	1/2"	5.54	14°	28.6 Hex	130	18.2	22.3	25.8	28.8	32.0	36.0	41.0	45.0	11°	15°	18°
	½ FP15100	1/2"	5.99	15°	28.6 Hex	138	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	11°	15°	17°
	¾ FP15200	3/4"	8.46	15°	38.1 Hex	190	46.0	56.0	64.0	72.0	79.0	91.0	102	112	11°	15°	17°
	¾ FP15300	3/4"	10.36	15°	44.5 Hex	191	68.0	84.0	97.0	108	118	137	153	167	12°	15°	18°

Threaded Nozzles – Full Cone Series S





Model	Dimension A (mm)	Dimension L (mm)
1/8S	11 HEX	21
1/4S	14 HEX	24
3/8S	17 HEX	29
1/2S	22 HEX	33
3/4FS	27 HEX	52
3/4S	35 HEX	40
1FS	32 HEX	26
1S	42 dia.	68

SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the cone.

TYPICAL APPLICATIONS:

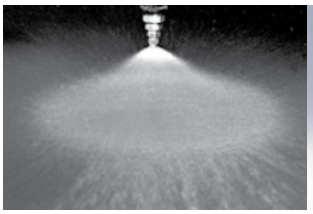
- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous Casting

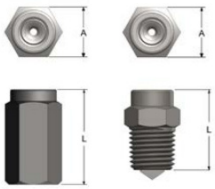
CONSTRUCTION:

The nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel, and 316 stainless steel. Some models are also stocked in PVC, CPVC, and polypropylene. For molded plastic models, please see page 29.

"S" one piece body		Thread BSPT	MAXIMUM FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
Female	Male			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
	1/8 S1	1/8"	0.84	--	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	55°	52°
	1/8 S1.5	1/8"	1.17	--	--	--	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.67	1.93	--	65°	57°
	1/8 S2	1/8"	1.30	--	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	54°	59°	60°
	1/8 S3	1/8"	1.30	--	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	50°	53°	60°
	1/8 S3.5	1/8"	1.30	0.71	0.87	1.13	1.33	1.6	1.95	2.26	2.76	3.20	3.60	3.90	4.50	48°	58°	61°
	1/8 S5	1/8"	1.63	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	60°	75°	70°
	1/8 S6	1/8"	1.63	1.22	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	67°	72°	70°
	¼ S5	1/4"	2.06	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	58°	68°	62°
	¼ S6.5	1/4"	2.31	1.32	1.62	2.09	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.30	8.40	48°	56°	50°
	¼ S7.5	1/4"	2.31	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	55°	65°	48°
	¼ S8.5	1/4"	2.31	1.73	2.12	2.74	3.20	3.90	4.70	5.50	6.70	7.70	8.70	9.50	11.0	58°	65°	63°
	¼ S10	1/4"	2.31	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	60°	65°	62°
	¼ S14	1/4"	2.31	2.85	3.50	4.51	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
	3/8 S9.5	3/8"	2.59	1.94	2.37	3.06	3.60	4.30	5.30	6.10	7.50	8.70	9.70	10.6	12.2	58°	68°	62°
	3/8 S10	3/8"	2.59	2.04	2.50	3.02	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	55°	65°	50°
	3/8 S15	3/8"	2.59	2.85	3.50	4.80	5.30	6.80	8.40	9.70	11.8	13.7	15.3	16.7	19.3	63°	65°	60°
	3/8 S18	3/8"	2.59	3.70	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	85°	88°	76°
	3/8 S20	3/8"	2.59	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	76°	82°	75°
	3/8 S22	3/8"	2.90	4.50	5.50	7.10	8.40	10.0	12.3	14.2	17.4	20.1	22.4	24.6	28.4	76°	78°	76°
	½ S16	1/2"	3.66	3.30	4.00	5.20	6.10	7.30	8.90	10.3	12.6	14.6	16.3	17.9	20.6	55°	60°	55°
	½ S25	1/2"	3.66	5.10	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	25.5	27.9	32.0	68°	73°	65°
	½ S32	1/2"	3.66	6.50	8.0	10.3	12.2	14.6	17.9	20.6	25.3	29.2	33.0	36.0	41.0	80°	90°	75°
	½ S40	1/2"	4.11	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	86°	90°	81°
¾ FS30	¾ S30	3/4"	4.11	6.10	7.5	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	33.0	39.0	50°	52°	49°
¾ FS50	¾ S50	3/4"	4.95	10.2	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.0	65°	70°	65°
¾ FS83	¾ S83	3/4"	4.95	16.9	20.7	26.7	32.0	38.0	46.0	53.0	66.0	76.0	85.0	93.0	107	93°	97°	86°
1FS83	1S83	1"	5.56	16.9	20.7	26.7	32.0	38.0	46.0	53.0	66.0	76.0	85.0	93.0	107	71°	78°	75°
1FS106	1S106	1"	5.56	21.6	26.5	34.0	40.0	48.0	59.0	68.0	84.0	97.0	108	118	137	86°	89°	80°
1FS120	1S120	1"	5.56	24.5	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	122	134	155	80°	94°	85°
1FS142	1S142	1"	5.56	28.9	35.0	46.0	54.0	65.0	79.0	92.0	112	129	145	159	183	88°	92°	83°

Threaded Nozzles – Full Cone Series SW





Model male	Dim. A (mm)	Dim. L (mm)	Model female	Dim. A (mm)	Dim. L (mm)
1/8SW	1 HEX	21	3/4FSW	32 HEX	60
1/4SW	14 HEX	24	1FSW	38 HEX	64
3/8SW	17 HEX	27	1 1/4FSW	48 HEX	89
1/2SW	22 HEX	37	1 3/4FSW	57 Dia.	108
3/4SW	32 HEX	30	2FSW	70 Dia.	149
1SW	35 dia.	52	2 3/4FSW	89 Dia.	165
			3FSW	102 Dia.	197
			4FSW	127 Dia.	267

SPRAY CHARACTERISTICS:

A wide angle full cone spray pattern, with uniform distribution throughout the cone.

TYPICAL APPLICATIONS:

Anywhere a wide angle full cone spray is required:

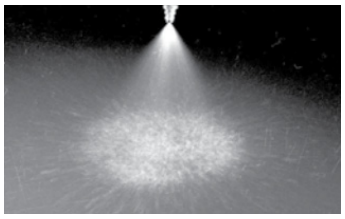
- Chemical Processing
- Cooling Sprays
- Continuous Casting

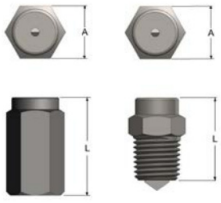
CONSTRUCTION:

This nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models are also stocked in PVC, CPVC and polypropylene.For molded plastic models, please see page 30.

'SW' one piece body		Thread BSPT	MAXIMUM FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
Female	Male			0.2 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
	1/8 S2.8W	1/8"	1.30	--	0.90	1.07	1.28	1.56	1.80	2.21	2.55	2.85	3.13	3.60	110°	105°	96°
	1/8 S4.3W	1/8"	1.30	--	1.39	1.64	1.96	2.40	2.77	3.40	3.90	4.40	4.80	5.50	117°	108°	100°
	1/8 S5.6W	1/8"	1.63	--	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	117°	110°	100°
	1/8 S8W	1/8"	2.06	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	10.3	118°	110°	103°
	¼ S5.6W	1/4"	1.63	1.40	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	120°	108°	102°
	¼ S10W	1/4"	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	118°	108°	102°
	¼ S12W	1/4"	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	120°	112°	102°
	¼ S14W	1/4"	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	118°	114°	104°
	3/8 S17W	3/8"	2.59	4.20	5.50	6.50	7.70	9.50	11.0	13.4	15.5	17.3	19.0	21.9	118°	117°	102°
	3/8 S20W	3/8"	2.59	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	120°	120°	106°
	3/8 S24W	3/8"	2.59	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	24.5	26.8	30.9	122°	118°	106°
	3/8 S27W	3/8"	2.59	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	27.5	30.1	35.0	122°	120°	107°
	½ S30W	1/2"	3.66	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	33.0	39.0	120°	118°	110°
	½ S35W	1/2"	3.66	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	36.0	39.0	45.0	122°	118°	108°
	½ S40W	1/2"	4.11	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	122°	119°	104°
	½ S45W	1/2"	4.11	11.2	14.5	17.2	20.5	25.1	29.0	36.0	41.0	46.0	50.0	58.0	141°	118°	108°
¾ FS50W	¾ S50W	3/4"	4.95	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.5	120°	120°	110°
¾ FS71W	¾ S71W	3/4"	4.95	17.7	22.9	27.1	32.0	40.0	46.0	56.0	65.0	72.0	79.0	92.0	118°	120°	112°
1FS13W	1S13W	1"	5.56	32.0	42.0	50.0	59.0	73.0	84.0	103	119	132	145	168	120°	125°	118°
1 1/4FS19W		1 ¼"	6.60	47.0	61.0	72.0	87.0	106	122	150	173	194	212	245	122°	123°	120°
1 1/2FS29W		1 ½"	8.36	72.0	93.0	111	132	162	187	229	264	296	324	374	125°	125°	120°
2FS56W		2"	11.1	140	180	214	255	313	361	442	510	571	625	722	125°	125°	118°
2 1/2FS83W		2 ½"	13.5	207	267	317	378	463	535	655	757	846	927	1070	122°	123°	120°
3FS107W		3"	17.5	267	345	408	488	597	690	845	975	1090	1195	1379	125°	123°	123°
4FS165W		4"	22.2	412	532	629	752	921	1064	1303	1504	1682	1842	2127	125°	125°	123°

Threaded Nozzles – Full Cone Series RS





Model	Dimension A (mm)	Dimension L (mm)
1/8S	11 HEX	21
1/4S	14 HEX	24
3/8S	17 HEX	29
1/2S	22 HEX	33
3/4FS	27 HEX	52
3/4S	35 HEX	40
1FS	32 HEX	26
1S	42 dia.	68

SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the cone.

TYPICAL APPLICATIONS:

- Chemical Processing
- Cooling Sprays
- Foam Breaking

CONSTRUCTION:

The nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel, and 316 stainless steel.

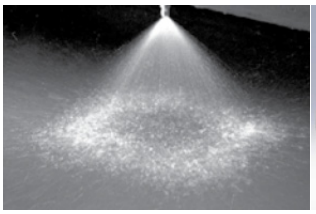
Available Spray Angles	MODEL NUMBER	Thread BSPT	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)							
			0.5 bar	0.7 bar	1 bar	2 bar	3 bar	5 bar	7 bar	10 bar
	R1/8SXX1.0	1/8"	0.56	0.64	0.75	1.00	1.18	1.47	1.69	1.96
	R1/8SXX1.2	1/8"	0.68	0.78	0.91	1.20	1.44	1.79	2.06	2.39
	R1/8SXX1.5	1/8"	0.83	0.96	1.11	1.50	1.76	2.18	2.51	2.92
	R1/8SXX1.8	1/8"	1.01	1.17	1.35	1.80	2.15	2.66	3.06	3.56
	R1/8SXX2.2	1/8"	1.23	1.42	1.65	2.20	2.62	3.25	3.74	4.34
	R1/8SXX2.7	1/8"	1.51	1.73	2.01	2.70	3.20	4.00	4.60	5.30
	R1/8SXX3.2	1/8"	1.80	2.10	2.40	3.20	3.80	4.70	5.40	6.30
	R1/4SXX4.0	1/4"	2.20	2.60	3.00	4.00	4.80	5.90	6.80	7.90
120°	R1/4SXX4.9	1/4"	2.70	3.10	3.70	4.90	5.80	7.20	8.30	9.60
	R3/8SXX6.0	3/8"	3.30	3.80	4.50	6.00	7.10	8.80	10.1	11.7
90°	R3/8SXX7.3	3/8"	4.10	4.70	5.40	7.30	8.60	10.7	12.3	14.3
	R3/8SXX8.6	3/8"	4.80	5.50	6.40	8.60	10.2	12.6	14.5	16.9
75°	R1/2SXX10	1/2"	5.70	6.51	7.57	10.0	12.0	15.0	17.0	20.0
	R1/2SXX12	1/2"	6.70	7.68	8.92	12.0	14.0	18.0	20.0	23.0
60°	R1/2SXX14	1/2"	7.90	9.05	10.5	14.1	16.7	20.7	23.8	27.7
	R1/2SXX017	1/2"	9.30	10.7	12.4	16.6	19.7	24.4	28.1	32.6
45°	R3/4SXX20	3/4"	10.9	12.6	14.6	19.5	23.2	28.7	33.1	38.4
	R3/4SXX23	3/4"	12.9	14.8	17.2	23.0	27.3	33.9	39.0	45.3
	R3/4SXX27	3/4"	15.2	17.5	20.3	27.2	32.2	39.9	46.0	53.4
	R3/4SXX32	3/4"	17.9	20.6	23.9	32.0	38.0	47.0	54.2	62.9
	R1SXX38	1"	21.1	24.3	28.2	37.7	44.7	55.5	63.9	74.2
	R1SXX45	1"	24.9	28.6	33.3	44.5	52.7	65.4	75.3	87.5
	R1SXX52	1"	29.3	33.7	39.2	52.4	62.2	77.1	88.8	103
	R1SXX62	1"	34.5	39.8	46.2	61.8	73.3	90.8	104	121
	R1SXX73	1"	40.7	46.9	54.5	72.9	86.4	107	123	143

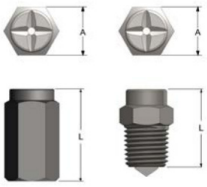
How to Order :

R1/2“	RS	75	12	-3
Thread	**Series/ Nozzle-Type**	**Spray Angle**	**Size (capacity)**	**Material**
		45° - 120°	1.0 - 73	see table on page 4

BEX Full Cone Spray Nozzles Series „RS“ Item : R1/2“RS7512-3

Threaded Nozzles – Full Cone Series SQ





Model	Dim. A (mm)	Dim. L (mm)
1/8SQ	11 HEX	21
1/4SQ	14 HEX	24
3/8SQ	17 HEX	29
1/2SQ	22 HEX	33
3/4SQ	27 HEX	52
1FSQ	38 dia.	67
1 1/4FSQ	48 dia.	89
1 1/2FSQ	57 dia.	108
2FSQ	70 dia.	138
2 1/2FSQ	89 dia.	175

SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the approximately square cone.

TYPICAL APPLICATIONS:

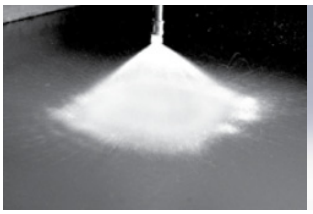
- Chemical Processing
- Cooling Sprays
- Continuous Casting

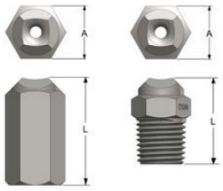
CONSTRUCTION:

Standard materials are brass, 303 and 316 stainless. Larger sizes in cast 316 or 303 stainless bar. Some models are also stocked in plastics and other materials. Please see page 30 for molded plastic models.

"SQ" one piece body		Thread BSPT	MAXIMUM FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
Female	Male			0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
	1/8 S3.6SQ	1/8"	1.45	--	1.16	1.37	1.64	2.01	2.32	2.84	3.30	3.70	4.00	4.60	42°	55°	50°
	1/8 S4.8SQ	1/8"	1.63	--	1.55	1.83	2.19	2.68	3.09	3.80	4.40	4.90	5.40	6.20	50°	65°	60°
	1/8 S6SQ	1/8"	2.06	--	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	30°	65°	60°
	¼ S6SQ	1/4"	2.06	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	60°	65°	60°
	¼ S10SQ	1/4"	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	61°	67°	60°
	¼ S12SQ	1/4"	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	71°	76°	69°
	¼ S14SQ	1/4"	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
	3/8 S18SQ	3/8"	2.59	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	70°	75°	68°
	½ S29SQ	1/2"	3.66	7.20	9.30	11.1	13.2	16.2	18.7	22.9	26.4	29.6	32.0	37.0	70°	75°	68°
	½ S36SQ	1/2"	3.66	9.00	11.6	13.7	16.4	20.1	23.2	28.4	33.0	37.0	40.0	46.0	80°	85°	77°
	¾ S50SQ	3/4"	4.95	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.0	70°	75°	68°
1FS106SQ		1"	5.56	26.5	34.0	40.0	48.0	59.0	68.0	84.0	97.0	108	118	137	77°	80°	72°
1 1/4FS177SQ		1 ¼"	6.60	44.0	57.0	67.0	81.0	99.0	114	140	161	180	198	228	77°	80°	72°
1 1/2FS230SQ		1 ½"	9.96	57.0	74.0	88.0	105	128	148	182	210	234	257	296	74°	79°	72°
2FS290SQ		2"	11.1	72.0	93.0	111	132	162	187	229	264	296	324	374	65°	70°	65°
2FS360SQ		2"	11.1	90.0	116	137	164	201	232	284	328	367	402	464	70°	75°	70°
2FS480SQ		2"	11.1	120	155	183	219	268	309	379	438	489	536	619	78°	80°	76°
2 1/2FS590SQ		2 ½"	13.5	147	190	225	269	329	380	466	538	601	659	761	75°	80°	73°

Threaded Nozzles – Full Cone Series SWSQ





Thread (BSPT)	Dim. A (mm)	Dim. L (mm)
1/4SWSQ	14 HEX	24
3/8SWSQ	17 HEX	30
1/2SWSQ	22 HEX	37
3/4FSWSQ	32 HEX	56
3/4SWSQ	27 HEX	43
1FSWSQ	38 HEX	67
1SWSQ	35 HEX	52
1 1/4FSWSQ	48 dia.	95
1 1/2FSWSQ	57 dia.	108
2FSWSQ	70 dia.	149
2 1/2FSWSQ	92 dia.	165
3FSWSQ	102 dia.	197

SPRAY CHARACTERISTICS:

Full cone wide angle spray pattern, with uniform distribution through the approximately square cone.

TYPICAL APPLICATIONS:

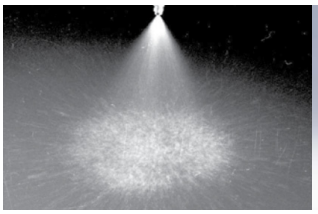
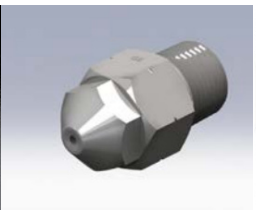
- Chemical Processing
- Cooling Sprays
- Continuous Casting

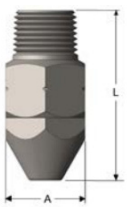
CONSTRUCTION:

Standard materials are brass, 303 and 316 stainless steel.
Some models are also stocked in other materials.
See page 38 for PSWSQ plastic wide angle full square nozzles in larger capacities..

"SWSQ" one piece body		Thread BSPT	MAXIMUM FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
Female	Male			0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
	¼ S14WSQ	1/4"	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	99°	95°	84°
	3/8 S17WSQ	3/8"	2.59	4.20	5.50	6.50	7.70	9.50	11.0	13.4	15.5	17.3	19.0	21.9	98°	94°	82°
	3/8 S20WSQ	3/8"	2.59	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	102°	102°	86°
	3/8 S24WSQ	3/8"	2.59	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	24.5	26.8	30.9	104°	102°	86°
	3/8 S27WSQ	3/8"	2.59	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	27.5	30.1	35.0	104°	102°	87°
	½ S30WSQ	1/2"	3.66	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	33.0	39.0	100°	96°	85°
	½ S35WSQ	1/2"	3.66	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32	36.0	39.0	45.0	104°	99°	88°
	½ S40WSQ	1/2"	4.11	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	106°	104°	90°
	½ S45WSQ	1/2"	4.11	11.2	14.5	17.2	20.5	25.1	29.0	36.0	41.0	46.0	50.0	58.0	106°	104°	94°
¾ FS50WSQ	¾ S50WSQ	3/4"	4.95	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.0	108°	102°	97°
¾ FS71WSQ	¾ S71WSQ	3/4"	4.95	17.7	22.9	27.1	32.0	40.0	46.0	56.0	65.0	72.0	79.0	92.0	99°	102°	93°
1FS130WSQ	1S130WSQ	1"	5.56	32.0	42.0	50.0	59.0	73.0	84.0	103	119	132	145	168	102°	107°	99°
1 1/4FS190WSQ		1 ¼"	6.6	47.0	61.0	72.0	87.0	106	122	150	173	194	212	245	104°	105°	102°
1 1/2FS290WSQ		1 ½"	8.36	72.0	93.0	111	132	162	187	229	264	296	324	374	107°	107°	102°
2FS560WSQ		2"	11.1	140	180	214	255	313	361	442	510	571	625	722	107°	107°	99°
2 1/2FS830WSQ		2 ½"	13.5	207	267	317	378	463	535	655	757	846	927	1070	104°	105°	102°
3FS1070WSQ		3"	17.5	267	345	408	488	597	690	845	975	1090	1195	1379	107°	105°	105°

Threaded Nozzles – Full Cone Series S30 & GS30



SPRAY CHARACTERISTICS:

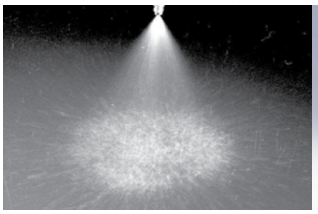
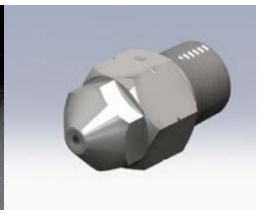
With a narrow spray pattern and larger droplet sizes, BEX 30° full cone nozzles have more impact per unit area of spraying surface than wider fuill cone nozzles.

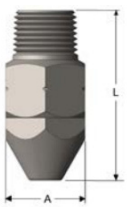
CONSTRUCTION:

These nozzles are made with a large free passage internal vane and either a two piece (GS) body or a one piece (S) body. Standard materials are brass, 303SS, and 316SS. Both NPT and BSPT threads are available.

Model Number		Thread BSPT	MAXIMUM FREE PASSAGE (mm)	Dimension		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										Spray Angle @		
female	male			"A" (mm)	"B" (mm)	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	12 bar	15 bar	1 bar	3 bar	8 bar
1/8FGS3001.4	**1/8GS3001.4**	1/8“	0.71	16 Hex	33	0.32	0.39	0.45	0.55	0.64	0.71	0.84	1.01	1.11	1.24	17°	30°	31°
1/8FGS3002.5	**1/8GS3002.5**	1/8“	0.91	16 Hex	33	0.57	0.70	0.81	0.99	1.14	1.27	1.51	1.80	1.97	2.21	26°	30°	32°
1/8FGS3004	**1/8GS3004**	1/8“	1.24	16 Hex	37	0.91	1.12	1.29	1.58	1.82	2.04	2.51	2.88	3.16	3.50	23°	30°	32°
1/8FGS3007	**1/8GS3007**	1/8“	1.45	16 Hex	37	1.60	1.95	2.26	2.76	3.20	3.60	4.20	5.00	5.50	6.20	23°	30°	30°
1/4FGS3009	**1/4GS3009**	1/4“	1.70	17 Hex	38	2.05	2.51	2.90	3.60	4.10	4.60	5.40	6.50	7.10	7.90	26°	30°	30°
3/8FGS3014	**3/8GS3014**	3/8“	2.06	21 Hex	54	3.20	3.90	4.51	5.50	6.40	7.10	8.40	10.1	11.1	12.4	31°	30°	31°
1/2FGS3030	**1/2GS3030**	1/2“	2.90	26 Hex	59	6.80	8.4,	9.70	11.8	13.7	15.3	18.1	21.6	23.7	26.5	26°	30°	31°
3/4FGS3050	**3/4GS3050**	3/4“	4.11	35 Hex	89	11.4	14.0	16.1	19.7	22.8	25.5	30.2	36.0	39.0	44.0	27°	30°	31°
	1S3070	1“	4.90	35	92	15.6	20.0	22.6	27.6	32.0	36.0	42.0	50.0	55.0	62.0	27°	30°	30°
	1S30100	1“	5.84	35	92	22.8	27.9	32.0	40.0	46.0	51.0	60.0	72.0	79.0	88.0	27°	30°	30°
	1¼ FS30150	1 ¼“	7.16	45	127	34.0	42.0	48.0	59.0	68.0	76.0	90.0	108	118	132	27°	30°	30°
	1¼ FS30200	1 ¼“	8.28	45	127	45.0	56.0	64.0	79.0	91.0	102	121	144	158	177	27°	30°	30°
	1½ FS30250	1 ½“	9.14	51	156	57.0	70.0	81.0	99.0	114	127	151	180	197	221	27°	30°	30°
	1½ FS30300	1 ½“	10.3	51	156	68.0	83.0	97	118	137	153	181	216	237	265	28°	30°	30°
	2S30350	2“	10.9	61	200	79.0	98.0	113	138	160	178	211	252	276	309	28°	30°	30°
	2S30400	2“	11.7	61	200	91.0	112	129	158	182	204	241	288	316	353	28°	30°	30°
	2S30500	2“	12.7	61	200	113	140	161	197	228	255	301	360	395	441	28°	30°	30°
	2½ FS30600	2 ½“	14.2	76	264	137	167	193	237	273	306	362	432	474	530	28°	30°	30°
	2½ FS30700	2 ½“	15.2	76	264	160	195	226	276	319	357	422	504	553	618	28°	30°	30°
	2½ FS301000	2 ½“	18.5	76	264	228	279	322	395	456	510	603	721	789	883	28°	30°	30°
	2½ FS301100	2 ½“	19.3	76	264	251	307	355	434	501	561	663	793	868	971	28°	30°	30°
	2½ FS301200	2 ½“	20.3	76	264	274	335	387	474	547	611	724	865	947	1059	28°	30°	30°

Threaded Nozzles – Full Cone Series S15 & GS15



SPRAY CHARACTERISTICS:

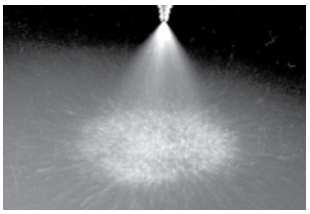
With a narrow spray pattern and larger droplet sizes, BEX 30° full cone nozzles have more impact per unit area of spraying surface than wider full cone nozzles.

CONSTRUCTION:

These nozzles are made with a large free passage internal vane and either a two piece (GS) body or a one piece (S) body. Standard materials are brass, 303SS, and 316SS. Both NPT and BSPT threads are available.

MODEL NUMBER		Thread BSPT	MAX. FREE PASSAGE (mm)	Dimension		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										Spray Angle @
				"A"	"L"	1	1.5	2	3	4	5	7	10	12	15	3
female	male			(mm)	(mm)	bar	bar	bar	bar	bar	bar	bar	bar	bar	bar	bar
1/8FGS1507	**1/8GS1507**	1/8"	0.71	16 Hex	33.4	1.59	1.96	2.23	2.78	3.19	3.58	4.22	5.06	5.54	6.20	15°
1/8FGS1514	**1/8GS1514**	1/8"	0.91	16 Hex	33.4	3.19	3.92	4.51	5.51	6.38	7.11	8.44	10.0	11.0	12.2	15°
1/4FGS1530	**1/4GS1530**	1/4"	1.24	17 Hex	36.5	6.83	8.38	9.66	11.8	13.6	15.3	17.9	21.4	23.6	26.4	15°
3/8FGS1550	**3/8GS1550**	3/8"	1.45	21 Hex	36.5	11.3	14.1	15.9	19.5	22.7	25.3	30.2	36.0	39.5	44.2	15°
1/2FGS1590	**1/2GS1590**	1/2"	1.70	26 Hex	38.1	20.5	25.0	29.1	35.5	41.0	45.7	54.1	64.7	70.9	79.3	15°
3/4FGS15150	**3/4GS15150**	3/4"	2.06	54 round	60	34.1	41.9	48.3	59.2	68.3	76.5	90.3	109	118	134	15°
	1S15280	1"	2.90	59 round	59	63.7	77.9	90.2	109	127	141	170	200	220	248	15°
	11/4 S15430	1 1/4"	4.11	89 round	89	97.9	118	136	168	195	220	260	309	338	378	15°
	1 1/2 S15630	1 1/2"	4.90	92 round	92	145	177	205	250	287	320	379	455	497	556	15°
	2S151150	2"	5.84	92 round	92	264	318	369	455	524	586	694	829	908	1014	15°
	21/2S151750	21/2"	7.16	127 round	127	400	487	565	692	797	890	1052	1262	1381	1542	15°
	3S152500	3"	8.28	127 round	127	569	697	806	988	1139	1272	1508	1799	1972	2205	15°

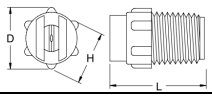
Threaded Nozzles – Full Cone Series S Molded Plastic



Polypropylene

PVDF

Non-Pigmented



Thread	Length D (mm)	Dim. H (mm)	Dim. L (mm)
1/8F	16	14	21
1/4F	16	14	24
3/8F	20	17	28

SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

These nozzles are injection molded and contain a patented insert with larger flow passages than older styles, and are less susceptible to clogging. Standard materials are polypropylene, and PVDF, and all materials are color-coded for easy identification. Non-pigmented versions are also available.

MATERIALS AVAILABLE:

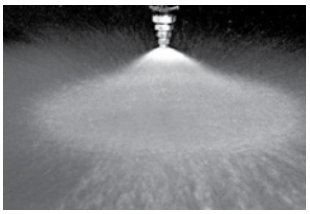
POLYPROPYLENE (LL) - (Green) excellent chemical and corrosion resistance. Useful up to 80°C.
NATURAL POLYPROPYLENE (LN) - non-pigmented for optimum purity.
PVDF (KK) - (Red) excellent durability and abrasion resistance and is inert to most chemicals. Useful up to 150°C.
NATURAL PVDF (KN) - non-pigmented for optimum purity.

TYPICAL APPLICATIONS:

- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous Casting

Model Number	Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
1/8 S1	1/8"	0.84	--	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	55°	52°
1/8 S1.5	1/8"	1.17	--	--	--	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.67	1.93	--	65°	57°
1/8 S2	1/8"	1.30	--	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	54°	59°	60°
1/8 S3	1/8"	1.30	--	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	50°	53°	60°
1/8 S3.5	1/8"	1.30	0.71	0.87	1.13	1.33	1.60	1.95	2.26	2.76	3.20	3.60	3.90	4.50	48°	58°	61°
1/8 S5	1/8"	1.63	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	60°	75°	70°
1/8 S6	1/8"	1.63	1.22	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	67°	72°	70°
¼ S5	1/4"	2.06	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	58°	68°	62°
¼ S6.5	1/4"	2.31	1.32	1.62	2.09	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.30	8.40	48°	56°	50°
¼ S7.5	1/4"	2.31	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	55°	65°	48°
¼ S8.5	1/4"	2.31	1.73	2.12	2.74	3.20	3.90	4.70	5.50	6.70	7.70	8.70	9.50	11.0	58°	65°	63°
¼ S10	1/4"	2.31	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	60°	65°	62°
¼ S14	1/4"	2.31	2.85	3.50	4.51	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
3/8 S9.5	3/8"	2.59	1.94	2.37	3.06	3.60	4.30	5.30	6.10	7.50	8.70	9.70	10.6	12.2	58°	68°	62°
3/8 S10	3/8"	2.59	2.04	2.50	3.02	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	55°	65°	50°
3/8 S15	3/8"	2.59	2.85	3.50	4.80	5.30	6.80	8.40	9.70	11.8	13.7	15.3	16.7	19.3	63°	65°	60°

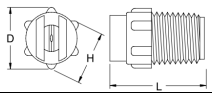
Threaded Nozzles – Full Cone Series SW & SQ Molded Plastic



Polypropylene

PVDF

Non-Pigmented



Thread	Length D (mm)	Dim. H (mm)	Dim. L (mm)
1/8F	16	15	21
1/4F	20	17	24

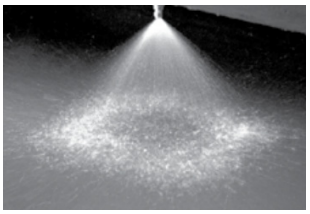
SPRAY CHARACTERISTICS:

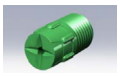
Full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

These nozzles are injection molded and contain a patented insert with larger flow passages than older styles, and are less susceptible to clogging. Standard materials are polypropylene, and PVDF, and all materials are color-coded for easy identification. Non-pigmented versions are also available.

Model Number	Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
			0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
1/8S2.8W	1/8"	1.30	--	0.90	1.07	1.28	1.56	1.80	2.21	2.55	2.85	3.13	3.60	110°	105°	96°
1/8S4.3W	1/8"	1.30	--	1.39	1.64	1.96	2.40	2.77	3.40	3.90	4.40	4.80	5.50	117°	108°	100°
1/8S5.6W	1/8"	1.63	--	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	117°	110°	100°
1/8S8W	1/8"	2.06	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	10.3	118°	110°	103°
1/4S5.6W	1/4"	1.63	1.40	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	120°	108°	102°
1/4S10W	1/4"	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	118°	108°	102°
1/4S12W	1/4"	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	120°	112°	102°
1/4S14W	1/4"	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	118°	114°	104°

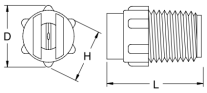




Polypropylene

PVDF

Non-Pigmented



Thread	Length D (mm)	Dim. H (mm)	Dim. L (mm)
1/8F	16	15	21
1/4F	20	17	24

SPRAY CHARACTERISTICS:

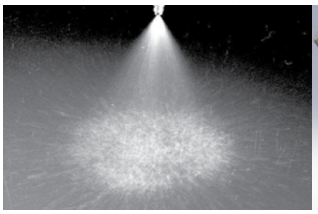
Full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

These nozzles are injection molded and contain a patented insert with larger flow passages than older styles, and are less susceptible to clogging. Standard materials are polypropylene, and PVDF, and all materials are color-coded for easy identification. Non-pigmented versions are also available.

Model Number	Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
			0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
1/8S3.6SQ	1/8"	1.45	--	1.16	1.37	1.64	2.01	2.32	2.84	3.30	3.70	4.00	4.60	42°	55°	50°
1/8S4.8SQ	1/8"	1.63	--	1.55	1.83	2.19	2.68	3.09	3.80	4.40	4.90	5.40	6.20	50°	65°	60°
1/8S6SQ	1/8"	2.06	--	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	30°	65°	60°
1/4S6SQ	1/4 "	2.06	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	60°	65°	60°
1/4S10SQ	1/4"	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	61°	67°	60°
1/4S12SQ	1/4"	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	71°	76°	69°
1/4S14SQ	1/4"	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°

Threaded Nozzles – Full Cone Series YS



SPRAY CHARACTERISTICS:

A full cone spray pattern with larger flow rates and smaller droplet sizes. Durable, one-piece, anti-clog design has no internal vane to clog or wear out.

CONSTRUCTION:

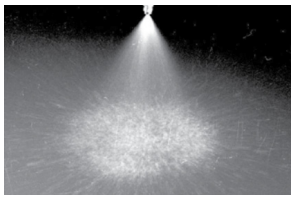
All models are machined form solid bar stock. Standard materials of construction are brass, 303 stainless steel, 316 stainless steel, PVC and Teflon®. Other materials may be available on request.

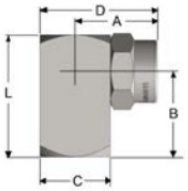
TYPICAL APPLICATIONS:

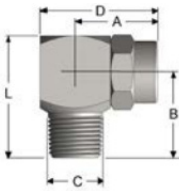
- Washing and Rinsing
- Gas Cooling
- Chemical Processing
- Cooling Sprays
- Humidification

Available Spray Angles	BEX Size	Thread BSPT	MAX. FREE PASSAGE (mm)	Dimension "A" (mm)	Dimension "L" (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar) 0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	10 bar	13 bar	17 bar	20 bar
	7	1/4”	2.21	14 Hex	30.2	1.75	2.26	2.67	3.20	3.90	4.50	5.50	6.40	7.80	10.1	11.5	13.2	14.3
	13	1/4”	3.18	14 Hex	30.2	3.25	4.20	5.00	5.90	7.30	8.40	10.3	11.9	14.5	18.7	21.4	24.4	26.5
	20	1/4”	3.96	14 Hex	30.2	5.00	6.50	7.60	9.10	11.2	12.9	15.8	18.2	22.3	28.8	33.0	38.0	41.0
	30	3/8”	4.78	17 Hex	54.0	7.50	9.70	11.4	13.7	16.8	19.3	23.7	27.4	34.0	43.0	49.0	56.0	61.0
	40	3/8”	5.56	17 Hex	54.0	10.0	12.9	15.5	18.2	22.3	25.8	31.6	36.0	45.0	58.0	66.0	75.0	82.0
60°	**53**	3/8”	6.35	17 Hex	54.0	13.2	17.1	20.2	24.2	29.6	34.0	42.0	48.0	59.0	76.0	87.0	100	108
	82	3/8”	7.95	17 Hex	54.0	20.5	26.4	31.3	37.4	46.0	53.0	65.0	75.0	92.0	118	135	154	167
90°	**120**	1/2”	9.53	22 Hex	63.5	30.0	39.0	46.0	54.7	67.0	77.0	95.0	109	134	173	197	226	245
120°	**164**	1/2”	11.1	22 Hex	63.5	41.0	53.0	63.0	74.8	92	106	129	149	183	236	270	308	334
150°	**210**	3/4”	12.7	27 Hex	73.0	52.0	38.0	80.0	95.7	117	135	166	191	234	303	345	395	428
	340	1”	15.9	35 Hex	93.6	85.0	110	130	155	190	219	268	310	280	490	559	639	693
170°	**470**	1”	19.1	35 Hex	93.6	117	151	179	214	262	303	371	428	525	677	772	883	958
	640	1 ½“	22.0	50 Hex	160	159	243	244	291	357	412	505	582	714	921	1050	1201	1303
	820	1 ½“	25.0	50 Hex	160	204	836	312	373	458	528	647	747	916	1182	1348	1541	1672
	960	1 ½“	28.0	50 Hex	160	239	309	366	437	536	618	758	875	1072	1383	1577	1804	1957
	1400	2“	34.0	64 Hex	170	349	451	534	638	782	902	1105	1277	1564	2019	2302	2632	2855
	1780	2“	38.0	64 Hex	170	444	573	679	811	994	1147	1405	1623	1988	2566	2926	3346	3629

Threaded Nozzles – Full Cone Series HGS







Thread (BSPT)	Dim. A (mm)	Dim . B (mm)	Dim . C (mm)	Dim . D (mm)	Dim . L (mm)
1/8HGS	18	18	16 SQ	26	25
1/4HGS	23	25	18 SQ	33	35
3/8HGS	26	27	21 SQ	38	39
1/2HGS	30	35	26 SQ	43	48
1/8FHGS	17	18	16 SQ	23	25
1/4FHGS	23	25	18 SQ	33	35
3/8FHGS	26	27	21 SQ	38	39
1/2FHGS	30	35	26 SQ	43	48

SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

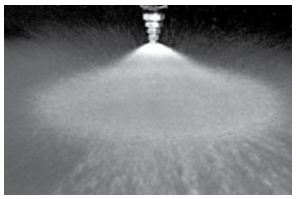
The nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel, and 316 stainless steel

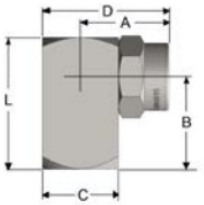
TYPICAL APPLICATIONS:

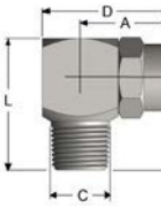
- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous Casting

"HGS" two piece body		Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
Female	Male			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
	1/8HGS1	1/8"	0.84	--	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	55°	52°
	1/8HGS1.5	1/8"	1.17	--	--	--	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.67	1.93	--	65°	57°
	1/8HGS2	1/8"	1.30	--	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	54°	59°	60°
	1/8HGS3	1/8"	1.30	--	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	50°	53°	60°
	1/8HGS3.5	1/8"	1.30	0.71	0.87	1.13	1.33	1.60	1.95	2.26	2.76	3.20	3.60	3.90	4.50	48°	58°	61°
	1/8HGS5	1/8"	1.63	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	60°	75°	70°
	1/8HGS6	1/8"	1.63	1.22	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	67°	72°	70°
	1/4HGS5	1/4"	2.06	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	58°	68°	62°
	1/4HGS6.5	1/4"	2.31	1.32	1.62	2.09	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.30	8.40	48°	56°	50°
	1/4HGS7.5	1/4"	2.31	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	55°	65°	48°
	1/4HGS8.5	1/4"	2.31	1.73	2.12	2.74	3.20	3.90	4.70	5.50	6.70	7.70	8.70	9.50	11.0	58°	65°	63°
	1/4HGS10	1/4"	2.31	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	60°	65°	62°
	1/4HGS14	1/4"	2.31	2.85	3.50	4.51	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
	3/8HGS9.5	3/8"	2.59	1.94	2.37	3.06	3.60	4.30	5.30	6.10	7.50	8.70	9.70	10.6	12.2	58°	68°	62°
	3/8HGS10	3/8"	2.59	2.04	2.50	3.02	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	55°	65°	50°
	3/8HGS15	3/8"	2.59	2.85	3.50	4.80	5.30	6.80	8.40	9.7	11.8	13.7	15.3	16.7	19.3	63°	65°	60°
	3/8HGS18	3/8"	2.59	3.70	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	85°	88°	76°
	3/8HGS20	3/8"	2.59	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	76°	82°	75°
	3/8HGS22	3/8"	2.90	4.50	5.50	7.10	8.40	10.0	12.3	14.2	17.4	20.1	22.4	24.6	28.4	76°	78°	76°
	1/2HGS16	1/2"	3.66	3.30	4.00	5.20	6.10	7.30	8.90	10.3	12.6	14.6	16.3	17.9	20.6	55°	60°	55°
	1/2HGS25	1/2"	3.66	5.10	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	25.5	27.9	32.0	68°	73°	65°
	1/2HGS32	1/2"	3.66	6.50	8.00	10.3	12.2	14.6	17.9	20.6	25.3	29.2	33.0	36.0	41.0	80°	90°	75°
	1/2HGS40	1/2"	4.11	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	86°	90°	81°
3/4FHGS30	3/4HGS30	3/4"	4.11	6.10	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	33.0	39.0	50°	52°	49°
3/4FHGS50	3/4HGS50	3/4"	4.95	10.2	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.0	65°	70°	65°
3/4FHGS83	3/4HGS83	3/4"	4.95	16.9	20.7	26.7	32.0	38.0	46.0	53.0	66.0	76.0	85.0	93.0	107	93°	97°	86°
1FHGS83	1HGS83	1"	5.56	16.9	20.7	26.7	32.0	38.0	46.0	53.0	66.0	76.0	85.0	93.0	107	71°	78°	75°
1FHGS106	1HGS106	1"	5.56	21.6	26.5	34.0	40.0	48.0	59.0	68.0	84.0	97.0	108	118	137	86°	89°	80°
1FHGS120	1HGS120	1"	5.56	24.5	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	122	134	155	80°	94°	85°
1FHGS142	1HGS142	1"	5.56	28.9	35.0	46.0	54.0	65.0	79.0	92.0	112	129	145	159	183	88°	92°	83°

Threaded Nozzles – Full Cone Series HGSW







Thread (BSPT)	Dim. A (mm)	Dim . B (mm)	Dim . C (mm)	Dim . D (mm)	Dim . L (mm)
1/8HGSW	18	18	16 SQ	26	25
1/4HGSW	23	25	18 SQ	33	35
3/8HGSW	26	27	21 SQ	38	39
1/2HGSW	30	35	26 SQ	43	48
1/8FHGSW	17	18	16 SQ	23	25
1/4FHGSW	23	25	18 SQ	33	35
3/8FHGSW	26	27	21 SQ	38	39
1/2FHGSW	30	35	26 SQ	43	48

SPRAY CHARACTERISTICS:

A wide angle full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

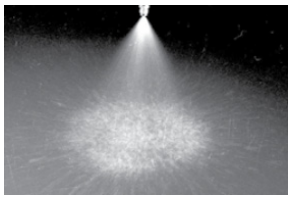
The nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel, and 316 stainless steel

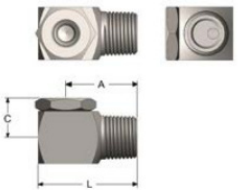
TYPICAL APPLICATIONS:

- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous Casting

"HGSW" two piece body		Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
Female	Male			0.2 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
	1/8HGS2.8W	1/8"	1.30	--	0.90	1.07	1.28	1.56	1.8	2.21	2.55	2.85	3.13	3.60	110°	105°	96°
	1/8HGS4.3W	1/8"	1.30	--	1.39	1.64	1.96	2.40	2.77	3.40	3.90	4.40	4.80	5.50	117°	108°	100°
	1/8HGS5.6W	1/8"	1.63	--	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	117°	110°	100°
	1/8HGS8W	1/8"	2.06	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	10.3	118°	110°	103°
	1/4HGS5.6W	1/4"	1.63	1.40	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	120°	108°	102°
	1/4HGS10W	1/4"	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	118°	108°	102°
	1/4HGS12W	1/4"	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	120°	112°	102°
	1/4HGS14W	1/4"	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	118°	114°	104°
	3/8HGS17W	3/8"	2.59	4.20	5.50	6.50	7.70	9.50	11.0	13.4	15.5	17.3	19.0	21.9	118°	117°	102°
	3/8HGS20W	3/8"	2.59	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	120°	120°	106°
	3/8HGS24W	3/8"	2.59	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	24.5	26.8	30.9	122°	118°	106°
	3/8HGS27W	3/8"	2.59	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	27.5	30.1	35.0	122°	120°	107°
	1/2HGS30W	1/2"	3.66	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	33.0	39.0	120°	118°	110°
	1/2HGS35W	1/2"	3.66	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	36.0	39.0	45.0	122°	118°	108°
	1/2HGS40W	1/2"	4.11	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	122°	119°	104°
	1/2HGS45W	1/2"	4.11	11.2	14.5	17.2	20.5	25.1	29.0	36.0	41.0	46.0	50.0	58.0	141°	118°	108°
3/4FHGS50W	3/4HGS50W	3/4"	4.95	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.5	120°	120°	110°
3/4FHGS71W	3/4HGS71W	3/4"	4.95	17.7	22.9	27.1	32.0	40.0	46.0	56.0	65.0	72.0	79.0	92.0	118°	120°	112°
1FHGS13W	1HGS13W	1"	5.56	32.0	42.0	50.0	59.0	73.0	84.0	103	119	132	145	168	120°	125°	118°
1 1/4FHGS19W		1 ¼"	6.60	47.0	61.0	72.0	87.0	106	122	150	173	194	212	245	122°	123°	120°
1 1/2FHGS29W		1 ½"	8.36	72.0	93.0	111	132	162	187	229	264	296	324	374	125°	125°	120°
2FHGS56W		2"	11.1	140	180	214	255	313	361	442	510	571	625	722	125°	125°	118°
2 1/2FHGS83W		2 ½"	13.5	207	267	317	378	463	535	655	757	846	927	1070	122°	123°	120°
3FHGS107W		3"	17.5	267	345	408	488	597	690	845	975	1090	1195	1379	125°	123°	123°
4FHGS165W		4"	22.2	412	532	629	752	921	1064	1303	1504	1682	1842	2127	125°	125°	123°

Threaded Nozzles – Full Cone Series HNS





MODEL NUMBER female (BSPT)	Dim. A (mm)	Dim . B (mm)	Dim . L (mm)	MODEL NUMBER male (BSPT)	Dim . A (mm)	Dim . C (mm)	Dim . L (mm)
1/4FHNS	24	13	31	1/4HNS	24	13	31
3/8FHNS	25	14	36	3/8HNS	27	16	38
1/2FHNS	36	19	48	1/2HNS	36	19	48

SPRAY CHARACTERISTICS:

The HNS series vaneless full-cone nozzle projects a medium to coarse full-cone spray in a direction perpendicular to the nozzle inlet axis. The maximum free passage in this nozzle is substantially larger than most fullcone nozzles due to the 'vaneless' design. This nozzle is suitable for applications where a relatively coarse full-cone spray is required, and where standard nozzles are subject to plugging.

TYPICAL APPLICATIONS:

Wherever a medium to coarse full-cone spray is required from a nozzle with a larger maximum free passage

CONSTRUCTION:

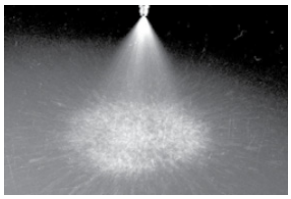
The HNS series are made from bar stock and are a two piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Other materials are available upon request

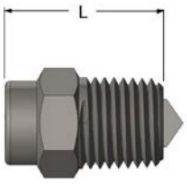
SPECIAL FEATURES:

- 'Vaneless' full-cone design
- Large maximum free passage
- Easy disassembly/assembly and cleaning

MODEL NUMBER		Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										
female	male			0.3 bar	0 .5 bar	0 .7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar
1/4FHNS5	1/4HNS5	1/4"	1.98	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6 .00
1/4FHNS7	1/4HNS7	1/4"	2.39	1.75	2.26	2.67	3.20	3.90	4.50	5.50	6.40	7.10	7.80	8.40
1/4FHNS8	1/4HNS8	1/4"	2.77	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	9.60
1/4FHNS10	1/4HNS10	1/4"	3.18	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.1
1/4FHNS11	1/4HNS11	1/4"	3.58	2.75	3.50	4.20	5 .00	6.10	7.10	8.70	10.0	11.2	12.3	13.3
3/8FHNS11	3/8HNS11	3/8"	3.18	2.75	3.50	4.20	5 .00	6.10	7.10	8.70	10.0	11.2	12.3	13.3
3/8FHNS13	3/8HNS13	3/8"	3.58	3.20	4.20	5 .00	5.90	7.30	8.40	10.3	11.9	13.2	14.5	15.7
3/8FHNS16	3/8HNS16	3/8"	3.96	4.00	5.20	6.10	7.30	8.90	10.3	12.6	14.6	16.3	17.9	19.3
3/8FHNS20	3/8HNS20	3/8"	4.37	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	24.1
3/8FHNS23	3/8HNS23	3/8"	4.78	5.70	7.40	8.80	10.5	12.8	14.8	18.2	21.0	23.4	25.7	27.7
3/8FHNS26	3/8HNS26	3/8"	5.16	6.50	8.40	9.90	11.9	14.5	16.8	20.5	23.7	26.5	29.0	31.0
3/8FHNS29	3/8HNS29	3/8"	5.56	7.20	9.30	11.1	13.2	16.2	18.7	22.9	26.4	29.6	32.0	35.0
3/8FHNS33	3/8HNS33	3/8"	5.94	8.20	10.6	12.6	15.0	18.4	21.3	26.1	30.1	34.0	37.0	40.0
1/2FHNS32	1/2HNS32	1/2"	5.16	8.00	10.3	12.2	14.6	17.9	20.6	25.3	29.2	33.0	36.0	39.0
1/2FHNS40	1/2HNS40	1/2"	5.94	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	48.0
1/2FHNS48	1/2HNS48	1/2"	7.14	12.0	15.5	18.3	21.9	26.8	30.9	38.0	44.0	49.0	54.0	58.0
1/2FHNS56	1/2HNS56	1/2"	7.54	14.0	18.0	21.4	25.5	31.3	36.0	44.0	51.0	57.0	63.0	68.0
1/2FHNS64	1/2HNS64	1/2"	8.33	16.0	20.6	24.4	29.2	36.0	41.0	51.0	58.0	65.0	71.0	77.0
1/2FHNS72	1/2HNS72	1/2"	9.12	18.0	23.2	27.5	33.0	40.0	46.0	57.0	66.0	73.0	80.0	87.0

Threaded Nozzles – Full Cone Series CCS





Thread (BSPT)	Dim. A (mm)	Dim. L (mm)
1/4CCS	14 HEX	24
3/8CCS	17 HEX	30

SPRAY CHARACTERISTICS:

Full cone spray pattern with a distribution that is heavier in the middle. Spray angle remains nearly constant at pressures between 1 and 6 bar.

CONSTRUCTION:

CCS nozzles are machined from bar, and consist of a one piece body, plus a non-removable insert. Standard material is brass.

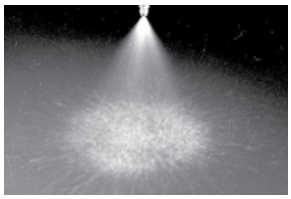
TYPICAL APPLICATIONS:

Suitable for temperature control applications, where the volume of sprayed coolant can be adjusted without significantly affecting spray coverage. This enables the user to maximize heat transfer efficiency while avoiding loss of coverage area. CCS nozzles feature an internal insert which will not come loose in environments which are subject to thermal cycling.

- Continuous Casting and Billet Casting
- Rinsing and Cooling
- Heat Exchanger Cooling
- Chemical Processing

Spray Angle @ 3 bar	BEX MODEL	Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										
				1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	6 bar	7 bar
49°	**1/4CCS4917**	1/4”	2.31	3.90	4.70	5.50	6.10	6.70	7.20	7.70	8.20	8.70	9.50	10.0
	3/8CCS4917	3/8”	2.31	3.90	4.70	5.50	6.10	6.70	7.20	7.70	8.20	8.70	9.50	10.0
	3/8CCS4922	3/8”	2.31	5.00	6.10	7.10	7.90	8.70	9.40	10.0	11.0	11.0	12.0	13.0
	3/8CCS4927	3/8”	2.59	6.20	7.50	8.70	9.70	11.0	12.0	12.0	13.0	14.0	15.0	16.0
	3/8CCS4931	3/8”	2.9	7.10	8.70	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	19.0
57°	**1/4CCS5710**	1/4”	1.63	2.30	2.80	3.20	3.60	3.90	4.30	4.60	4.80	5.10	5.60	6.00
	1/4CCS5713	1/4”	2.06	3.00	3.60	4.20	4.70	5.10	5.50	5.90	6.30	6.60	7.30	7.80
	1/4CCS5715	1/4”	2.31	3.40	4.20	4.80	5.40	5.90	6.40	6.80	7.30	7.60	8.40	9.00
	1/4CCS5718	1/4”	2.31	4.10	5.00	5.80	6.50	7.10	7.70	8.20	8.70	9.20	10.0	11.0
	3/8CCS5718	3/8”	2.31	4.10	5.00	5.80	6.50	7.10	7.70	8.20	8.70	9.20	10.0	11.0
	3/8CCS5726	3/8”	2.31	5.90	7.30	8.40	9.40	10.0	11.0	12.0	13.0	13.0	15.0	16.0
	3/8CCS5731	3/8”	2.59	7.10	8.70	10.0	11.0	12.0	13.0	14.0	15.0	52.0	17.0	19.0
	3/8CCS5744	3/8”	2.9	10.0	12.0	14.0	16.0	17.0	19.0	20.0	21.0	22.0	25.0	27.0
66°	**1/4CCS6614**	1/4”	1.63	3.20	3.90	4.50	5.00	5.50	6.00	6.40	6.80	7.10	7.80	8.40
	1/4CCS6624	1/4”	2.31	5.50	6.70	7.70	8.60	9.50	10.0	11.0	12.0	12.0	13.0	15.0
	1/4CCS6629	1/4”	2.31	6.60	8.10	9.30	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0
	3/8CCS6629	3/8”	2.31	6.60	8.10	9.30	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0
	3/8CCS6633	3/8”	2.31	7.50	9.20	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	20.0
	3/8CCS6648	3/8”	2.9	11.0	13.0	16.0	17.0	19.0	21.0	22.0	23.0	25.0	27.0	29.0
76°	**1/4CCS7622**	1/4”	2.31	5.00	6.10	7.10	7.90	8.70	9.40	10.0	11.0	11.0	12.0	13.0
	1/4CCS7632	1/4”	2.31	7.30	8.90	10.0	12.0	13.0	14.0	15.0	15.0	16.0	18.0	19.0
	3/8CCS7632	3/8”	2.31	7.30	8.90	10.0	12.0	13.0	14.0	15.0	15.0	16.0	18.0	19.0
	3/8CCS7638	3/8”	2.31	8.70	11.0	12.0	14.0	15.0	16.0	17.0	18.0	19.0	21.0	23.0
	3/8CCS7664	3/8”	2.9	15.0	18.0	21.0	23.0	25.0	27.0	29.0	31.0	33.0	36.0	39.0
86°	**1/4CCS8618**	1/4”	2.31	4.10	5.00	5.80	6.50	7.10	7.70	8.20	8.70	9.20	10.0	11.0
	1/4CCS8633	1/4”	2.31	7.50	9.20	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	20.0
	3/8CCS8633	3/8”	2.31	7.50	9.20	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	20.0
	3/8CCS8642	3/8”	2.31	9.60	12.0	14.0	15.0	17.0	18.0	19.0	20.0	21.0	23.0	25.0
	3/8CCS8649	3/8”	2.59	11.0	14.0	16.0	18.0	19.0	21.0	22.0	24.0	25.0	27.0	30.0
	3/8CCS8667	3/8”	2.9	15.0	19.0	22.0	24.0	26.0	29.0	31.0	32.0	34.0	37.0	40.0

Threaded Nozzles – Full Cone Series FS



Thread (BSPT)	Dim. A (mm)	Dim. L (mm)
11/4FS	47.6	89
11/2FS	57.2	108
2FS	69.9	138
21/2FS	92.1	178
3FS	102	197
4FS	127	251

SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

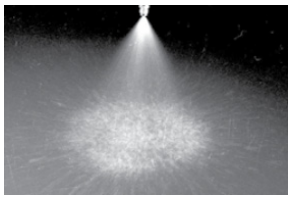
All models have a female NPT connection, and consist of a one piece body plus an internal insert. Standard materials are machined 316 stainless steel or cast 316 stainless steel.

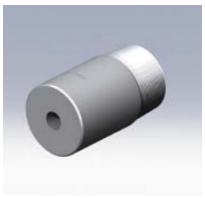
TYPICAL APPLICATIONS:

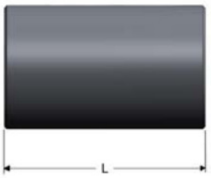
- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Heat Exchanger Cooling
- Coke Quenching
- Absorption Stack Spraying
- Gravel Washing

BEX MODEL	Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	9 bar	0.5 bar	1.5 bar	5 bar
11/4FS7.1	1 ¼"	6.6	14.5	18.0	23.0	27.0	32.0	40.0	46.0	56.0	65.0	72.0	79.0	97.0	54°	56°	50°
11/4FS12	1 ¼"	6.6	24.5	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	122	134	164	72°	76°	70°
11/4FS14.1	1 ¼"	6.6	28.7	35.0	45.0	54.0	64.0	79.0	91.0	111	129	144	157	193	76°	80°	74°
11/4FS16.5	1 ¼"	7.7	34.0	41.0	53.0	63.0	75.0	92.0	106	130	150	168	184	226	85°	90°	83°
11/4FS23.8	1 ¼"	7.9	49.0	60.0	77.0	92.0	109	134	155	189	219	245	268	328	94°	98°	89°
11/2FS12.5	1 ½"	8.0	25.5	31.0	40.0	48.0	57.0	70.0	81.0	99	114	127	140	171	50°	51°	49°
11/2FS19	1 ½"	8.4	39.0	47.0	61.0	72.0	87.0	106	122	150	173	194	212	260	68°	70°	62°
11/2FS24	1 ½"	8.4	49.0	60.0	77.0	92.0	109	134	155	189	219	245	268	328	82°	88°	70°
11/2FS36	1 ½"	9.5	73.0	90.0	116	137	164	201	232	284	328	367	402	492	98°	103°	85°
2FS20	2"	11.1	41.0	50.0	64.0	76.0	91.0	112	129	158	182	204	223	273	50°	64°	60°
2FS36	2"	11.1	73.0	90.0	116	137	164	201	232	284	328	367	402	492	70°	75°	68°
2FS42	2"	11.1	86.0	105	135	160	191	234	271	332	383	428	469	574	74°	78°	70°
2FS47	2"	11.1	96.0	117	151	179	214	262	303	371	428	479	525	643	78°	80°	84°
2FS59	2"	11.1	120	147	190	225	269	329	380	466	538	601	659	807	82°	86°	78°
2FS71	2"	11.1	145	177	229	271	324	396	458	560	647	724	793	971	98°	100°	93°
21/2FS30	2 ½"	11.1	61.0	75.0	97.0	114	137	167	193	237	273	306	335	410	55°	59°	55°
21/2FS59	2 ½"	11.1	120	147	190	225	269	329	380	466	538	601	659	807	75°	80°	72°
21/2FS71	2 ½"	13.5	145	177	229	271	324	396	458	560	647	724	793	971	80°	85°	77°
21/2FS83	2 ½"	13.5	169	207	267	317	378	463	535	655	757	846	927	1135	80°	82°	76°
21/2FS95	2 ½"	13.5	194	237	306	362	433	530	612	750	866	968	1061	1299	86°	90°	82°
21/2FS108	2 ½"	17.5	220	270	348	412	492	603	696	853	984	1101	1206	1477	96°	98°	86°
3FS50	3"	17.5	102	125	161	191	228	279	322	395	456	510	558	684	49°	50°	46°
3FS95	3"	17.5	194	237	306	362	433	530	612	750	866	968	1061	1299	81°	84°	76°
3FS108	3"	17.5	220	270	348	412	492	603	696	853	984	1101	1206	1477	86°	89°	81°
3FS119	3"	17.5	243	297	384	454	542	664	767	939	1085	1213	1329	1627	92°	95°	87°
3FS142	3"	17.5	289	354	458	541	647	793	915	1121	1294	1447	1585	1942	102°	105°	93°
4FS189	4"	22.2	385	472	609	721	861	1055	1218	1492	1723	1926	2110	2584	87°	90°	85°
4FS212	4"	22.2	432	529	683	808	966	1183	1366	1674	1932	2161	2367	2899	92°	95°	87°
4FS238	4"	22.2	485	594	767	908	1085	1329	1534	1879	2169	2426	2657	3254	97°	100°	91°
4FS250	4"	22.2	510	624	806	953	1139	1396	1611	1974	2279	2548	2791	3418	102°	105°	95°

Threaded Nozzles – Full Cone Series PS & PSW







Thread female (BSPT)	Dim. A (mm)	Dim. L (mm)	Thread male (BSPT)	Dim. A (mm)	Dim. L (mm)
11/4FPS	51	83	11/4PS	45	76
11/2FPS	64	108	11/2PS	51	102
2FPS	76	149	2PS	64	105
21/ FPS	89	149	21/ PS	76	114
3FPS	102	149	3PS	89	140

SPRAY CHARACTERISTICS:

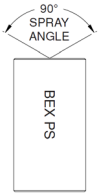
A full cone spray pattern with large flow capacities. Spray angle is 90° or 120°(included angle). Other sizes and spray angles available upon request.

CONSTRUCTION:

The models listed are machined from plastic and consist of a body plus a non-removable insert. Standard materials are PVC, CPVC and polypropylene.

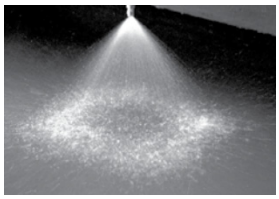
TYPICAL APPLICATIONS:

- Scrubbing and Pollution Control
- Rinsing and Cooling



Model Number		Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)								
female	male			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1.5 bar	3 bar	4 bar	5 bar	6 bar
1¼FPS17	**1¼PS17**	1 ¼"	6.4	35	42	55	65	95	134	155	173	190
1¼FPS20	**1¼PS20**	1 ¼"	6.4	41	50	64	76	112	158	182	204	223
1½FPS17	**1½PS17**	1 ½"	6.4	35	42	55	65	95	134	155	173	190
1½FPS19	**1½PS19**	1 ½"	6.4	39	47	61	72	106	150	173	194	212
1½FPS21	**1½PS21**	1 ½"	6.4	43	52	68	80	117	166	191	214	234
1½FPS25	**1½PS25**	1 ½"	7.9	51	62	81	95	140	197	228	255	279
1½FPS29	**1½PS29**	1 ½"	7.9	59	72	93	111	162	229	264	296	324
2FPS20	**2PS20**	2"	6.4	41	50	64	76	112	158	182	204	223
2FPS25	**2PS25**	2"	7.9	51	62	81	95	140	197	228	255	279
2FPS32	**2PS32**	2"	7.9	65	80	103	122	179	253	292	326	357
2FPS40	**2PS40**	2"	9.5	82	100	129	153	223	316	365	408	447
2FPS48	**2PS48**	2"	9.5	98	120	155	183	268	379	438	489	536
2FPS55	**2PS55**	2"	13.5	112	137	177	210	307	434	501	561	614
2FPS60	**2PS60**	2"	13.5	122	150	193	229	335	474	547	611	670
2FPS72	**2PS72**	2"	14.3	147	180	232	275	402	568	656	734	804
2FPS76	**2PS76**	2"	14.3	155	190	245	290	424	600	693	775	848
2FPS84	**2PS84**	2"	15.9	171	210	271	320	469	663	766	856	938
2½FPS84	**2½PS84**	2 ½"	15.9	171	210	271	320	469	663	766	856	938
2½FPS96	**2½PS96**	2 ½"	17.5	196	240	309	366	536	758	875	978	1072
2½FPS108	**2½PS108**	2 ½"	17.5	220	270	348	412	603	853	984	1101	1206
3FPS70	**3PS70**	3"	14.3	38	175	226	267	391	553	638	713	781
3FPS100	**3PS100**	3"	17.5	204	250	322	381	558	789	912	1019	1116
3FPS115	**3PS115**	3"	17.5	234	287	371	439	642	908	1048	1172	1284
3FPS140	**3PS140**	3"	20.6	285	349	451	534	781	1105	1276	1427	1563

Threaded Nozzles – Full Cone Series PSQ & PSWSQ



Thread female (BSPT)	Dim. A (mm)	Dim. L (mm)	Thread male (BSPT)	Dim. A (mm)	Dim. L (mm)
11/4FPSQ	51	83	11/4PSQ	45	76
11/2FPSQ	64	108	11/2PSQ	51	102
2FPSQ	76	149	2PSQ	64	105
21/2 FPSQ	89	149	21/2 PSQ	76	114
3FPSQ	102	149	3PSQ	89	140

SPRAY CHARACTERISTICS:

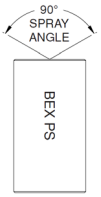
A full cone square spray pattern with large flow capacities. Spray angle is 90° or 120° (included angle). Other sizes and spray angles available upon request.

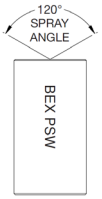
TYPICAL APPLICATIONS:

- Scrubbing and Pollution Control
- Rinsing and Cooling

CONSTRUCTION:

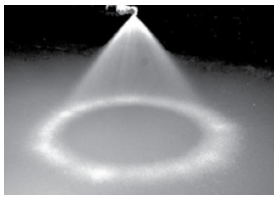
The models listed are machined from plastic and consist of a body plus a non-removable insert. Standard materials are PVC, CPVC and polypropylene.

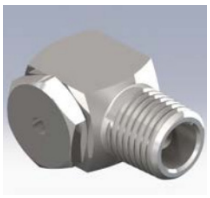


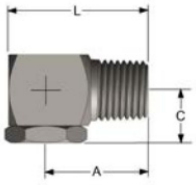


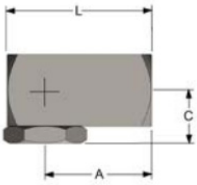
Model Number		Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)								
female	male			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1.5 bar	3 bar	4 bar	5 bar	6 bar
1 1/4FPSQ17	1 1/4PSQ17	1 ¼"	6.4	35	42	55	65	95	134	155	173	190
1 1/4FPSQ20	1 1/4PSQ20	1 ¼"	6.4	41	50	64	76	112	158	182	204	223
1 1/2FPSQ17	1 1/2PSQ17	1 ½"	6.4	35	42	55	65	95	134	155	173	190
1 1/2FPSQ19	1 1/2PSQ19	1 ½"	6.4	39	47	61	72	106	150	173	194	212
1 1/2FPSQ21	1 1/2PSQ21	1 ½"	6.4	43	52	68	80	117	166	191	214	234
1 1/2FPSQ25	1 1/2PSQ25	1 ½"	7.9	51	62	81	95	140	197	228	255	279
1 1/2FPSQ29	1 1/2PSQ29	1 ½"	7.9	59	72	93	111	162	229	264	296	324
2FPSQ20	2PSQ20	2"	6.4	41	50	64	76	112	158	182	204	223
2FPSQ25	2PSQ25	2"	7.9	51	62	81	95	140	197	228	255	279
2FPSQ32	2PSQ32	2"	7.9	65	80	103	122	179	253	292	326	357
2FPSQ40	2PSQ40	2"	9.5	82	100	129	153	223	316	365	408	447
2FPSQ48	2PSQ48	2"	9.5	98	120	155	183	268	379	438	489	536
2FPSQ55	2PSQ55	2"	13.5	112	137	177	210	307	434	501	561	614
2FPSQ60	2PSQ60	2"	13.5	122	150	193	229	335	474	547	611	670
2FPSQ72	2PSQ72	2"	14.3	147	180	232	275	402	568	656	734	804
2FPSQ76	2PSQ76	2"	14.3	155	190	245	290	424	600	693	775	848
2FPSQ84	2PSQ84	2"	15.9	171	210	271	320	469	663	766	856	938
2 1/2FPSQ84	2 1/2PSQ84	2 ½"	15.9	171	210	271	320	469	663	766	856	938
2 1/2FPSQ96	2 1/2PSQ96	2 ½"	17.5	196	240	309	366	536	758	875	978	1072
2 1/2FPSQ108	2 1/2PSQ108	2 ½"	17.5	220	270	348	412	603	853	984	1101	1206
3FPSQ70	3PSQ70	3"	14.3	38	175	226	267	391	553	638	713	781
3FPSQ100	3PSQ100	3"	17.5	204	250	322	381	558	789	912	1019	1116
3FPSQ115	3PSQ115	3"	17.5	234	287	371	439	642	908	1048	1172	1284
3FPSQ140	3PSQ140	3"	20.6	285	349	451	534	781	1105	1276	1427	1563

Threaded Nozzles – Hollow Cone Series H









Model male	Dim. A (mm)	Dim . L (mm)	Dim . C (mm)	Model female	Dim . A (mm)	Dim . L (mm)	Dim . C (mm)
1/8H	18	25	10	1/8FH	18	25	10
1/4H	24	25	13	1/4FH	24	25	13
3/8H	25	35	14	3/8FH	25	35	14
1/2H	35	48	19	1/2FH	35	48	19
3/4H	40	57	22	3/4FH	40	57	22

SPRAY CHARACTERISTICS:

A hollow cone spray pattern, emerging at right angles to the centerline of the pipe connection. The standard included angle of the spray cone is 70° at 0.7 bar. At low pressures hollow cone nozzles produce medium size, uniform droplets. At higher pressures finer droplets are produced.

CONSTRUCTION:

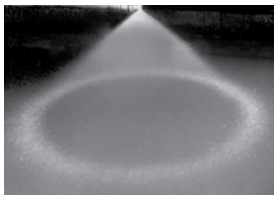
The models listed are machined from bar stock, and are two piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models available in other materials.

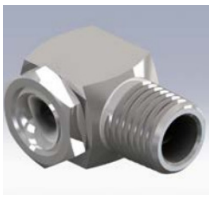
TYPICAL APPLICATIONS:

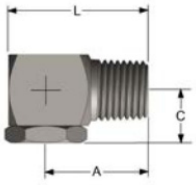
- Air and Gas Washing
- Aerating, Rinsing and Humidifying
- Industrial Washers and Spray Ponds
- Cooling Tunnels
- Roof Cooling
- Degreasing
- Dust Suppression
- Metal Treatment

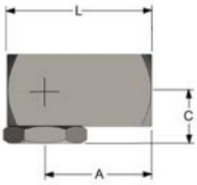
Model Number		Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @			
female	male			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	8 bar	0.7 bar	1.5 bar	3 bar	6 bar
1/8FH0.5	1/8H0.5	1/8"	0.71	--	--	--	--	--	--	0.32	0.39	0.46	0.56	0.64	--	--	40°	45°
1/8FH1	1/8H1	1/8"	1.35	--	--	--	--	0.46	0.56	0.64	0.79	0.91	1.12	1.29	--	60°	74°	75°
1/8FH2	1/8H2	1/8"	2.18	--	--	--	--	0.91	1.12	1.29	1.58	1.82	2.23	2.58	--	65°	72°	76°
1/8FH3	1/8H3	1/8"	2.49	--	--	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.30	3.90	65°	76°	80°	83°
1/8FH5	1/8H5	1/8"	3.25	--	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.60	6.40	70°	77°	80°	81°
1/8FH7.5	1/8H7.5	1/8"	3.89	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	8.40	9.70	70°	86°	94°	94°
1/8FH10	1/8H10	1/8"	4.34	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	11.2	12.9	70°	71°	73°	75°
1/4FH1	1/4H1	1/4"	1.52	--	--	0.32	0.38	0.46	0.56	0.64	0.79	0.91	1.12	1.29	--	61°	74°	69°
1/4FH2	1/4H2	1/4"	2.16	--	--	--	0.76	0.91	1.12	1.29	1.58	1.82	2.23	2.58	70°	75°	83°	85°
1/4FH3	1/4H3	1/4"	2.82	--	--	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.30	3.90	70°	70°	72°	74°
1/4FH5	1/4H5	1/4"	3.45	--	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.60	6.40	70°	77°	80°	83°
1/4FH7.5	1/4H7.5	1/4"	4.22	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	8.40	9.70	70°	70°	74°	75°
1/4FH10	1/4H10	1/4"	4.32	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	11.2	12.9	70°	74°	76°	80°
1/4FH12.5	1/4H12.5	1/4"	4.50	2.55	3.12	4.00	4.80	5.70	7.00	8.10	9.90	11.4	14.0	16.1	70°	82°	83°	83°
1/4FH15	1/4H15	1/4"	5.41	3.06	3.70	4.80	5.70	6.80	8.4	9.70	11.8	13.7	16.7	19.3	70°	73°	75°	75°
3/8FH5	3/8H5	3/8"	3.45	--	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.60	6.40	70°	74°	76°	76°
3/8FH7.5	3/8H7.5	3/8"	4.17	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	8.40	9.70	70°	74°	78°	82°
3/8FH10	3/8H10	3/8"	4.93	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	11.2	12.9	70°	78°	80°	81°
3/8FH12.5	3/8H12.5	3/8"	5.21	2.55	3.12	4.00	4.80	5.70	7.00	8.10	9.90	11.4	14.0	16.1	70°	80°	82°	84°
3/8FH15	3/8H15	3/8"	5.89	3.06	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	16.7	19.3	70°	73°	75°	75°
3/8FH20	3/8H20	3/8"	6.35	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	22.3	25.8	70°	73°	75°	75°
3/8FH25	3/8H25	3/8"	7.09	5.10	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	27.9	32.0	70°	72°	73°	73°
3/8FH30	3/8H30	3/8"	7.42	6.10	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	33.0	39.0	70°	70°	73°	72°
1/2FH25	1/2H25	1/2"	7.49	5.10	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	27.9	32.0	70°	75°	76°	76°
1/2FH30	1/2H30	1/2"	8.36	6.10	7.50	9.70	11.4	13.4	16.7	19.3	23.7	27.3	33.0	39.0	70°	78°	80°	81°
1/2FH40	1/2H40	1/2"	9.37	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	45.0	52.0	70°	75°	75°	75°
1/2FH50	1/2H50	1/2"	9.98	10.2	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	56.0	64.0	70°	70°	71°	73°
1/2FH60	1/2H60	1/2"	10.7	12.2	15.0	19.3	22.9	27.3	33.0	39.0	47.0	55.0	67.0	77.0	70°	70°	71°	71°
3/4FH40	3/4H40	3/4"	9.35	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	45.0	52.0	70°	71°	76°	79°
3/4FH50	3/4H50	3/4"	10.69	10.2	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	56.0	64.0	70°	73°	74°	74°
3/4FH60	3/4H60	3/4"	11.13	12.2	15.0	19.3	22.9	27.3	33.0	39.0	47.0	55.0	67.0	77.0	70°	75°	78°	80°
3/4FH70	3/4H70	3/4"	11.91	14.3	17.5	22.6	26.7	32.0	39.0	45.0	55.0	64.0	78.0	90.0	70°	74°	76°	76°
3/4FH80	3/4H80	3/4"	12.29	16.3	20.0	25.8	30.5	36.0	45.0	52.0	63.0	73.0	89.0	103	70°	73°	75°	76°
3/4FH90	3/4H90	3/4"	12.70	18.3	22.5	29.0	34.0	41.0	50.0	58.0	71.0	82.0	100	116	70°	70°	71°	73°
3/4FH100	3/4H100	3/4"	12.88	20.4	25.0	32.0	38.0	46.0	56.0	64.0	79.0	91.0	112	129	70°	73°	76°	78°
3/4FH110	3/4H110	3/4"	14.61	22.4	27.5	35.0	42.0	50.0	61.0	71.0	87.0	100	123	142	70°	72°	75°	72°
3/4FH120	3/4H120	3/4"	14.43	24.5	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	134	155	70°	70°	71°	71°

Threaded Nozzles – Hollow Cone Series HW









Model male	Dim. A (mm)	Dim . L (mm)	Dim . C (mm)	Model female	Dim . A (mm)	Dim . L (mm)	Dim . C (mm)
1/8HW	18	25	10	1/8FHW	18	25	10
1/4HW	24	25	13	1/4FHW	24	25	13
3/8HW	25	35	14	3/8FHW	25	35	14
1/2HW	35	48	19	1/2FHW	35	48	19
3/4HW	40	57	22	3/4FHW	40	57	22

SPRAY CHARACTERISTICS:

A hollow cone spray pattern, emerging at right angles to the centerline of the pipe connection. The standard included angle of the spray cone is 120° at 0.7 bar. At low pressures hollow cone nozzles produce medium size, uniform droplets. At higher pressures finer droplets are produced.

CONSTRUCTION:

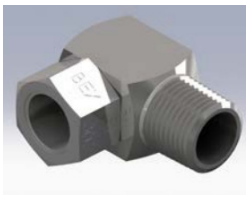
The models listed are machined from bar stock, and are two piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models available in other materials.

TYPICAL APPLICATIONS:

- Air and Gas Washing
- Aerating, Rinsing and Humidifying
- Industrial Washers and Spray Ponds
- Cooling Tunnels
- Roof Cooling
- Degreasing
- Dust Suppression
- Metal Treatment

Model Number		Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @			
female	female			0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.7 bar	1.5 bar	3 bar	6 bar
1/8FH1W	1/8H1W	1/8“	1.40	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	115°	107°	95°
1/8FH2W	1/8H2W	1/8“	1.96	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	120°	117°	105°	97°
1/8FH3W	1/8H3W	1/8“	2.36	--	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	120°	116°	109°	92°
1/8FH5W	1/8H5W	1/8“	2.77	--	1.61	1.91	2.28	2.79	3.20	3.90	4.6	5.10	5.60	6.40	120°	116°	107°	90°
1/4FH1W	1/4H1W	1/4“	1.40	--	0.32	0.38	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	120°	110°	102°	90°
1/4FH2W	1/4H2W	1/4“	1.96	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	120°	110°	105°	92°
1/4FH3W	1/4H3W	1/4“	2.36	--	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	120°	114°	104°	90°
1/4FH5W	1/4H5W	1/4“	2.77	--	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	120°	113°	107°	98°
1/4FH7.5W	1/4H7.5W	1/4“	4.01	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	120°	115°	110°	92°
1/4FH10W	1/4H10W	1/4“	4.32	2.50	3.20	3.8.0	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	120°	115°	110°	93°
1/4FH12.5W	1/4H12.5W	1/4“	4.78	3.12	4.00	4.8.0	5.70	7.00	8.10	9.90	11.4	12.7	14.0	16.1	120°	118°	110°	94°
1/4FH15W	1/4H15W	1/4“	5.11	3.70	4.80	5.7.0	6.8.0	8.40	9.70	11.8	13.7	15.3	16.7	19.3	120°	115°	108°	92°
3/8FH5W	3/8H5W	3/8“	2.77	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	120°	117°	107°	99°
3/8FH7.5W	3/8H7.5W	3/8“	4.01	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	120°	113°	110°	93°
3/8FH10W	3/8H10W	3/8“	4.32	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	120°	115°	110°	93°
3/8FH12.5W	3/8H12.5W	3/8“	4.78	3.12	4.00	4.80	5.70	7.00	8.10	9.90	11.4	12.7	14.0	16.1	120°	115°	108°	94°
3/8FH15W	3/8H15W	3/8“	5.11	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	15.3	16.7	19.3	120°	110°	105°	90°
3/8FH20W	3/8H20W	3/8“	5.94	5.00	6.40	7.60	9.00	11.2	12.9	15.8	18.2	20.4	22.3	25.8	120°	118°	116°	110°
3/8FH25W	3/8H25W	3/8“	6.73	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	25.5	27.9	32.0	120°	117°	115°	110°
3/8FH30W	3/8H30W	3/8“	7.11	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	33.0	39.0	120°	115°	110°	102°
1/2FH50W	1/2H50W	1/2“	9.09	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.0	120°	115°	108°	103°

Threaded Nozzles – Hollow Cone Series PH



SPRAY CHARACTERISTICS:

A hollow cone spray pattern for phosphating applications. This large droplet, low impingement type of spray results in a tighter and more consistent phosphate crystalline structure.

TYPICAL APPLICATIONS:

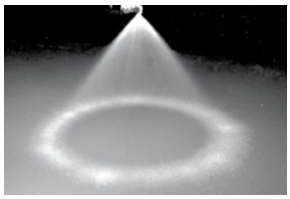
- Phosphating

CONSTRUCTION:

Two piece construction. Available in 303 stainless steel and 316 stainless steel.

Model Number	Thread BSPT	ORIFICE DIAMETER (mm)		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										Spray Angle @		
		body	cap	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	0.7 bar	1 bar	2 bar
3/8PH23	3/8“	5.59	7.92	5.70	7.40	8.80	10.5	12.8	14.8	18.2	21.0	23.4	25.7	45°	53°	60°
3/8PH28	3/8“	5.87	7.92	7.00	9.00	10.7	12.8	15.6	18.0	22.1	25.5	28.5	31	40°	43°	48°
3/8PH51	3/8“	8.74	9.53	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	40°	50°	50°
3/8PH53	3/8“	9.53	9.53	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	70°	70°	70°

Threaded Nozzles – Hollow Cone Series YH



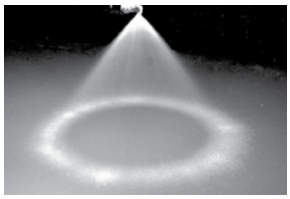
SPRAY CHARACTERISTICS:
A hollow cone spray pattern with large flow rates and small droplet sizes.

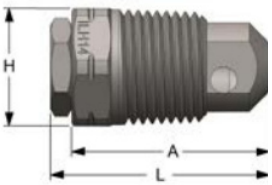
CONSTRUCTION:
YH Series nozzles have an anti-clog design that can be easily inspected, cleaned and serviced. Standard materials are brass, 303 stainless steel, 316 stainless steel, PVC and Teflon®. Other materials available upon request.

TYPICAL APPLICATIONS:
- Air & Gas Washing
- Dust Suppression
- Spray Ponds
- Cooling Tunnels
- Medical Treatment
- Humidification

Available Spray Angles	BEX Size	Thread BSPT	MAX. FREE PASSAGE (mm)	Dimension		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												
				"A" (mm)	"L" (mm)	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	10 bar	13 bar	17 bar	20 bar
	07	1/4“	2.21	14 Hex	30.2	1.75	2.26	2.67	3.20	3.90	4.50	5.50	6.40	7.80	10.1	11.5	13.2	14.3
	13	1/4“	3.18	14 Hex	30.2	3.25	4.20	5.00	5.90	7.30	8.40	10.3	11.9	14.5	18.7	21.4	24.4	26.5
	20	1/4“	3.96	14 Hex	30.2	5.00	6.50	7.60	9.10	11.2	12.9	15.8	18.2	22.3	28.8	33.0	38.0	41.0
50°	30	3/8“	4.78	17 Hex	54	7.50	9.70	11.4	13.7	16.8	19.3	23.7	27.4	34.0	43.0	49.0	56.0	61.0
60°	40	3/8“	5.56	17 Hex	54	10.0	12.9	15.5	18.2	22.3	25.8	31.6	36.0	45.0	58.0	66.0	75.0	82.0
90°	53	3/8“	6.35	17 Hex	54	13.2	17.1	20.2	24.2	29.6	34.0	42.0	48.0	59.0	76.0	87.0	100	108
	82	3/8“	7.95	17 Hex	54	20.5	26.4	31.3	37.4	46.0	53.0	65.0	75.0	92	118	135	154	167
120°	120	1/2“	9.53	22 Hex	63.5	30.0	39.0	46.0	54.7	67.0	77.0	95.0	109	134	173	197	226	245
180°	164	1/2“	11.1	22 Hex	63.5	41.0	53.0	63.0	74.8	92.0	106	129	149	183	236	270	308	334
	210	3/4“	12.7	27 Hex	73	52.0	38.0	80.0	95.7	117	135	166	191	234	303	345	395	428
	340	1“	15.9	35 Hex	93.6	85.0	110	130	155	190	219	268	310	280	490	559	639	639
	470	1“	19.1	35 Hex	93.6	117	151	179	214	262	303	371	428	525	677	772	883	958

Threaded Nozzles – Hollow Cone Series ILH





Model	Dim. A (mm)	Dim. L (mm)	Dim. H (mm)
3/8ILH	31	33	19
1/2ILH	33	38	25
3/4ILH	38	46	31
1 1/2ILH	61	66	51

SPRAY CHARACTERISTICS:

ILH series in-line hollow-cone spray nozzles produce a very evenly distributed hollow-cone spray which emerges through the center axis of the nozzle body. At lower pressures, they produce medium sized, uniform droplets. Finer droplets are produced at higher pressures.

CONSTRUCTION:

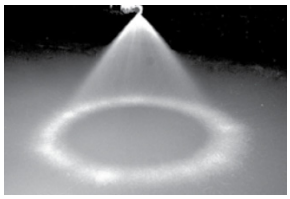
ILH series nozzles have large maximum free passage diameters to reduce clogging. Interchangeable nozzle caps are easily removed for cleaning or inspection. Standard materials of construction for ILH series nozzles are brass, 303 and 316 stainless steel. Other body and cap materials are available upon request.

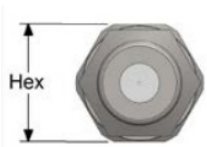
TYPICAL APPLICATIONS:

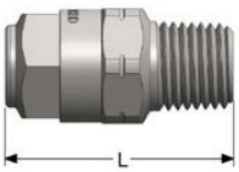
- Dust Suppression
- Spray Ponds
- Metal Treatment
- Roof Cooling
- Brine Spraying
- Humidification
- Aerating

Model Number	Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)									
			0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	6 bar	8 bar
3/8ILH2	3/8“	1.98	--	--	0.76	0.91	1.12	1.29	1.58	1.82	2.23	2.58
3/8ILH3	3/8“	2.39	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.30	3.90
3/8ILH5	3/8“	2.77	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.60	6.40
3/8ILH8	3/8“	3.96	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.90	10.3
3/8ILH10	3/8“	2.95	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	11.2	12.9
3/8ILH14	3/8“	3.96	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	15.6	18.0
1/2ILH5	1/2“	3.18	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.60	6.40
1/2ILH8	1/2“	3.96	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.90	10.3
12ILH10	1/2“	4.37	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	11.2	12.9
1/2ILH15	1/2“	4.37	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	16.7	19.3
1/2ILH20	1/2“	4.78	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	22.3	25.8
1/2ILH25	1/2“	5.16	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	27.9	32.0
3/4ILH5	3/4“	3.18	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.60	6.40
3/4ILH8	3/4“	3.96	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.90	10.3
3/4ILH10	3/4“	18.29	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	11.2	12.9
3/4ILH15	3/4“	5.56	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	16.7	19.3
3/4ILH20	3/4“	6.35	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	22.3	25.8
3/4ILH25	3/4“	7.14	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	27.9	32.0
3/4ILH50	3/4“	7.14	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	56.0	64.0
1 1/2ILH40	1 ½“	7.95	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	45.0	52.0
1 1/2ILH50	1 ½“	9.53	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	56.0	64.0
1 1/2ILH70	1 ½“	9.53	17.5	22.6	26.7	32.0	39.0	45.0	55.0	64.0	78.0	90.0
1 1/2ILH90	1 ½“	9.53	22.5	29.0	34.0	41.0	50.0	58.0	71.0	82.0	100	116
1 1/2ILH110	1 ½“	9.53	27.5	35.0	42.0	50.0	61.0	71.0	87.0	100	123	142

Threaded Nozzles – Hollow Cone Series C







Model	"L" (mm)	Body (mm)	Cap (mm)
1/4FCL	49	21 HEX	18 HEX
1/4CL	54	21 HEX	18 HEX
1/4FCM.5L	48	21 HEX	16 HEX
1/4CM.5L	52	21 HEX	16 HEX
1/4FC	49	18 HEX	18 HEX
1/4C	36	18 HEX	18 HEX
1/4CC	21	14 HEX	N/A

SPRAY CHARACTERISTICS:

C series hydraulic atomizing nozzles are designed and precision machined to provide a very fine hollow-cone spray using only the liquid pressure for atomizing. Standard spray angle is 80° @ 3 bar

TYPICAL APPLICATIONS:

- Humidification/Moisture Addition
- Evaporative Cooling
- Steam De-superheating

CONSTRUCTION:

Several different styles of nozzle are available in brass, 303 and 316 stainless steel. The orifice insert, core, and strainer are supplied in 316 stainless steel standard.

SPECIAL FEATURES:

- Very fine hollow-cone spray
- Easy disassembly/assembly and cleaning
- Wide range of style and sizes

TYPE CL

Two-piece body with removable cap, orifice, insert, core, core retainer and strainer.

TYPE C

Two piece body with removable cap, orifice insert, core and core retainer.

TYPE CM.5L

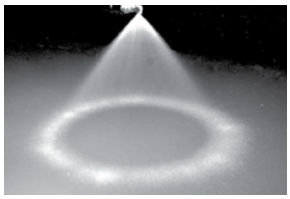
1/2" BSPT male wall mount body with removable cap, orifice insert, core, core retainer and strainer.

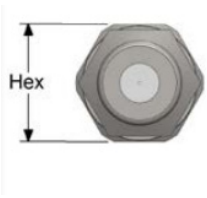
TYPE CC

One-piece body with removable orifice insert, core and core retainer. (Add "L" for optional external strainer.)

Model Number							CAPACITY (L/hr) AT VARIOUS PRESSURES (bar)								
'CL' Type		'CM.5L' Type		'C' Type		'CC' Type	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	50 bar
female	male	female	male	female	male	male									
1/4FC1.9L	1/4C1.9L	1/4FC1.9M.5L	1/4C1.9M.5L	1/4FC1.9	1/4C1.9	1/4CC1.9	1.90	2.33	2.69	3.00	3.60	4.20	6.00	7.40	9.50
1/4FC2.4L	1/4C2.4L	1/4FC2.4M.5L	1/4C2.4M.5L	1/4FC2.4	1/4C2.4	1/4CC2.4	2.40	2.94	3.40	3.80	4.50	5.40	7.60	9.30	12.0
1/4FC3.0L	1/4C3.0L	1/4FC3.0M.5L	1/4C3.0M.5L	1/4FC3.0	1/4C3.0	1/4CC3.0	3.00	3.70	4.20	4.70	5.60	6.70	9.50	11.6	15.0
1/4FC3.8L	1/4C3.8L	1/4FC3.8M.5L	1/4C3.8M.5L	1/4FC3.8	1/4C3.8	1/4C3.8	3.80	4.65	5.37	6.01	7.10	8.50	12.0	14.7	19.0
1/4FC4.7L	1/4C4.7L	1/4FC4.7M.5L	1/4C4.7M.5L	1/4FC4.7	1/4C4.7	1/4CC4.7	4.70	5.80	6.60	7.40	8.80	10.5	14.9	18.2	23.5
1/4FC5.9L	1/4C5.9L	1/4FC5.9M.5L	1/4C5.9M.5L	1/4FC5.9	1/4C5.9	1/4CC5.9	5.90	7.20	8.30	9.30	11.0	13.2	18.7	22.9	29.5
1/4FC7.4L	1/4C7.4L	1/4FC7.4M.5L	1/4C7.4M.5L	1/4FC7.4	1/4C7.4	1/4CC7.4	7.40	9.10	10.5	11.7	13.8	16.5	23.4	28.7	37.0
1/4FC9.2L	1/4C9.2L	1/4FC9.2M.5L	1/4C9.2M.5L	1/4FC9.2	1/4C9.2	1/4CC9.2	9.20	11.3	13.0	14.5	17.2	20.6	29.1	36.0	46.0
1/4FC12L	1/4C12L	1/4FC12M.5L	1/4C12M.5L	1/4FC12	1/4C12	1/4CC12	12.0	14.7	17.0	19.0	22.4	26.8	38.0	46.0	60.0
1/4FC14L	1/4C14L	1/4FC14M.5L	1/4C14M.5L	1/4FC14	1/4C14	1/4CC14	14.0	17.1	19.8	22.1	26.2	31.3	44.0	54.0	70.0
1/4FC18L	1/4C18L	1/4FC18M.5L	1/4C18M.5L	1/4FC18	1/4C18	1/4CC18	18.0	22.0	25.5	28.5	34.0	40.0	57.0	70.0	90.0
1/4FC23L	1/4C23L	1/4FC23M.5L	1/4C23M.5L	1/4FC23	1/4C23	1/4CC23	23.0	28.2	33.0	36.0	43.0	51.0	73.0	89.0	115
1/4FC28L	1/4C28L	1/4FC28M.5L	1/4C28M.5L	1/4FC28	1/4C28	1/4CC28	28.0	34.0	40.0	44.0	52.0	63.0	89.0	108	140
1/4FC35L	1/4C35L	1/4FC35M.5L	1/4C35M.5L	1/4FC35	1/4C35	1/4CC35	35.0	43.0	49.0	55.0	65.0	78.0	111	136	175
1/4FC44L	1/4C44L	1/4FC44M.5L	1/4C44M.5L	1/4FC44	1/4C44	1/4CC44	44.0	54.0	62.0	70.0	82.0	98.0	139	170	220
1/4FC55L	1/4C55L	1/4FC55M.5L	1/4C55M.5L	1/4FC55	1/4C55	1/4CC55	55.0	67.0	78.0	87.0	103	123	174	213	275
1/4FC69L	1/4C69L	1/4FC69M.5L	1/4C69M.5L	1/4FC69	1/4C69	1/4CC69	69.0	85.0	98.0	109	129	154	218	267	345
1/4FC86L	1/4C86L	1/4FC86M.5L	1/4C86M.5L	1/4FC86	1/4C86	1/4CC86	86.0	105	122	136	161	192	272	333	430

Threaded Nozzles – Hollow Cone Series CW





Model	"L" (mm)	Body (mm)	Cap (mm)
1/4FCL	49	21 HEX	18 HEX
1/4CL	54	21 HEX	18 HEX
1/4FCM.5L	48	21 HEX	16 HEX
1/4CM.5L	52	21 HEX	16 HEX
1/4FC	49	18 HEX	18 HEX
1/4C	36	18 HEX	18 HEX
1/4CC	21	14 HEX	N/A

SPRAY CHARACTERISTICS:

C series hydraulic atomizing nozzles are designed and precision machined to provide a very fine hollow-cone spray using only the liquid pressure for atomizing. Standard spray angle is 150° @ 3 bar

TYPICAL APPLICATIONS:

- Humidification/Moisture Addition
- Evaporative Cooling
- Steam De-superheating

CONSTRUCTION:

Several different styles of nozzle are available in brass, 303 and 316 stainless steel. The orifice insert, core, and strainer are supplied in 316 stainless steel standard.

SPECIAL FEATURES:

- Very fine hollow-cone spray
- Easy disassembly/assembly and cleaning
- Wide range of style and sizes

TYPE CWL

Two-piece body with removable cap, orifice, insert, core, core retainer and strainer.

TYPE CW

Two piece body with removable cap, orifice insert, core and core retainer.

TYPE CWM.5L

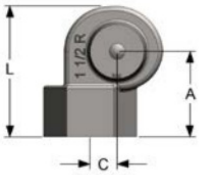
1/2" BSPT male wall mount body with removable cap, orifice insert, core, core retainer and strainer.

TYPE CCW

One-piece body with removable orifice insert, core and core retainer. (Add “L” for optional external strainer.)

Model Number							CAPACITY (L/hr) AT VARIOUS PRESSURES (bar)								
'CWL' Type		'CWM.5L' Type		'CW' Type		'CCW' Type	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	50 bar
female	male	female	male	female	male	female									
1/4FC5.9WL	1/4C5.9WL	1/4FC5.9WM.5L	1/4C5.9WM.5L	1/4FC5.9W	1/4C5.9W	1/4CC5.9W	5.90	7.20	8.30	9.30	11.0	13.2	18.7	22.9	29.5
1/4FC7.4WL	1/4C7.4WL	1/4FC7.4WM.5L	1/4C7.4WM.5L	1/4FC7.4W	1/4C7.4W	1/4CC7.4W	7.40	9.10	10.5	11.7	13.8	16.5	23.4	28.7	37.0
1/4FC9.2WL	1/4C9.2WL	1/4FC9.2WM.5L	1/4C9.2WM.5L	1/4FC9.2W	1/4C9.2W	1/4CC9.2W	9.20	11.3	13.0	14.5	17.2	20.6	29.1	36.0	46.0
1/4FC12WL	1/4C12WL	1/4FC12WM.5L	1/4C12WM.5L	1/4FC12W	1/4C12W	1/4CC12W	12.0	14.7	17.0	19.0	22.4	26.8	38.0	46.0	60.0
1/4FC14WL	1/4C14WL	1/4FC14WM.5L	1/4C14WM.5L	1/4FC14W	1/4C14W	1/4CC14W	14.0	17.1	19.8	22.1	26.2	31.3	44.0	54.0	70.0
1/4FC18WL	1/4C18WL	1/4FC18WM.5L	1/4C18WM.5L	1/4FC18W	1/4C18W	1/4CC18W	18.0	22.0	25.5	28.5	34.0	40.0	57.0	70.0	90.0
1/4FC23WL	1/4C23WL	1/4FC23WM.5L	1/4C23WM.5L	1/4FC23W	1/4C23W	1/4CC23W	23.0	28.2	33.0	36.0	43.0	51.0	73.0	89.0	115
1/4FC28WL	1/4C28WL	1/4FC28WM.5L	1/4C28WM.5L	1/4FC28W	1/4C28W	1/4CC28W	28.0	34.0	40.0	44.0	52.0	63.0	89.0	108	140

Threaded Nozzles – Hollow Cone Series R



Model	Dim. A (mm)	Dim. B (mm)	Dim. C (mm)	Dim. D (mm)	Dim. L (mm)
1R	51	51	3.2	29	70
11/4R	51	57	12.7	32	79
11/2R	60	76	14.3	45	95
2R	70	98	25.4	57	121
21/2R	89	121	28.6	70	134

SPRAY CHARACTERISTICS:

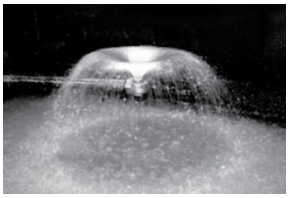
A high capacity hollow cone spray pattern with uniform distribution. The large body and orifice diameters minimize clogging.

CONSTRUCTION:

One piece cast construction. Standard material is 316 stainless steel. All the R series nozzles have a female BSPT pipe connection. Bronze and cast iron available on a limited, special order basis.

TYPICAL APPLICATIONS:

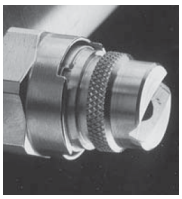
- Aeration & Pollution Control
- Cooling Ponds
- Scrubbing and Washing Gases and Fumes
- Cooling Coil
- Dust Proofing
- Chemical Processes



At 0.07 bar: Wide spray angle with large droplets and minimal misting.

Model Number	Thread BSPT	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
			0.1 bar	0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	0.5 bar	1.5 bar	4 bar
1R10	1"	12.7	14.4	20.4	25.0	32.0	38.0	46.0	56.0	64.0	79.0	91.0	102	121	65°	72°	73°
1R12	1"	12.7	17.3	24.5	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	122	145	71°	74°	75°
1R14	1"	12.7	20.2	28.5	35.0	45.0	53.0	64.0	78.0	90.0	111	128	143	169	74°	79°	80°
1R16	1"	12.7	23.1	33.0	40.0	52.0	61.0	73.0	89.0	103	126	146	163	193	77°	83°	83°
1R18	1"	12.7	25.9	37.0	45.0	58.0	69.0	82.0	100	116	142	164	183	217	80°	86°	76°
1 1/4R12	1 ¼"	13.1	17.3	24.5	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	122	145	64°	68°	69°
1 1/4R14	1 ¼"	14.3	20.2	28.5	35.0	45.0	53.0	64.0	78.0	90.0	111	128	143	169	66°	71°	71°
1 1/4R16	1 ¼"	14.3	23.1	33.0	40.0	52.0	61.0	73.0	89.0	103	126	146	163	193	71°	75°	75°
1 1/4R18	1 ¼"	14.3	25.9	37.0	45.0	58.0	69.0	82.0	100	116	142	164	183	217	76°	78°	79°
1 1/4R21	1 ¼"	14.3	30.3	43.0	52.0	68.0	80.0	96.0	117	135	166	191	214	253	79°	82°	82°
1 1/4R24	1 ¼"	14.3	35.0	49.0	60.0	77.0	92.0	109	134	155	189	219	245	289	81°	76°	86°
1 1/2R18	1 ½"	15.5	25.9	37.0	45.0	58.0	69.0	82	100	116	142	164	183	217	66°	70°	71°
1 1/2R21	1 ½"	17.5	30.3	43.0	52.0	68.0	80.0	96	117	135	166	191	214	253	70°	74°	74°
1 1/2R24	1 ½"	18.8	35.0	49.0	60.0	77.0	92.0	109	134	155	189	219	245	289	73°	76°	76°
1 1/2R28	1 ½"	18.8	40.0	57.0	70.0	90.0	107	128	156	180	221	255	285	338	76°	79°	80°
1 1/2R32	1 ½"	18.8	46.0	65.0	80.0	103	122	146	179	206	253	292	326	386	79°	84°	84°
1 1/2R37	1 ½"	18.8	53.0	75.0	92.0	119	141	169	207	238	292	337	377	446	84°	88°	88°
2R37	2"	21.6	53.0	75.0	92.0	119	141	169	207	238	292	337	377	446	62°	64°	65°
2R43	2"	23.5	62.0	88.0	107	139	164	196	240	277	339	392	438	519	66°	70°	72°
2R49	2"	25.7	71.0	100	122	158	187	223	274	316	387	447	499	591	70°	72°	73°
2R57	2"	25.7	82.0	116	142	184	217	260	318	367	450	520	581	687	74°	77°	77°
2R65	2"	25.7	94.0	132	162	209	248	296	363	419	513	593	662	784	75°	79°	79°
2R75	2"	25.7	108	153	187	242	286	342	419	483	592	684	764	904	78°	81°	81°
2R86	2"	25.7	124	175	215	277	328	392	480	554	679	784	876	1037	86°	88°	88°
2 1/2R75	2 ½"	33.3	108	153	187	242	286	342	419	483	592	684	764	904	67°	72°	72°
2 1/2R86	2 ½"	33.3	124	175	215	277	328	392	480	554	679	784	876	1037	73°	76°	76°
2 1/2R100	2 ½"	33.3	144	204	250	322	381	456	558	645	789	912	1019	1206	79°	83°	84°
2 1/2R115	2 ½"	33.3	166	234	287	371	439	524	642	741	908	1048	1172	1387	80°	84°	85°
2 1/2R132	2 ½"	33.3	190	269	330	425	503	602	737	851	1042	1203	1345	1592	82°	87°	87°

Quick Disconnect – BEX ZipTip® Nozzles



BEX ZIP-TIP® quick-disconnect spray nozzles are designed to allow fast and easy installation and removal of spray nozzle tips and adapter fittings, while providing positive alignment between nozzle body and nozzle tip. No tools are required to install or remove ZIP-TIP nozzle tips or adapters. Installation involves simply inserting a ZIP-TIP nozzle tip into a ZIP-TIP nozzle body, pressing lightly, and twisting in a clockwise direction until the nozzle tip or adapter snaps into aligned position. ZIP-TIP nozzles utilize standard "O-ring" seals, where the "O-rings" are located on, and removed with, the nozzle tip. These seals are supplied with each new spray nozzle tip or adapter fitting. Any "Z" series (e.g. "ZF"), ZIP-TIP nozzle tip or adapter will fit any "Z" series ZIP-TIP nozzle body. Likewise, the "ZL" series (e.g. "ZLF"), ZIP-TIP nozzle tip or adapter for larger capacities will fit any "ZL" series ZIP-TIP nozzle body (note that a minimum pipe size is required for specific capacities). ZIP-TIP nozzles are available in 303 and 316 stainless steel as well as brass, and all are supplied with VITON® seals standard. Other nozzle tip, nozzle body, and seal materials are available upon request. A wide range of styles and capacities of ZIP-TIP nozzle tips and nozzle bodies for flat, full-cone, and hollow-cone spray patterns are available. ZIP-TIP spray nozzles are rated to 20 bar. (NOTE: Metal and molded plastic ZIP-TIP components are not interchangeable).

U.S. Patent No. 5,421,522

ZIP-TIP NOZZLE INSTALLATION & REMOVAL

- NO TOOLS REQUIRED for ZIP-TIP nozzle tip installation or removal
- POSITIVE ALIGNMENT of spray pattern
- "Light-lock" feature allows for easy removal
- Seals located on and removed with nozzle tip for easy flushing
- New seals supplied with each new nozzle tip (VITON® standard)
- Uses standard "O-RING" seals, available in a variety of materials
- High flow capacities in a small assembly size

ZIP-TIP BODIES AND ADAPTERS

ZBD, ZLBD

1/8" - 3/4" BSPT Male
only Brass, 303 & 316 SS

ZHB

For connecting hoses to threaded parts,
available in 1/4 and 3/8

ZTA, ZLTA

1/8" - 1/2" BSPT Female
only Brass, 303 & 316 SS

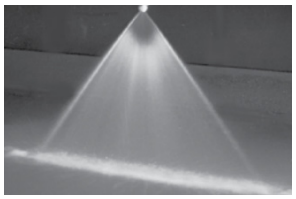
ZPLUG

To shut off individual nozzles
only Brass, 303 & 316 SS

ZAJ, ZLAJ

1/8" - 1/2" BSPT Male
only Brass, 303 & 316 SS

Quick Disconnect – BEX ZipTip® Nozzles - Series ZF



SPRAY CHARACTERISTICS:

ZF-Series spray nozzles produce a flat, fan-shaped spray pattern with spray angles available from 0° to 110° measured at 3 bar. Spray angles generally increase with pressure, as shown in the capacity table. Spray density tapers off toward the outside of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

CONSTRUCTION:

The tip models listed are machined from bar stock and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. All bodies are available in either BSPT or NPT threads. Please see page 48 for body styles and adapters. Please see page 63 for molded plastic models.

TYPICAL APPLICATIONS:

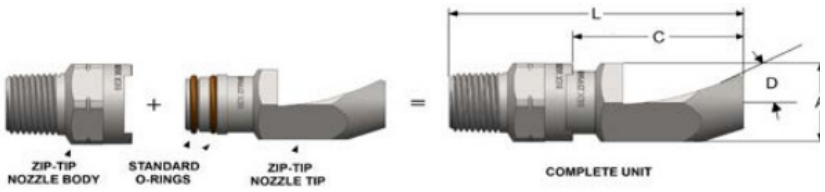
Suitable for a variety of washing and spraying applications.

- Parts Cleaning
- Metal Washing
- Foam Control
- Asphalt Spraying
- Gravel Washing
- Vehicle Washing
- Fertilizer Spraying
- Dishwashers

Model	Length L (mm)	Dim. A (mm)
1/8ZF	41	25
1/4ZF	43	25
3/8ZF	44	25
1/2ZF	46	25
3/8ZLF	54	32
1/2ZLF	56	32

Available Spray Angles	ZF MODEL	ZLF MODEL	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)													Spray Angle @		
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar	1.5 bar	3 bar	5 bar
	ZF03		1.10	0.40	0.50	0.60	0.70	0.80	1.00	1.20	1.40	1.50	1.80	2.20	3.10	3.70	92	110	118
	ZF04		1.20	0.50	0.60	0.80	0.90	1.10	1.30	1.60	1.80	2.00	2.40	2.90	4.10	5.00	90	110	112
110°	ZF05		1.35	0.60	0.80	1.00	1.10	1.40	1.60	2.00	2.30	2.60	3.00	3.60	5.10	6.20	96	110	114
95°	ZF06		1.47	0.80	1.00	1.10	1.40	1.70	1.90	2.40	2.70	3.10	3.60	4.30	6.10	7.50	97	110	115
	ZF08		1.70	1.00	1.30	1.50	1.80	2.20	2.60	3.20	3.60	4.10	4.80	5.80	8.20	10.0	100	110	115
80°	ZF10		1.91	1.30	1.60	1.90	2.30	2.80	3.20	3.90	4.60	5.10	6.00	7.20	10.0	13.0	102	110	115
65°	ZF15		2.31	1.90	2.40	2.90	3.40	4.20	4.80	5.90	6.80	7.60	9.00	11.0	15.0	19.0	102	110	115
	ZF20		2.67	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.0	12.0	14.0	20.0	25.0	103	110	112
50°	ZF30		3.28	3.70	4.80	5.70	6.80	8.40	9.70	12.0	14.0	15.0	18.0	22.0	31.0	37.0	103	110	115
40°	ZF40		3.78	5.00	6.40	7.60	9.10	11.0	13.0	16.0	18.0	20.0	24.0	29.0	41.0	50.0	103	110	115
	ZF50		4.24	6.20	8.10	9.50	11.0	14.0	16.0	20.0	23.0	26.0	30.0	36.0	51.0	62.0	107	110	116
25°	ZF60		4.62	7.50	9.70	11.0	14.0	17.0	19.0	24.0	27.0	31.0	36.0	43.0	61.0	75.0	103	110	115
15°	ZF70		5.00	8.70	11.0	13.0	16.0	20.0	23.0	28.0	32.0	36.0	42.0	50.0	71.0	87.0	107	110	115
		ZLF80	5.36	10.0	13.0	15.0	18.0	22.0	26.0	32.0	37.0	41.0	48.0	58.0	82.0	100	107	110	115
5°		ZLF100	5.99	13.0	16.0	19.0	23.0	28.0	32.0	40.0	46.0	51.0	60.0	72.0	102	125	106	110	115
		ZLF120	6.55	15.0	19.0	23.0	27.0	34.0	39.0	47.0	55.0	61.0	72.0	86.0	122	150	108	110	117
0°-full stream		ZLF150	7.34	19.0	24.0	29.0	34.0	42.0	48.0	59.0	68.0	76.0	90.0	108	153	187	104	110	115
		ZLF200	8.46	25.0	32.0	38.0	46.0	56.0	64.0	79.0	91.0	102	121	144	204	250	106	110	116
		ZLF400	11.9	50.0	64.0	76.0	91.0	112	129	158	182	204	241	288	408	499	105	110	115

Quick Disconnect – BEX ZipTip® Nozzles - Series ZFP



SPRAY CHARACTERISTICS:

A flat and thin fan-shaped spray with sharp definition on all edges. This spray delivers very high impact over the area covered. The spray is deflected by angle D away from the centerline of the spray nozzle.

CONSTRUCTION:

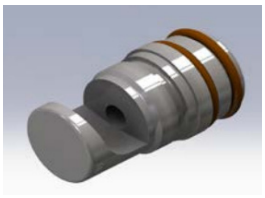
The models listed are machined from bar stock, and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Please see page 48 for body styles and adapters.

TYPICAL APPLICATIONS:

- High Impact Applications
- Metal Wash
- Gravel Washing
- Vehicle Washing

Spray Angle @3 bar	ZFP Model	ZLFP Model	MAX. FREE PASSAGE (mm)	Angle D @ 3 bar	Dimension		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)								Spray Angle @		
					'A'	'L'	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	5 bar	6 bar	1 bar	3 bar	6 bar
50°	ZFP5001		0.61	40°	17 Hex	21.1	0.23	0.28	0.32	0.36	0.39	0.46	0.51	0.56	30°	50°	58°
	ZFP50025		0.97	41°	17 Hex	27.3	0.57	0.70	0.81	0.90	0.99	1.14	1.27	1.40	29°	50°	57°
	ZFP5005		1.35	41°	17 Hex	28.3	1.14	1.40	1.61	1.80	1.97	2.28	2.55	2.79	30°	50°	59°
	ZFP5010		1.91	52°	17 Hex	31.8	2.28	2.79	3.20	3.60	3.90	4.60	5.10	5.60	32°	50°	59°
	ZFP5025		3.0	40°	17 Hex	33.3	5.70	7.00	8.10	9.00	9.90	11.4	12.7	14.0	41°	50°	58°
	ZFP5040		3.78	45°	22 Hex	47.7	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	42°	50°	59°
	ZFP5060		4.65	40°	22 Hex	55.5	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	41°	50°	52°
		ZLFP50100	5.99	38°	31.8 Hex	69.9	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	44°	50°	54°
		ZLFP50125	6.76	34°	31.8 Hex	65.3	28.5	35.0	40.0	45.0	49.0	57.0	64.0	70.0	39°	50°	57°
		ZLFP50160	7.57	37°	31.8 Hex	67.8	36.0	45.0	52.0	58.0	63.0	73.0	82.0	89.0	46°	50°	55°
		ZLFP50200	8.33	33°	34.9 Hex	73.0	46.0	56.0	64.0	72.0	79.0	91.0	102	112	47°	50°	55°
40°	ZFP4040		3.78	34°	22 Hex	53.1	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	29°	40°	48°
	ZFP4050		4.24	32°	31.8 Hex	56.9	11.4	14.0	16.1	18.0	19.7	22.8	25.5	27.9	30°	40°	47°
	ZFP4060		4.65	31°	28.6 Hex	72.2	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	31°	40°	50°
	ZFP4070		5.0	28°	31.8 Hex	71.9	16.0	19.5	22.6	25.2	27.6	32.0	36.0	39.0	33°	40°	50°
		ZLFP4080	5.36	28°	31.8 Hex	71.9	18.2	22.3	25.8	28.8	32.0	36.0	41.0	45.0	33°	40°	48°
		ZLFP4090	5.79	28°	31.8 Hex	71.9	20.5	25.1	29.0	32.0	36.0	41.0	46.0	50.0	34°	40°	46°
		ZLFP40100	5.99	31°	31.8 Hex	74.6	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	34°	40°	46°
35°	ZFP3504		1.19	36°	11 Hex	49.2	0.91	1.12	1.29	1.44	1.58	1.82	2.04	2.23	20°	35°	41°
	ZFP3510		1.91	37°	17 Hex	36.5	2.28	2.79	3.20	3.60	3.90	4.60	5.10	5.60	18°	35°	38°
	ZFP3520		2.67	30°	17 Hex	39.4	4.60	5.60	6.40	7.20	7.90	9.10	10.2	11.2	25°	35°	42°
	ZFP3525		2.97	29°	17 Hex	50.8	5.70	7.00	8.10	9.00	9.90	11.4	12.7	14.0	24°	35°	41°
	ZFP3530		3.25	28°	22 Hex	54.2	6.80	8.40	9.70	10.8	11.8	13.7	15.3	16.7	25°	35°	42°
	ZFP3540		3.78	31°	22 Hex	60.4	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	29°	35°	42°
	ZFP3550		4.24	26°	25.4 Hex	63.5	11.4	14.0	16.1	18.0	19.7	22.8	25.5	27.9	30°	35°	40°
	ZFP3560		4.65	29°	27 Hex	73.0	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	27°	35°	40°
		ZLFP3580	5.36	22°	31.8 Hex	79.9	18.2	22.3	25.8	28.8	31.6	36.5	40.8	44.7	25°	35°	38°
		ZLFP35100	5.61	24°	31.8 Hex	88.9	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	25°	35°	40°
		ZLFP35160	7.49	22°	31.8 Hex	117	36.0	45.0	52.0	58.0	63.0	73.0	82.0	89.0	26°	35°	39°
		ZLFP35200	8.46	24°	31.8 Hex	110	46.0	56.0	64.0	72.0	79.0	91.0	102	112	31°	35°	42°
25°	ZFP2540		3.78	24°	22 Hex	68.2	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	22°	25°	27°
15°	ZFP1510		1.91	22°	17 Hex	49.0	2.28	2.79	3.20	3.60	3.90	4.60	5.10	5.60	--°	15°	21°
	ZFP1520		2.67	16°	17 Hex	57.2	4.60	5.60	6.40	7.20	7.90	9.10	10.2	11.2	--°	15°	18°
	ZFP1530		3.28	20°	22 Hex	73.4	6.80	8.40	9.70	10.8	11.8	13.7	15.3	16.7	8°	15°	24°
	ZFP1540		3.78	13°	22 Hex	95.3	9.10	11.2	12.9	14.4	15.8	18.2	20.4	22.3	8°	15°	20°
	ZFP1550		4.24	14°	22 Hex	92.1	11.4	14.0	16.1	18.0	19.7	22.8	25.5	27.9	8°	15°	22°
	ZFP1560		4.65	14°	25.4 Hex	112	13.7	16.7	19.3	21.6	23.7	27.3	30.6	33.0	11°	15°	18°
		ZLFP1580	5.54	14°	28.6 Hex	130	18.2	22.3	25.8	28.8	32.0	36.0	41.0	45.0	11°	15°	18°
		ZLFP15100	5.99	15°	28.6 Hex	138	22.8	27.9	32.0	36.0	39.0	46.0	51.0	56.0	11°	15°	17°
		ZLFP15200	8.46	15°	38.1 Hex	190	46.0	56.0	64.0	72.0	79.0	91.0	102	112	11°	15°	17°
		ZLFP15300	10.36	15°	44.5 Hex	191	68.0	84.0	97.0	108	118	137	153	167	12°	15°	18°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZFL



SPRAY CHARACTERISTICS:

A wide, flat fan-shaped spray with low impact. The spray is deflected 75° away from the centerline of the pipe connection, as shown.

CONSTRUCTION:

The tip models listed are machined from bar stock, and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models may also be available in other materials. Please see page 48 for body styles and adapters.

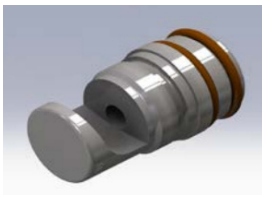
TYPICAL APPLICATIONS:

Wherever a low impact, wide angle spray is required.

- Rinsing and Cooling
- Dishwashing
- Fertilizer Spraying
- Metal Wash

ZFL Model	ZFLT Model	MAX. FREE PASSAGE (mm)	Dimension		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)									Spray Angle @					
			'A' (mm)	'L' (mm)	0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	0.2 bar	0.3 bar	0.5 bar	0.7 bar	1.5 bar	4 bar
	ZFLT.25	0.43	11	15.8	--	--	--	0.10	0.11	0.14	0.16	0.20	0.23	--	--	--	90°	106°	120°
	ZFLT.50	0.61	11	15.8	--	--	0.16	0.19	0.23	0.28	0.32	0.39	0.46	--	--	65°	78°	99°	120°
	ZFLT.75	0.74	11	19.9	--	--	0.24	0.29	0.34	0.42	0.48	0.59	0.68	--	--	72°	85°	112°	140°
	ZFLT1	0.84	11	19.9	--	--	0.32	0.38	0.46	0.56	0.64	0.79	0.91	--	--	90°	97°	135°	148°
	ZFLT1.3	0.97	11	20.7	--	0.32	0.42	0.50	0.59	0.73	0.84	1.03	1.19	--	73°	80°	92°	115°	134°
	ZFL1.5	1.07	11	20.7	0.31	0.37	0.48	0.57	0.68	0.84	0.97	1.18	1.37	57°	69°	75°	87°	104°	125°
	ZFLT2	1.19	11	20.7	0.41	0.50	0.64	0.76	0.91	1.12	1.29	1.58	1.82	60°	73°	82°	86°	104°	125°
	ZFLT2.5	1.4	11	20.7	0.52	0.63	0.82	0.97	1.16	1.42	1.64	2.01	2.32	79°	87°	92°	101°	112°	130°
	ZFLT3	1.5	11	20.7	0.61	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	84°	97°	106°	115°	130°	140°
ZFL4		1.78	11	23.8	0.82	1.00	1.29	1.53	1.82	2.23	2.58	3.20	3.60	74°	87°	89°	101°	116°	127°
ZFL5		1.93	11	23.8	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	78°	89°	97°	103°	113°	132°
ZFL7.5		2.39	11	23.8	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	98°	105°	112°	120°	132°	144°
ZFL10		2.79	11	23.8	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	116°	125°	135°	137°	144°	150°
ZFL12		3.05	14	23.8	2.45	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	98°	105°	109°	118°	134°	139°
ZFL15		3.28	14	26.7	3.06	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	100°	110°	115°	124°	131°	139°
ZFL18		3.73	14	26.7	3.70	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	100°	112°	116°	124°	135°	137°
ZFL20		3.91	14	26.7	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	115°	125°	128°	134°	142°	147°
ZFL22		4.09	14	33.4	4.50	5.50	7.10	8.40	10.0	12.3	14.2	17.4	20.1	97°	108°	114°	120°	128°	132°
ZFL24		4.29	14	33.4	4.90	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	106°	118°	121°	127°	136°	154°
ZFL27		4.5	14	33.4	5.50	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	110°	120°	124°	129°	139°	146°
ZFL30		4.78	17	33.4	6.10	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	104°	116°	121°	127°	135°	138°
ZFL35		4.98	17	33.4	7.10	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	104°	114°	118°	126°	130°	137°
ZFL40		5.31	17	33.4	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	104°	116°	121°	127°	135°	138°
ZFL45		5.79	17	33.4	9.20	11.2	14.5	17.2	20.5	25.1	29.0	36.0	41.0	104°	114°	118°	126°	130°	137°
ZFL60		6.76	22	42.9	12.2	15.0	19.3	22.9	27.3	33.0	39.0	47.0	55.0	110°	120°	124°	126°	130°	135°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZFL



SPRAY CHARACTERISTICS:

(for air and steam applications)

The FL series spray nozzles may also be used with air or steam, resulting in a deflected curtain of gas extending no more than a few inches away from the nozzle. For most applications, the maximum practical target distance from the nozzle is 25 cm.

CONSTRUCTION:

The models listed are machined from bar stock, and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models may also be available in other materials. Please see page 48 for body styles and adapters.

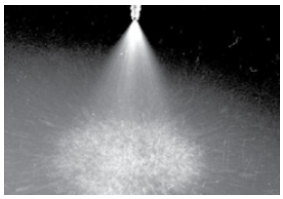
TYPICAL APPLICATIONS:

For dispensing air or steam. Stainless steel construction recommended for steam applications.

- Cleaning
- Cooling
- Blow-off of Surfaces

ZFL Model	ZFLT Model	MAX. FREE PASSAGE (mm)	Dimension		AIR CAPACITY (L/min)					COVERAGE AT 15 cm DISTANCE FROM THE NOZZLE	
			A' (mm)	L' (mm)	0.7 bar	1.5 bar	3 bar	4 bar	5 bar	0.7 bar	1 bar
	ZFLT.25	0.43	11	15.8	1.70	4.00	6.60	8.30	10.0	5	11
	ZFLT.50	0.61	11	15.8	3.10	7.60	12.8	16.0	19.2	5	13
	ZFLT.75	0.74	11	19.9	4.80	11.0	18.5	23.2	27.8	6	15
	ZFLT1	0.84	11	19.9	6.20	14.4	24.2	30.3	36.3	8	15
	ZFLT1.3	0.97	11	20.7	8.20	19.3	32.3	40.0	48.0	8	17
	ZFLT1.5	1.07	11	20.7	9.90	23.5	39.0	49.0	59.0	9	17
	ZFLT2	1.19	11	20.7	12.5	29.2	49.0	61.0	73.0	9	19
	ZFLT2.5	1.40	11	20.7	17.0	40.0	67.0	84.0	101	10	19
	ZFLT3	1.50	11	20.7	19.5	46.0	77.0	97.0	116	13	20
ZFL4		1.78	11	23.8	27.7	65.0	109	137	164	13	23
ZFL5		1.93	11	23.8	33.0	76.0	128	160	192	15	25
ZFL7.5		2.39	11	23.8	50.0	119	199	249	299	17	25
ZFL10		2.79	14	23.8	68.0	161	271	338	406	18	28
ZFL12		3.05	14	23.8	82.0	193	323	404	484	18	29
ZFL15		3.28	14	26.7	99.0	238	399	499	598	18	30
ZFL18		3.73	14	26.7	122	292	489	611	734	20	33
ZFL20		3.91	14	26.7	133	320	537	671	805	22	37
ZFL22		4.09	14	33.4	147	348	584	730	876	22	37
ZFL24		4.29	14	33.4	161	385	646	807	969	22	38
ZFL27		4.50	14	33.4	178	422	708	885	1061	22	38
ZFL30		4.78	17	33.4	201	476	798	997	1197	22	39

Quick Disconnect – BEX ZipTip® Nozzles - Series ZS



SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

The nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel and 316 stainless steel. Please see page 40 for body styles and adapters.

TYPICAL APPLICATIONS:

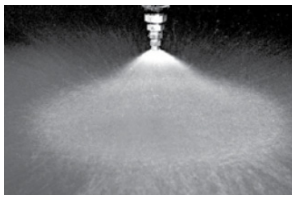
- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous Casting

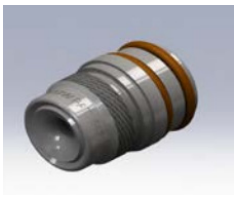
U.S. Patent No. 4,142,682
Canadian Patent No. 1,050,589

Model	Length L (mm)	Dim. A (mm)
1/8ZS	41	25
1/4ZS	43	25
3/8ZS	44	25
1/2ZS	46	25
3/8ZLS	54	32
1/2ZLS	56	32

'ZS' Model	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
		0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZS1	0.84	--	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	55°	52°
ZS1.5	1.17	--	--	--	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.67	1.93	--	65°	57°
ZS2	1.30	--	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	54°	59°	60°
ZS3	1.30	--	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	50°	53°	60°
ZS3.5	1.30	0.71	0.87	1.13	1.33	1.60	1.95	2.26	2.76	3.20	3.60	3.90	4.50	48°	58°	61°
ZS5	1.63	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	60°	75°	70°
ZS6	1.63	1.22	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	67°	72°	70°
ZS6.5	2.31	1.32	1.62	2.09	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.30	8.40	48°	56°	50°
ZS7.5	2.31	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	55°	65°	48°
ZS8.5	2.31	1.73	2.12	2.74	3.20	3.90	4.70	5.50	6.70	7.70	8.70	9.50	11.0	58°	65°	63°
ZS10	2.31	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	60°	65°	62°
ZS14	2.31	2.85	3.50	4.51	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
ZS15	2.59	2.85	3.50	4.80	5.30	6.80	8.40	9.70	11.8	13.7	15.3	16.7	19.3	63°	65°	60°
ZS18	2.59	3.70	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	85°	88°	76°
ZS20	2.59	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	76°	82°	75°
ZS22	2.90	4.50	5.50	7.10	8.40	10.0	12.3	14.2	17.4	20.1	22.4	24.6	28.4	76°	78°	76°
ZLS16	3.66	3.30	4.00	5.20	6.10	7.30	8.90	10.3	12.6	14.6	16.3	17.9	20.6	55°	60°	55°
ZLS25	3.66	5.10	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	25.5	27.9	32.0	68°	73°	65°
ZLS32	3.66	6.50	8.00	10.3	12.2	14.6	17.9	20.6	25.3	29.2	33.0	36.0	41.0	80°	90°	75°
ZLS40	4.11	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	86°	90°	81°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZSW





SPRAY CHARACTERISTICS:

A wide angle full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

This nozzle tip contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel and 316 stainless steel. Please see page 40 for body styles and adapters.

TYPICAL APPLICATIONS:

Anywhere a wide angle full cone spray is required:

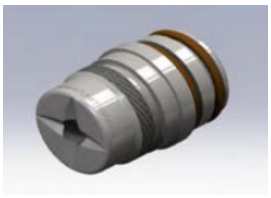
- Chemical Processing
- Cooling Sprays
- Continuous Casting

U.S. Patent No. 4,142,682
Canadian Patent No. 1,050,589

Model	Length L (mm)	Dim. A (mm)
1/8ZS	41	25
1/4ZS	43	25
3/8ZS	44	25
1/2ZS	46	25
3/8ZLS	54	32
1/2ZLS	56	32

ZSW' Model	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZS2.8W	1.30	--	0.90	1.07	1.28	1.56	1.80	2.21	2.55	2.90	3.13	3.60	110°	105°	96°
ZS4.3W	1.30	--	1.39	1.64	1.96	2.40	2.77	3.40	3.90	4.40	4.80	5.50	117°	108°	100°
ZS5.6W	1.63	--	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	117°	110°	100°
ZS8W	2.06	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	10.0	118°	110°	103°
ZS10W	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.0	11.2	13.0	118°	108°	102°
ZS12W	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.0	13.4	16.0	120°	112°	102°
ZS14W	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.0	15.6	18.0	118°	114°	104°
ZS17W	2.59	4.20	5.50	6.50	7.70	9.50	11.0	13.4	15.5	17.0	19.0	22.0	118°	117°	102°
ZS20W	2.59	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.0	22.3	26.0	120°	120°	106°
ZS24W	2.59	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	25.0	26.8	31.0	122°	118°	106°
ZS27W	2.59	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	28.0	30.1	35.0	122°	120°	107°
ZLS30W	3.66	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	31.0	33.0	39.0	120°	118°	110°
ZLS35W	3.66	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	36.0	39.0	45.0	122°	118°	108°
ZLS40W	4.11	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	122°	119°	104°
ZLS45W	4.11	11.0	14.5	17.2	20.5	25.1	29.0	36.0	41.0	46.0	50.0	58.0	141°	118°	108°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZSQ



SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the approximately square cone.

CONSTRUCTION:

Standard materials are brass, 303 and 316 stainless. Larger sizes in cast 316 or 303 stainless bar. Please see page 48 for body styles and adapters.

TYPICAL APPLICATIONS:

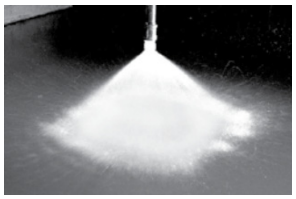
- Chemical Processing
- Cooling Sprays
- Continuous Casting

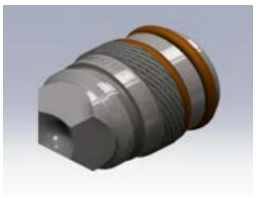
U.S. Patent No. 4,142,682
Canadian Patent No. 1,050,589

Model	Length L (mm)	Dim. A (mm)
1/8ZSQ	41	25
1/4ZSQ	43	25
3/8ZSQ	44	25
1/2ZSQ	46	25
3/8ZLSQ	54	32
1/2ZLSQ	56	32

ZSQ' Model	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 Bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZS3.6SQ	1.45	--	1.16	1.37	1.64	2.01	2.32	2.84	3.30	3.70	4.00	4.60	42°	55°	50°
ZS4.8SQ	1.63	--	1.55	1.83	2.19	2.68	3.09	3.80	4.40	4.90	5.40	6.20	50°	65°	60°
ZS6SQ	2.06	--	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	30°	65°	60°
ZS10SQ	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	61°	67°	60°
ZS12SQ	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	71°	76°	69°
ZS14SQ	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
ZS18SQ	2.59	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	70°	75°	68°
ZLS29SQ	3.66	7.20	9.30	11.1	13.2	16.2	18.7	22.9	26.4	29.6	32.0	37.0	70°	75°	68°
ZLS36SQ	3.66	9.00	11.6	13.7	16.4	20.1	23.2	28.4	33.0	37.0	40.0	46.0	80°	85°	77°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZSWSQ





SPRAY CHARACTERISTICS:

Full cone, wide angle spray pattern, with uniform distribution throughout the approximately square cone.

CONSTRUCTION:

Standard materials are brass, 303 and 316 stainless. Larger sizes in cast 316 or 303 stainless bar. Please see page 48 for body styles and adapters.

TYPICAL APPLICATIONS:

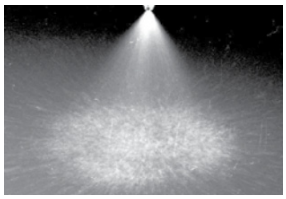
- Chemical Processing
- Cooling Sprays
- Continuous Casting

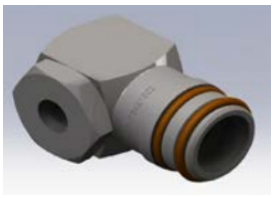
U.S. Patent No. 4,142,682
Canadian Patent No. 1,050,589

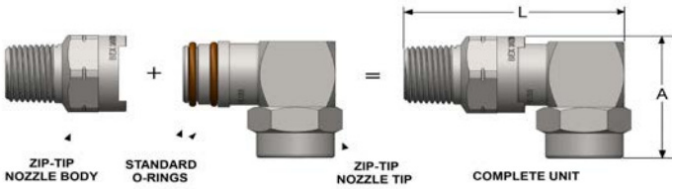
Model	Length L (mm)	Dim. A (mm)
1/8ZSWSQ	41	25
1/4 ZSWSQ	43	25
3/8 ZSWSQ	44	25
1/2 ZSWSQ	46	25
3/8ZLSWSQ	54	32
1/2ZLSWSQ	56	32

ZSWSQ' Model		MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
ZSWSQ	ZLSWSQ		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZS14WSQ		2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	102°	98°	84°
ZS17WSQ		2.59	4.20	5.50	6.50	7.70	9.50	11.0	13.4	15.5	17.3	19.0	21.9	50°	94°	82°
ZS20WSQ		2.59	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	60°	102°	86°
ZS24WSQ		2.59	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	24.5	26.8	30.9	104°	102°	86°
ZS27WSQ		2.59	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	27.5	30.1	35.0	104°	102°	87°
	ZLS30WSQ	3.66	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	33.0	39.0	100°	96°	85°
	ZLS35WSQ	3.66	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	36.0	39.0	45.0	104°	99°	88°
	ZLS40WSQ	4.11	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	106°	104°	90°
	ZLS45WSQ	4.11	11.2	14.5	17.2	20.5	25.1	29.0	36.0	41.0	46.0	50.0	58.0	106°	104°	94°
	ZLS50WSQ	4.95	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	64.0	108°	102°	97°
	ZLS71WSQ	4.95	17.7	22.9	27.1	32.0	40.0	46.0	56.0	65.0	72.0	79.0	92.0	50°	65°	60°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZHGS







SPRAY CHARACTERISTICS:

Full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

The nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel, and 316 stainless steel. Please see page 48 for body styles and adapters.

TYPICAL APPLICATIONS:

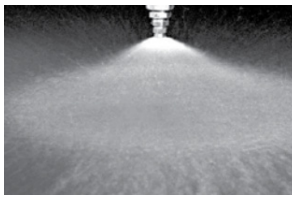
- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous Casting

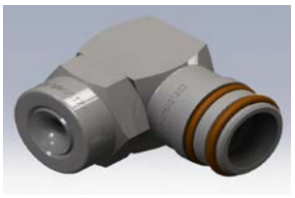
US-Patent Nr. 4,142,682
Canadian Patent Nr. 1,050,589

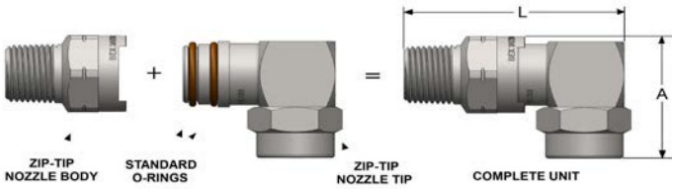
Gewinde BSPT	Länge L (mm)	Abm. A (mm)
1/8ZHGS	54	25
1/4ZHGS	56	25
3/8ZHGS	57	25
1/2ZHGS	59	25
3/8ZLHGS	75	32
1/2ZLHGS	77	32

'ZS' one piece body	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
		0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZHGS1	0.84	--	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	55°	52°
ZHGS1.5	1.17	--	--	--	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.67	1.93	--	65°	57°
ZHGS2	1.30	--	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	54°	59°	60°
ZHGS3	1.30	--	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	50°	53°	60°
ZHGS3.5	1.30	0.71	0.87	1.13	1.33	1.60	1.95	2.26	2.76	3.20	3.60	3.90	4.50	48°	58°	61°
ZHGS5	1.63	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	60°	75°	70°
ZHGS6	1.63	1.22	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	67°	72°	70°
ZHGS6.5	2.31	1.32	1.62	2.09	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.30	8.4	48°	56°	50°
ZHGS7.5	2.31	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.7	55°	65°	48°
ZHGS8.5	2.31	1.73	2.12	2.74	3.20	3.90	4.70	5.50	6.70	7.70	8.70	9.50	11.0	58°	65°	63°
ZHGS10	2.31	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	60°	65°	62°
ZHGS14	2.31	2.85	3.50	4.51	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
ZHGS15	2.59	2.85	3.50	4.80	5.30	6.80	8.40	9.70	11.8	13.7	15.3	16.7	19.3	63°	65°	60°
ZHGS18	2.59	3.70	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	85°	88°	76°
ZHGS20	2.59	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	76°	82°	75°
ZHGS22	2.90	4.50	5.50	7.10	8.40	10.0	12.3	14.2	17.4	20.1	22.4	24.6	28.4	76°	78°	76°
ZLHGS16	3.66	3.30	4.00	5.20	6.10	7.30	8.9	10.3	12.6	14.6	16.3	17.9	20.6	55°	60°	55°
ZLHGS25	3.66	5.10	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	25.5	27.9	32.0	68°	73°	65°
ZLHGS32	3.66	6.50	8.00	10.3	12.2	14.6	17.9	20.6	25.3	29.2	33.0	36.0	41.0	80°	90°	75°
ZLHGS40	4.11	8.20	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	86°	90°	81°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZHGSW







SPRAY CHARACTERISTICS:

A wide angle full cone spray pattern, with uniform distribution throughout the cone.

CONSTRUCTION:

The nozzle contains a patented insert with larger flow passages than older styles, and is less susceptible to clogging. Standard materials are brass, 303 stainless steel, and 316 stainless steel. Please see page 48 for body styles and adapters.

TYPICAL APPLICATIONS:

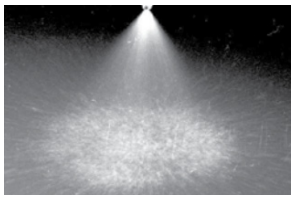
- Chemical Processing
- Cooling Sprays
- Foam Breaking
- Continuous Casting

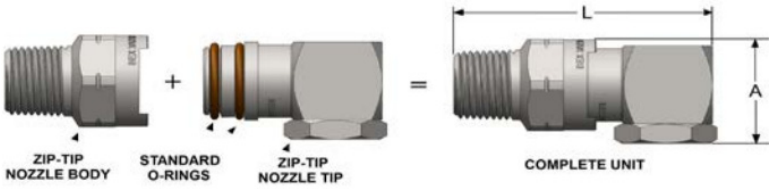
US-Patent Nr. 4,142,682
Canadian Patent Nr. 1,050,589

Model	Length L (mm)	Dim. A (mm)
1/8ZHGSW	54	25
1/4ZHGSW	56	25
3/8ZHGSW	57	25
1/2ZHGSW	59	25
3/8ZLHGSW	75	32
1/2ZLHGSW	77	32

ZSW' one piece body	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZHGS2.8W	1.30	--	0.90	1.07	1.28	1.56	1.80	2.21	2.55	2.90	3.13	3.60	110°	105°	96°
ZHGS4.3W	1.30	--	1.39	1.64	1.96	2.40	2.77	3.40	3.90	4.40	4.80	5.50	117°	108°	100°
ZHGS5.6W	1.63	--	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	117°	110°	100°
ZHGS8W	2.06	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	10.0	118°	110°	103°
ZHGS10W	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.0	11.2	13.0	118°	108°	102°
ZHGS12W	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.0	13.4	16.0	120°	112°	102°
ZHGS14W	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.0	15.6	18.0	118°	114°	104°
ZHGS17W	2.59	4.20	5.50	6.50	7.70	9.50	11.0	13.4	15.5	17.0	19.0	22.0	118°	117°	102°
ZHGS20W	2.59	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.0	22.3	26.0	120°	120°	106°
ZHGS24W	2.59	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	25.0	26.8	31.0	122°	118°	106°
ZHGS27W	2.59	6.70	8.70	10.3	12.3	15.1	17.4	21.3	24.6	28.0	30.1	35.0	122°	120°	107°
ZLHGS30W	3.66	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	31.0	33.0	39.0	120°	118°	110°
ZLHGS35W	3.66	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	36.0	39.0	45.0	122°	118°	108°
ZLHGS40W	4.11	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	52.0	122°	119°	104°
ZLHGS45W	4.11	11.2	14.5	17.2	20.5	25.1	29.0	36.0	41.0	46.0	50.0	58.0	141°	118°	108°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZHNS





SPRAY CHARACTERISTICS:

The ZHNS series vaneless full-cone nozzle projects a medium to coarse full-cone spray in a direction perpendicular to the nozzle inlet axis. The maximum free passage in this nozzle is substantially larger than most fullcone nozzles due to the 'vaneless' design. This nozzle is suitable for applications where a relatively coarse full-cone spray is required, and where standard nozzles are subject to plugging.

TYPICAL APPLICATIONS:

Wherever a medium to coarse full-cone spray is required from a nozzle with a larger maximum free passage

CONSTRUCTION:

The ZHNS series are made from bar stock and are a two piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Other materials are available upon request

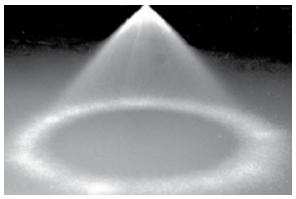
SPECIAL FEATURES:

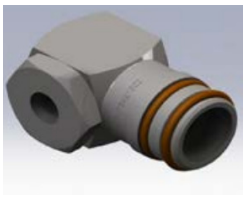
- 'Vaneless' full-cone design
- Large maximum free passage
- Easy disassembly/assembly
- Easy cleaning

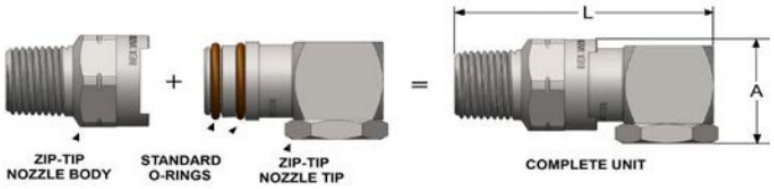
Model	Length L (mm)	Dim. A (mm)
1/8ZHNS	54	34
1/4ZHNS	56	34
3/8ZHNS	57	34
1/2ZHNS	59	34

Model Numner		MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										
ZHNS	ZLHNS		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar
ZHNS5		1.98	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.00
ZHNS7		2.39	1.75	2.26	2.67	3.20	3.90	4.50	5.50	6.40	7.10	7.80	8.40
ZHNS8		2.77	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	9.60
ZHNS10		3.18	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.1
ZHNS11		3.58	2.75	3.50	4.20	5.00	6.10	7.10	8.70	10.0	11.2	12.3	13.3
ZHNS13		3.58	3.20	4.20	5.00	5.90	7.30	8.40	10.3	11.9	13.2	14.5	15.7
ZHNS16		3.96	4.00	5.20	6.10	7.30	8.90	10.3	12.6	14.6	16.3	17.9	19.3
ZHNS20		4.37	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	24.1
ZHNS23		4.78	5.70	7.40	8.80	10.5	12.8	14.8	18.2	21.0	23.4	25.7	27.7
ZHNS26		5.16	6.50	8.40	9.90	11.9	14.5	16.8	20.5	23.7	26.5	29.0	31.0
ZHNS29		5.56	7.20	9.30	11.1	13.2	16.2	18.7	22.9	26.4	29.6	32.0	35.0
ZHNS33		5.94	8.20	10.6	12.6	15.0	18.4	21.3	26.1	30.1	34.0	37.0	40.0
	ZLHNS32	5.16	8.00	10.3	12.2	14.6	17.9	20.6	25.3	29.2	33.0	36.0	39.0
	ZLHNS40	5.94	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	41.0	45.0	48.0
	ZLHNS48	7.14	12.0	15.5	18.3	21.9	26.8	30.9	38.0	44.0	49.0	54.0	58.0
	ZLHNS56	7.54	14.0	18.0	21.4	25.5	31.3	36.0	44.0	51.0	57.0	63.0	68.0
	ZLHNS64	8.33	16.0	20.6	24.4	29.2	36.0	41.0	51.0	58.0	65.0	71.0	77.0
	ZLHNS72	9.12	18.0	23.2	27.5	33.0	40.0	46.0	57.0	66.0	73.0	80.0	87.0

Quick Disconnect – BEX ZipTip® Nozzles - Series ZH







SPRAY CHARACTERISTICS:

A hollow cone spray pattern, emerging at right angles to the centerline of the pipe connection. The standard included angle of the spray cone is 70° at 0.7 bar. At low pressures hollow cone nozzles produce medium size, uniform droplets. At higher pressures finer droplets are produced.

CONSTRUCTION:

The models listed are machined from bar stock, and are two piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models available in other materials. Please see page 48 for body styles and adapters.

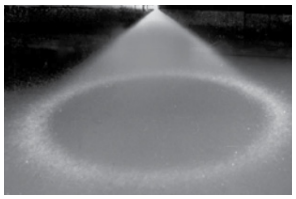
TYPICAL APPLICATIONS:

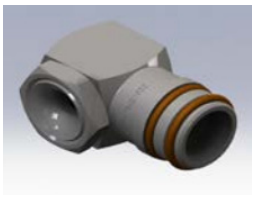
- Air and Gas Washing
- Aerating, Rinsing
- Humidifying
- Industrial Washers
- Spray Ponds
- Cooling Tunnels
- Roof Cooling
- Degreasing
- Dust Suppression
- Metal Treatment

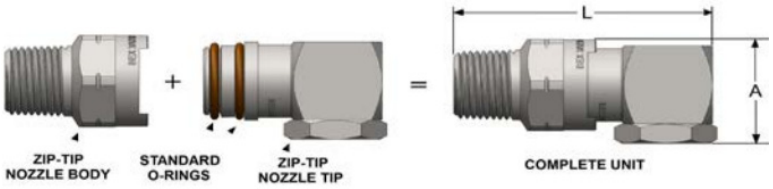
Model	Length L (mm)	Dim. A (mm)
1/8ZH	54	34
1/4ZH	56	34
3/8ZH	57	34
1/2ZH	59	34

Model Number		MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @			
ZH	ZLH		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.7 bar	1.5 bar	3 bar	6 bar
ZH0.5		0.71	--	--	--	--	--	0.32	0.39	0.46	0.51	0.56	0.64	--	--	40°	45°
ZH1		1.35	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	61°	74°	69°
ZH2		2.18	--	--	--	0.91	1.12	1.29	1.58	1.82	2.03	2.23	2.58	70°	75°	83°	85°
ZH3		2.49	--	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.05	3.30	3.90	70°	70°	72°	74°
ZH5		3.25	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.14	5.60	6.40	70°	77°	80°	83°
ZH7.5		3.89	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	70°	70°	74°	75°
ZH10		4.34	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.1	11.2	12.9	70°	74°	76°	80°
ZH12.5		5.21	3.12	4.00	4.80	5.70	7.00	8.10	9.90	11.4	12.7	14.0	16.1	70°	82°	83°	83°
ZH15		5.89	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	15.3	16.7	19.3	70°	73°	75°	75°
ZH20		6.35	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.3	22.3	25.8	70°	73°	75°	75°
ZH25		7.09	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	25.5	27.9	32.0	70°	72°	73°	73°
ZH30		7.42	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.5	33.0	39.0	70°	70°	73°	72°
	ZLH40	9.35	10.0	12.9	15.3	18.2	22.3	25.8	32.0	36.0	40.2	45.0	52.0	70°	75°	75°	75°
	ZLH50	10.6	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.4	56.0	64.0	70°	70°	71°	73°
	ZLH60	11.1	15.0	19.3	22.9	27.3	33.0	39.0	47.0	55.0	61.5	67.0	77.0	70°	70°	71°	71°
	ZLH70	11.9	17.5	22.6	26.7	32.0	39.0	45.0	55.0	64.0	71.6	78.0	90.0	70°	74°	76°	76°
	ZLH80	12.2	20.0	25.8	30.5	36.0	45.0	52.0	63.0	73.0	81.6	89.0	103	70°	73°	75°	76°
	ZLH90	12.7	22.5	29.0	34.0	41.0	50.0	58.0	71.0	82.0	91.7	100	116	70°	70°	71°	73°
	ZLH100	12.8	25.0	32.0	38.0	46.0	56.0	64.0	79.0	91.0	101	112	129	70°	73°	76°	78°
	ZLH110	14.6	27.5	35.0	42.0	50.0	61.0	71.0	87.0	100	111	123	142	70°	72°	75°	72°
	ZLH120	14.4	30.0	39.0	46.0	55.0	67.0	77.0	95.0	109	122	134	155	70°	70°	71°	71°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZHW







SPRAY CHARACTERISTICS:

A hollow cone spray pattern, similar to the BEX H series, but with wider spray angles. The included angle of the spray cone is 120° at 0.7 bar.

CONSTRUCTION:

The models listed are machined from bar stock, and are two piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. Some models are also available in other materials. Please see page 48 for body styles and adapters.

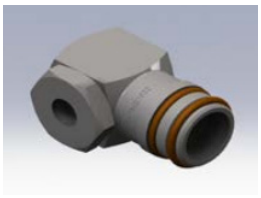
TYPICAL APPLICATIONS:

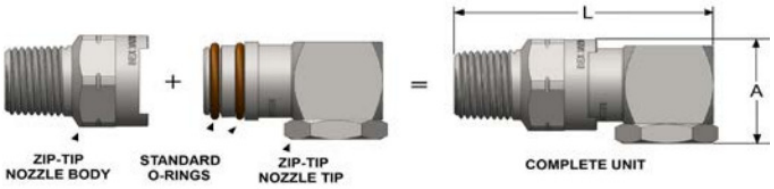
- Water Cooling
- Roof Cooling
- Air Cooling
- Air Washing

Model	Length L (mm)	Dim. A (mm)
1/8ZHW	54	34
1/4ZHW	56	34
3/8ZHW	57	34
1/2ZHW	59	34

MODEL NUMBER		MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @			
ZHW	ZLHW		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.7 bar	1.5 bar	3 bar	6 bar
ZH1W		1.40	--	--	--	0.50	0.60	0.60	0.80	0.90	1.00	1.10	1.30	120°	110°	102°	90°
ZH2W		1.96	--	0.60	0.80	0.90	1.10	1.30	1.60	1.80	2.00	2.20	2.60	120°	110°	105°	92°
ZH3W		2.36	--	1.00	1.10	1.40	1.70	1.90	2.40	2.70	3.10	3.30	3.90	120°	114°	104°	90°
ZH5W		2.77	--	1.60	1.90	2.30	2.80	3.20	3.90	4.60	5.10	5.60	6.40	120°	113°	107°	98°
ZH7.5W		4.01	1.90	2.40	2.90	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	120°	115°	110°	92°
ZH10W		4.32	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.0	11.0	13.0	120°	115°	110°	93°
ZH12.5W		4.78	3.10	4.00	4.80	5.70	7.00	8.10	9.90	11.0	13.0	14.0	16.0	120°	118°	110°	94°
ZH15W		5.11	3.70	4.80	5.70	6.80	8.40	9.70	12.0	14.0	15.0	17.0	19.0	120°	115°	108°	92°
ZH20W		5.94	5.00	6.40	7.60	9.10	11.0	13.0	16.0	18.0	20.0	22.0	26.0	120°	118°	116°	110°
ZH25W		6.73	6.20	8.10	9.50	11.0	14.0	16.0	20.0	23.0	26.0	28.0	32.0	120°	117°	115°	110°
ZH30W		7.11	7.50	9.70	11.0	14.0	17.0	19.0	24.0	27.0	31.0	33.0	39.0	120°	115°	110°	102°
	ZLH50W	9.09	13.0	16.0	19.0	23.0	28.0	32.0	39.0	46.0	51.0	56.0	64.0	120°	115°	108°	103°
	ZLH80W	11.8	20.0	26.0	31.0	36.0	45.0	52.0	63.0	73.0	82.0	89.0	103	120°	117°	110°	103°

Quick Disconnect – BEX ZipTip® Nozzles - Series ZPH





SPRAY CHARACTERISTICS:

A hollow cone spray pattern for phosphating applications. This large droplet, low impingement type of spray results in a tighter and more consistent phosphate crystalline structure.

CONSTRUCTION:

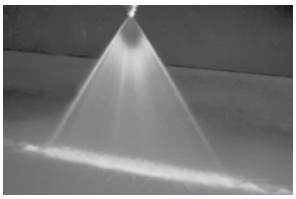
Two piece construction. Available in 303 stainless steel and 316 stainless steel. Please see page 48 for body styles and adapters.

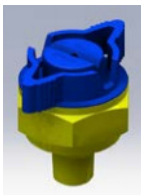
TYPICAL APPLICATIONS:

- Phosphating

MODEL NUMBER	MAX. FREE PASSAGE (mm)		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										Spray Angle @		
	Body	Cap	0.3 bar	0 .5 bar	0 .7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	0 .7 bar	1 bar	2 bar
ZPH23	5.59	7.92	5.70	7.40	8.80	10.5	12.8	15.0	18.0	21.0	23.4	26.0	45°	53°	60°
ZPH28	5.87	7.92	7.00	9.00	10.7	12.8	15.6	18.0	22.0	25.5	28.5	31.0	40°	43°	48°
ZPH51	8.74	9.53	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	40°	50°	50°
ZPH53	9.53	9.53	12.5	16.1	19.1	22.8	27.9	32.0	39.0	46.0	51.0	56.0	70°	70°	70°

Quick Disconnect – BEX ZipTip® Nozzles – Injection Molded





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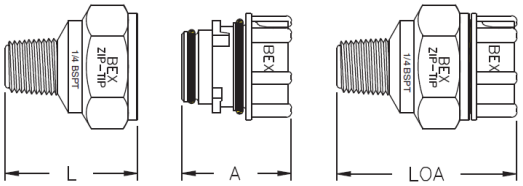
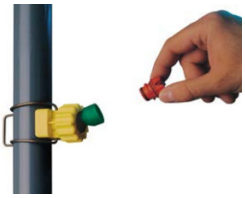


CHARACTERISTICS:

BEX Molded Plastic Zip-Tip® Spray Nozzles are designed to allow fast and easy installation and removal of spray nozzle tips and adapters, while providing positive alignment of spray pattern. Double VITON® O-Ring seals are supplied standard with each nozzle tip. Seals are located on, and removed with, the nozzle tip for easy flushing. A variety of models and spray patterns are available.

CONSTRUCTION:

Molded plastic spray nozzles are available in glass reinforced polypropylene or PVDF (Kynar®). Other materials are available upon request. All models are available in either BSPT or NPT threads. (NOTE: Metal and molded plastic ZIP-TIP® components are not interchangeable.)



TYPICAL APPLICATIONS:

- Spray Washing & Rinsing
- Parts Cleaning
- Pretreatment

Type	Length L (mm)	Dim.A (mm)	Dim.LOA (mm)
ZF	31	25	43
ZS	31	25	43
ZSW	31	25	43
ZTA	31	25	43
ZPLUG	31	32	43

ZIP-TIP BODIES AND ADAPTERS

ZBD

1/8" - 1/2" BSPT Male only Glass reinforced polypropylene or PVDF

KZBD

To be used with K-Ball® Clip-On Nozzle Assemblies. Glass reinforced polypropylene or PVDF.

ZTA

1/8" - 3/8" BSPT Female only Glass reinforced polypropylene or PVDF

ZPLUG

To shut off individual nozzles Glass reinforced polypropylene or PVDF

HOW TO ORDER BEX ZIP-TIPS

COMPLETE ASEMBLIES:

Indicate ZBD connection size (1/8", 1/4", 3/8" or 1/2") followed by model number (ZF, ZS, ZSW or ZSQ) found on pages 55-57. Then indicate material of construction (Glass reinforced polypropylene, Red PVDF or Natural PVDF).

REPLACEMENT TIPS ONLY

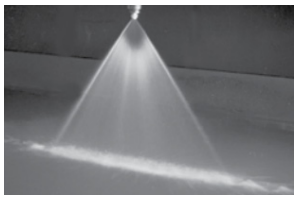
Indicate the tip model number (ZF, ZS, ZSW or ZSQ) found on pages 55-57. Then indicate material of construction (Glass reinforced polypropylene, Red PVDF or Natural PVDF).

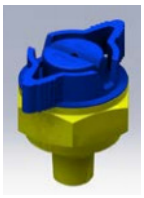
Zip-Tip® with TabzTM

Finger Tabz for easier insertion and removal.

Available on all models.

Quick Disconnect – BEX ZipTip® Nozzles – Series ZF





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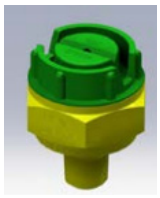

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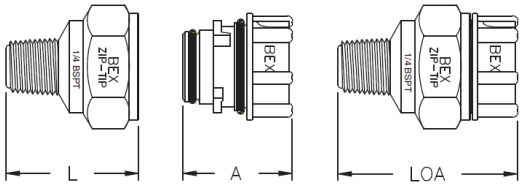


SPRAY CHARACTERISTICS:

ZF-Series spray nozzles produce a flat, fan-shaped spray pattern with spray angles available from 15° to 110° measured at 3 bar. Spray angles generally increase with pressure, as shown in the capacity table.
Spray density tapers off toward the outside of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

CONSTRUCTION:

Molded plastic spray nozzles are available in glass reinforced polypropylene or PVDF (Kynar®).

COLOR CODING:

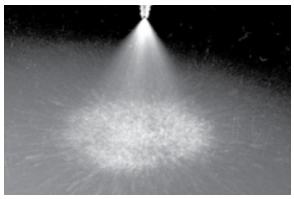
Zip-Tip flat "V" spray tips are color-coded for easy identification.

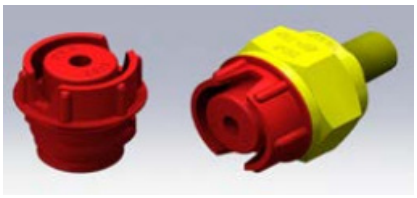
TYPICAL APPLICATIONS:

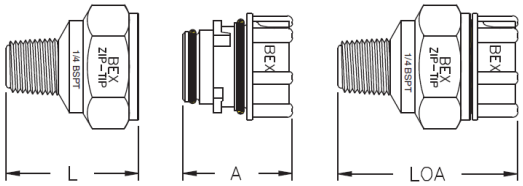
- Parts Cleaning
- Metal Washing
- Foam Control
- Asphalt Spraying
- Gravel Washing
- Vehicle Washing
- Fertilizer Spraying
- Dishwashers

available Spray Angles	BEX ZF-Size	color	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar	20 bar	30 bar
	015	lime green	0.76	0.12	0.16	0.19	0.23	0.28	0.3	0.39	0.5	0.6	0.6	0.71	1.01	1.24
	02	lime green	0.91	0.25	0.32	0.38	0.46	0.56	0.64	0.79	0.91	1.00	1.20	1.40	2.00	2.45
	03	lime green	1.10	0.37	0.48	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.81	2.16	3.06	3.74
110°	**04**	lime green	1.20	0.50	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.41	2.88	4.08	4.99
95°	**05**	lime green	1.35	0.62	0.81	0.95	1.10	1.40	1.61	1.97	2.28	2.55	3.01	3.60	5.10	6.20
80°	**06**	lime green	1.47	0.75	0.97	1.14	1.40	1.67	1.93	2.37	2.73	3.06	3.60	4.30	6.10	7.50
65°	**08**	lime green	1.70	1.00	1.29	1.53	1.80	2.23	2.58	3.20	3.60	4.10	4.80	5.80	8.20	10.0
50°	**10**	white	1.91	1.25	1.61	1.91	2.30	2.79	3.20	3.90	4.60	5.10	6.0	7.20	10.2	12.5
40°	**12**	orange	2.08	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	7.20	8.60	12.2	15.0
25°	**15**	grey	2.31	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	9.00	10.8	15.3	18.7
15°	**20**	light blue	2.67	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	12.1	14.4	20.4	25.0
	30	purple	3.28	3.70	4.80	5.70	6.80	8.40	9.70	11.8	13.7	15.3	18.1	21.6	30.6	37.4
	40	green	3.78	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	24.1	28.8	41.0	50.0
	50	yellow	4.24	6.20	8.10	9.50	11.4	14.0	16.1	19.7	22.8	25.5	30.1	36.0	51.0	62.0
	60	blue	4.62	7.50	9.70	11.4	13.7	16.7	19.3	23.7	27.3	30.6	36.0	43.0	61.0	75.0
	70	red	5.00	8.70	11.3	13.3	16.0	19.5	22.6	27.6	32.0	36.0	42.0	50.0	71.0	87.0

Quick Disconnect – BEX ZipTip® Nozzles – Series ZS





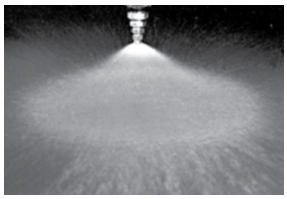


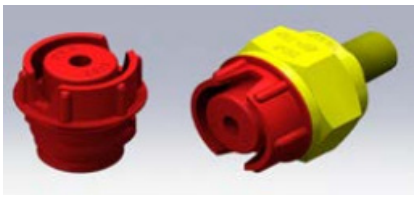
SPRAY CHARACTERISTICS:
A full-cone spray with uniform spray distribution. Removable patented vane is standard.

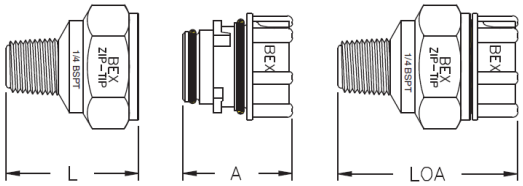
CONSTRUCTION:
Molded plastic spray nozzles are available in glass reinforced polypropylene or PVDF (Kynar®).

Model Number	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)												Spray Angle @		
		0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZS1	0.84	--	--	--	--	0.46	0.56	0.64	0.79	0.91	1.02	1.12	1.29	--	55°	52°
ZS1.5	1.17	--	--	--	0.57	0.68	0.84	0.97	1.18	1.37	1.53	1.67	1.93	--	65°	57°
ZS2	1.30	--	--	0.64	0.76	0.91	1.12	1.29	1.58	1.82	2.04	2.23	2.58	54°	59°	60°
ZS3	1.30	--	0.75	0.97	1.14	1.37	1.67	1.93	2.37	2.73	3.06	3.30	3.90	50°	53°	60°
ZS3.5	1.30	0.71	0.87	1.13	1.33	1.60	1.95	2.26	2.76	3.20	3.60	3.90	4.50	48°	58°	61°
ZS5	1.63	1.02	1.25	1.61	1.91	2.28	2.79	3.20	3.90	4.60	5.10	5.60	6.40	60°	75°	70°
ZS6	1.63	1.22	1.50	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	67°	75°	70°
ZS6.5	2.31	1.32	1.62	2.09	2.48	2.96	3.60	4.20	5.10	5.90	6.60	7.30	8.40	48°	56°	50°
ZS7.5	2.31	1.53	1.87	2.42	2.86	3.40	4.20	4.80	5.90	6.80	7.60	8.40	9.70	55°	65°	48°
ZS8.5	2.31	1.73	2.12	2.74	3.20	3.90	4.70	5.50	6.70	7.70	8.70	9.50	11.0	58°	65°	63°
ZS10	2.31	2.04	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	60°	65°	62°
ZS14	2.31	2.85	3.50	4.51	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
ZS14	2.59	2.85	3.50	4.80	5.30	6.80	8.40	9.70	11.8	13.7	15.3	16.7	19.3	63°	65°	60°
ZS18	2.59	3.70	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	85°	88°	76°
ZS20	2.59	4.10	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	76°	82°	75°
ZS22	2.90	4.50	5.50	7.01	8.40	10.0	12.3	14.2	17.4	20.1	22.4	24.6	28.4	76°	78°	76°

Quick Disconnect – BEX ZipTip® Nozzles – Series ZSW & ZSQ



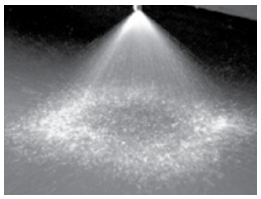


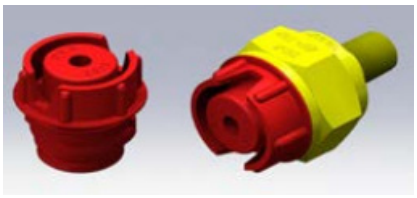


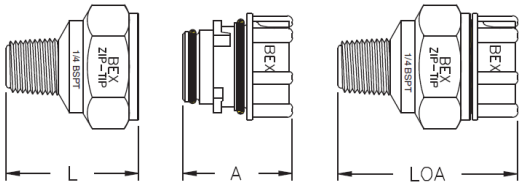
SPRAY CHARACTERISTICS:
A wide full-cone spray with uniform spray distribution. Removable patented vane is standard.

CONSTRUCTION:
Molded plastic spray nozzles are available in glass reinforced polypropylene or PVDF (Kynar®).

Model Number	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZS2.8W	1.30	--	0.90	1.07	1.28	1.56	1.80	2.21	2.55	2.85	3.13	3.60	110°	105°	96°
ZS4.3W	1.30	--	1.39	1.64	1.96	2.40	2.77	3.40	3.90	4.40	4.80	5.50	117°	108°	100°
ZS5.6W	1.63	--	1.80	2.14	2.55	3.13	3.60	4.40	5.10	5.70	6.30	7.20	117°	110°	100°
ZS8W	2.06	2.00	2.58	3.05	3.60	4.50	5.20	6.30	7.30	8.20	8.90	10.3	118°	110°	103°
ZS10W	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	118°	108°	102°
ZS12W	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	120°	112°	102°
ZS14W	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	118°	114°	104°
ZS17W	2.59	4.20	5.50	6.50	7.70	9.50	11.0	13.4	15.5	17.3	19.0	21.9	118°	117°	102°
ZS20W	2.59	5.00	6.40	7.60	9.10	11.2	12.9	15.8	18.2	20.4	22.3	25.8	120°	120°	106°
ZS24W	2.59	6.00	7.70	9.20	10.9	13.4	15.5	18.9	21.9	24.5	26.8	30.9	122°	118°	106°





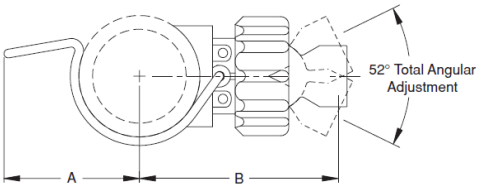


SPRAY CHARACTERISTICS:
A full-square spray with uniform spray distribution. Removable patented vane is standard.

CONSTRUCTION:
Molded plastic spray nozzles are available in glass reinforced polypropylene or PVDF (Kynar®).

Model Number	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											Spray Angle @		
		0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	0.5 bar	1.5 bar	5 bar
ZS3.6SQ	1.45	--	1.16	1.37	1.64	2.01	2.32	2.84	3.30	3.70	4.00	4.60	42°	55°	50°
ZS4.8SQ	1.63	--	1.55	1.83	2.19	2.68	3.09	3.8	4.40	4.90	5.40	6.20	50°	65°	60°
ZS6SQ	2.06	--	1.93	2.29	2.73	3.30	3.90	4.70	5.50	6.10	6.70	7.70	30°	65°	60°
ZS10SQ	2.31	2.50	3.20	3.80	4.60	5.60	6.40	7.90	9.10	10.2	11.2	12.9	61°	67°	60°
ZS12SQ	2.31	3.00	3.90	4.60	5.50	6.70	7.70	9.50	10.9	12.2	13.4	15.5	71°	76°	69°
ZS14SQ	2.31	3.50	4.50	5.30	6.40	7.80	9.00	11.1	12.8	14.3	15.6	18.0	78°	85°	75°
ZS18SQ	2.59	4.50	5.80	6.90	8.20	10.0	11.6	14.2	16.4	18.3	20.1	23.2	85°	88°	76°

Quick Disconnect – BEX KBall® Clip-On



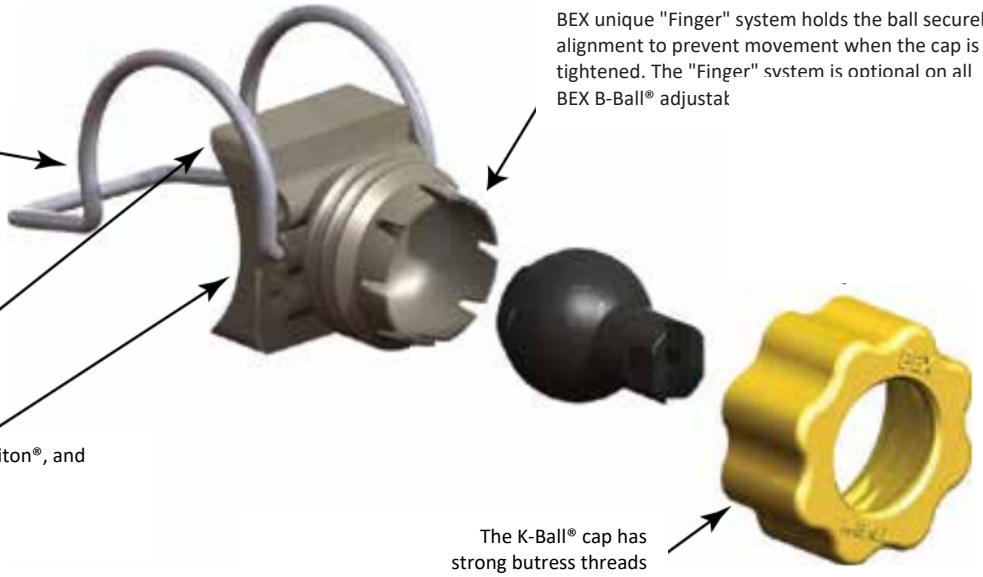
SPRAY CHARACTERISTICS:
These nozzles simply clip over a pre-drilled pipe (15mm dia. hole) and are available with a variety of spray balls, in various spray patterns, flow rates and spray angles.

CONSTRUCTION:
Made of corrosion-resistant plastic and stainless steel. Heavy-duty spring clip good to 6 bar at 80°C. A 316SS clip is also available, if required.

TYPICAL APPLICATIONS:
- Parts Cleaning
- Pretreatment
- Spray Washing & Rinsing

The BEX spring clamp is the heaviest and most durable used in the industry. It provides long service at pressures up to 7 bar. Also available with a second clip.

BEX unique "Finger" system holds the ball securely in alignment to prevent movement when the cap is tightened. The "Finger" system is optional on all BEX B-Ball® adjustat



Square fitting glass filled polypropylene bodies are available in four pipe sizes and are good up to 80°C..

Standard O-Ring seal is EPDM. Buna-N, Viton®, and special "retrofit" seals are available.

The K-Ball® cap has strong butress threads and is made from glass filled polypropylene or PVDF.

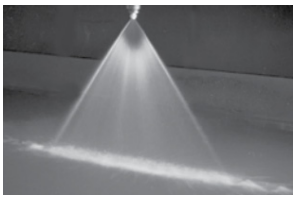
K-BALL BODY COLORS AND PART NUMBERS

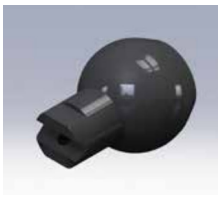
Pipe Size	1"	1-1/4"	1-1/2"	2"
Standard Body	**1K** (white)	**1.2K** (grey)	**1.5K** (black)	**2K** (light brown)
Body with Fingers	**1KF** (green)	**1.2KF** (yellow)	**1.5KF** (red)	**2KF** (blue)
Spring Clip	1KCL	1.2KCL	1.5KCL	2KCL
O-Ring	KOR	KOR	KOR	KOR
K-Ball-Cap	KCAP	KCAP	KCAP	KCAP

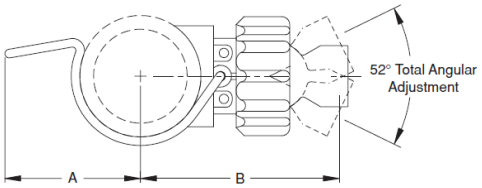
HOW TO ORDER COMPLETE K-BALL ASSEMBLIES
Use the correct body part number (from the parts listed in BOLD at the left), followed by the model number for the nozzle ball (see pages 68 and 69).

Example:
BF5070 nozzle balls are needed to fit onto a 1-1/4" pipe. Accurate alignment of the nozzles is critical, so the 1-1/4" body with "fingers" will be used.
The correct PART number for this K-Ball nozzle assembly is 1.2KFBF5070.

Quick Disconnect – BEX K-Ball ® Clip-On – Series BF





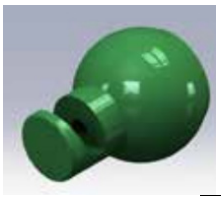


SPRAY CHARACTERISTICS:
Spray is fan-shaped with spray angles of 15° to 110°. Spray density tapers off toward the outside to permit overlapping of the spray patterns while maintaining uniform spray density.

CONSTRUCTION:
The flat-V spray nozzle balls are available in glass reinforced polypropylene or PVDF (Kynar®).

TYPICAL APPLICATIONS:
- Parts Cleaning
- Pretreatment
- Spray Washing & Rinsing

Spray Angle @ 3 bar	MODEL NUMBER	Color	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)									Spray Angle @	
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	1.5 bar	3 bar
110°	**BF11060**	Blau	4.62	7.5	9.7	11	14	17	19	24	27	31	107°	110°
95°	**BF9530**	purple	3.28	3.7	4.8	5.7	6.8	8.4	9.7	12	14	15	63°	95°
	BF9540	green	3.78	5.0	6.4	7.6	9.1	11	13	16	18	20	63°	95°
	BF9550	yellow	4.24	6.2	8.1	9.5	11	14	16	20	23	26	63°	95°
	BF9560	blue	4.62	7.5	9.7	11	14	17	19	24	27	31	63°	95°
80°	**BF8010**	white	1.91	1.3	1.6	1.9	0.6	2.8	3.2	3.9	4.6	5.1	75°	80°
	BF8020	light blue	2.67	2.5	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10	63°	80°
	BF8030	purple	3.28	3.7	4.8	5.7	6.8	8.4	9.7	12	14	15	63°	80°
	BF8040	green	3.78	5.0	6.4	7.6	9.1	11	13	16	18	20	76°	80°
	BF8050	yellow	4.24	6.2	8.1	9.5	11	14	16	20	23	26	77°	80°
	BF8060	blue	4.62	7.5	9.7	11	14	17	19	24	27	31	77°	80°
	BF8070	red	5.00	8.7	11	13	16	20	23	28	32	36	78°	80°
	BF80100	Brown	5.99	13	16	19	23	28	32	39	46	51	75°	80°
65°	**BF6520**	light blue	2.67	2.5	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10	63°	65°
	BF6530	purple	3.28	3.7	4.8	5.7	6.8	8.4	9.7	12	14	15	63°	65°
	BF6540	green	3.78	5.0	6.4	7.6	9.1	11	13	16	18	20	63°	65°
	BF6550	yellow	4.24	6.2	8.1	9.5	11	14	16	20	23	26	63°	65°
	BF6560	blue	4.62	7.5	9.7	11	14	17	19	24	27	31	63°	65°
	BF6570	red	5.00	8.7	11	13	16	20	23	28	32	36	63°	65°
	BF65100	brown	5.99	13	16	19	23	28	32	39	46	51	58°	65°
50°	**BF5020**	light blue	2.67	2.5	3.2	3.8	4.6	5.6	6.4	7.9	9.1	10	63°	50°
	BF5030	purple	3.28	3.7	4.8	5.7	6.8	8.4	9.7	12	14	15	63°	50°
	BF5040	green	3.78	5.0	6.4	7.6	9.1	11	13	16	18	20	43°	50°
	BF5050	yellow	4.24	6.2	8.1	9.5	11	14	16	20	23	26	43°	50°
	BF5060	blue	4.62	7.5	9.7	11	14	17	19	24	27	31	43°	50°
	BF5070	red	5.00	8.7	11	13	16	20	23	28	32	36	43°	50°
	BF50100	brown	5.99	13	16	19	23	28	32	39	46	51	44°	50°
40°	**BF4040**	green	3.78	5.0	6.4	7.6	9.1	11	13	16	18	20	33°	40°
	BF4050	yellow	4.24	6.2	8.1	9.5	11	14	16	20	23	26	35°	40°
	BF4060	blue	4.62	7.5	9.7	11	14	17	19	24	27	31	37°	40°
	BF4070	red	5.00	8.7	11	13	16	20	23	28	32	36	35°	40°
	BF40100	brown	5.99	13	16	19	23	28	32	39	46	51	33°	40°
25°	**BF2540**	green	3.78	5.0	6.4	7.6	9.1	11	13	16	18	20	22°	25°
	BF2550	yellow	4.24	6.2	8.1	9.5	11	14	16	20	23	26	20°	25°
	BF2560	blue	4.62	7.5	9.7	11	14	17	19	24	27	31	18°	25°
	BF2570	red	5.00	8.7	11	13	16	20	23	28	32	36	19°	25°
	BF25100	brown	5.99	13	16	19	23	28	32	39	46	51	21°	25°
15°	**BF15100**	brown	5.99	13	16	19	23	28	32	39	46	51	13°	15°
	BF15120	black	6.55	15	19	23	27	33	39	47	55	61	12°	15°
	BF15150	black	7.34	19	24	29	34	42	48	59	68	76	12°	15°



SPRAY CHARACTERISTICS:

A wide, flat shaped spray with low impact. The spray is deflected 75° from the centerline of the nozzle, as shown.

TYPICAL APPLICATIONS:

Flooding nozzles are often used at the beginning and end of phosphate stages, to prevent mist carry over. They can also be used for "wetting" surfaces during long drain stages.

MODEL NUMBER	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)										Spray Angle @	
		0.2 bar	0.3 bar	0 .5 bar	0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	0 .5 bar	1.5 bar
BFL5	1.93	1.0	1.3	1.6	1.9	2.3	2.79	3.2	3.6	3.9	4.6	114°	130°
BFL10	2.79	2.0	2.5	3.2	3.8	4.6	5.6	6.4	7.2	7.9	9.1	134°	146°
BFL18	3.78	3.7	4.5	5.8	6.9	8.2	10	12	13	14.2	16	130°	142°
BFL24	4.24	4.9	6.0	7.7	9.2	11	13.4	16	17.3	18.9	22	121°	136°
BFL30	4.65	6.1	7.5	9.7	11	14	16.7	19	21.6	23.7	27	120°	133°
BFL40	5.54	8.2	10	13	15	18	22.3	26	28.8	31.6	36	130°	144°

SPRAY CHARACTERISTICS:

A hollow cone pattern with low impact. BPH nozzle balls are made of glass reinforced polypropylene. Available in three models.

TYPICAL APPLICATIONS:

Designed specifically for phosphate stages. This large droplet, low impact spray results in tighter and more consistent phosphate crystalline structure. It minimizes the misting of phosphate spray, thus reducing 'pre-coating', streaking, and carry over to adjacent stages.

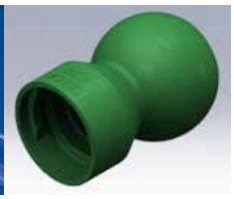
MODEL NUMBER	Color	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)									Spray Angle @			
			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	3 bar	4 bar	0 .3 bar	0.5 bar	0.7 bar	1.5 bar
BPH28	white	4.56	5.7	7.0	9.0	10.7	12.8	15.6	18	22.1	25.5	44°	52°	53°	55°
BPH51	grey	7.11	10.2	12.5	16.1	19.1	22.8	27.9	32.2	39	46	37°	40°	42°	48°
BPH53	black	7.11	10.2	12.5	16.1	19.1	22.8	27.9	32.2	39	46	62°	70°	71°	73°

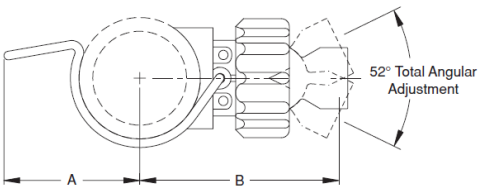
KPLUG SHUT-OFF PLUG

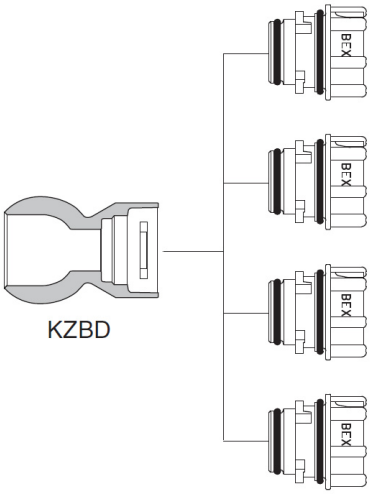
TYPICAL APPLICATIONS:

The KPLUG nozzle ball is used in place of any other nozzle ball to completely shut off the flow through the assembly.

Quick Disconnect – BEX K-Ball ® Clip-On







ZF FLAT "V" SPRAY
F-Series spray nozzle that produces a flat, fan-shaped spray pattern.

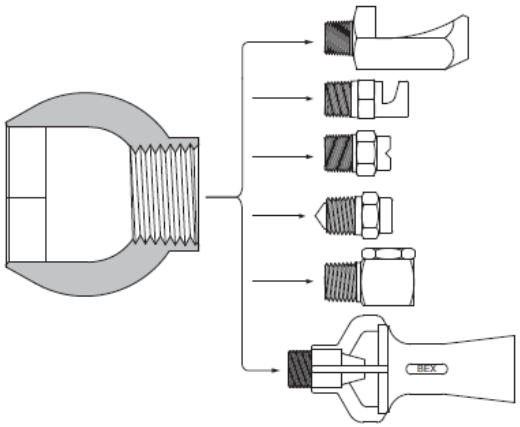
ZS FULL-CONE SPRAY
A full-cone tip with uniform spray distribution.

ZSW WIDE ANGLE FULL-CONE SPRAY
Wide, full-cone spray with uniform spray distribution.

ZSQFULL-SQUARE SPRAY
A full-square spray with uniform spray

BEX Clip-On Zip-Tip® Adapter

for use of ZipTip spray nozzles with the KBall-Clip-On system



High Impact Flat Spray

Flooding

Flat-V Spray

Full Cone Spray

Hollow Cone Spray

Tank Mixing Eductors

BEX THREADED BALLS (for K-Ball nozzle assemblies)

Expand your range of nozzle choices by using threaded balls. Threaded balls are made of glass reinforced polypropylene, with 1/8", 1/4" and 3/8" BSPT female threads. (NPT also available)

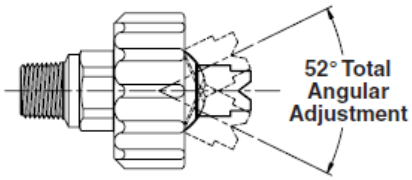
Model	Description
1B	1/8 BSPT Female thread
2B	1/4 BSPT Female thread
3B	3/8 BSPT Female thread
5B	1/2 BSPT Female thread

BEX Conversion O-Ring

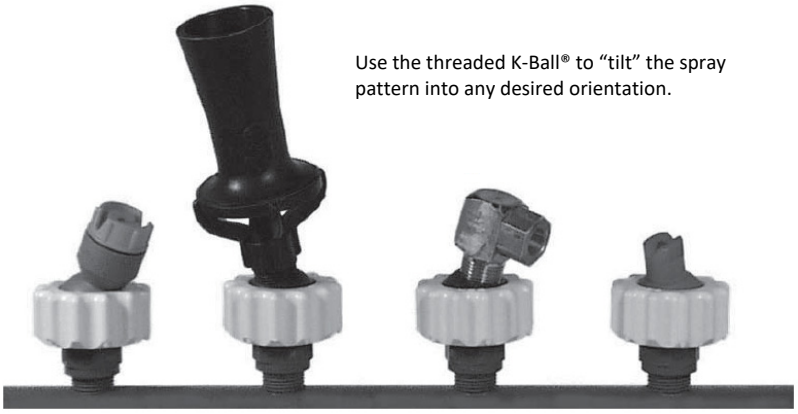
For installing BEX K-Ball clip-on nozzles into holes drilled to a 17mm diameter.

For larger diameters, BEX K-Ball® Clip-On systems with 20 mm spigots are also available (only for 1-1/4 "and 1-1/2" pipe diameters).

Quick Disconnect – BEX K-Ball ® Clip-On



The BEX threaded K-Ball® body provides the ability to adjust the direction of the spray pattern by simply twisting the K-Ball® cap, repositioning the nozzle and tightening the cap. The same 52°nozzle angle of adjustability exists in the threaded body as in the K-Ball® clip-on body. This plastic threaded body is useful when a metal clip is undesirable or where space limitations prevent using a spring clip-on nozzle.



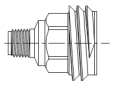
Use the threaded K-Ball® to “tilt” the spray pattern into any desired orientation.

BEX Threaded KBall® Body

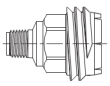
ORDERING ASSEMBLIES:

You can easily order complete threaded KBall® assemblies using the ball model numbers listed on page 68. Example B3/8KFBF5070. (‘B3/8’ denotes 3/8 BSTP thread).

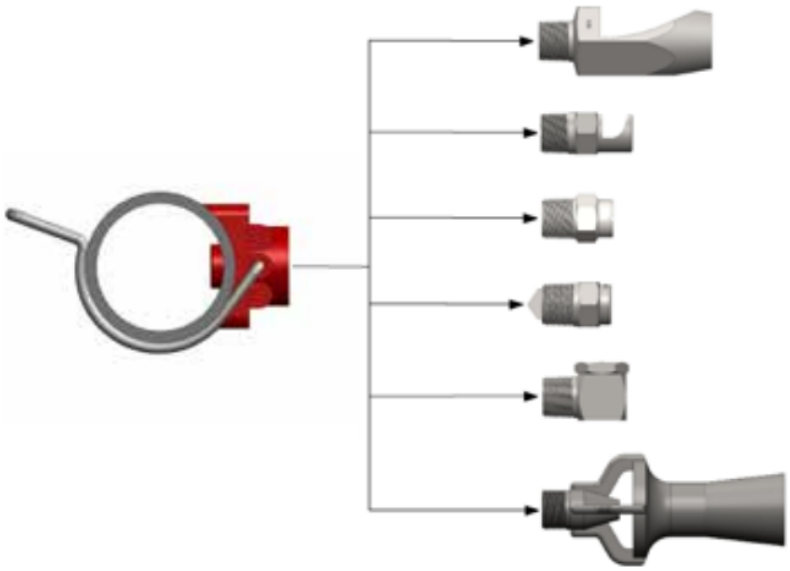
Thread male	MODEL NUMBER	
	with "Finger"	w/o "Finger"
1/4	1/4KBD	1/4KFBD
3/8	3/8KBD	3/8KFBD
1/2	1/2KBD	1/2KFBD



w/o "Finger"



with "Finger"



High Impact Flat Spray

Flooding

Flat-V Spray

Full Cone Spray

Hollow Cone Spray

Tank Mixing Eductors

BEX K-Ball® CLIP-ON NOZZLE THREADED ADAPTER

FEATURES:

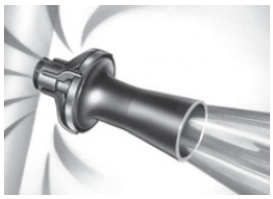
This adapter allows for quick mounting and removal of threaded nozzles.

APPLICATIONS:

Useful to mount nozzles in a fixed position, where adjustability is not desired.

Thread	MODELL NUMMER			
	1” Pipe	11/4 Pipe	11/2 Pipe	2” Pipe
1/8 BSPT female	1K.1	1.2K.1	1.5K.1	2K.1
1/4 BSPT female	1K.2	1.2K.2	1.5K.2	2K.2
3/8 BSPT female	1K.3	1.2K.3	1.5K.3	2K.3

Other Types of Nozzles and Accessories - Eductors



EDUCTOR PRINCIPLES:

BEX eductors use a unique venturi design which enables smaller pumps to circulate large volumes of tank solution. The eductor will circulate four to five litres of solution for each litre pumped.

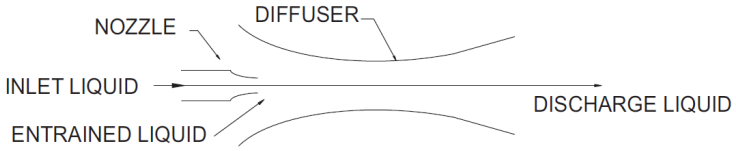
BEX eductors are used for mixing chemicals, suspending solids, adjusting pH, "sweeping" debris or sludge toward a filter intake and many other useful applications.

TYPICAL APPLICATIONS:

- Plating Tanks
- Cleaning Tanks
- Phosphating Tanks
- E-coat Tanks
- Fertilizer Tanks
- Pulp Tanks
- Sludge Tanks
- Paint Booths
- Anodizing Tanks
- Cooling Towers
- Decorative Fountains

CONSTRUCTION:

Standard materials are cast iron, 316 SS, PVDF (Kynar®) and glass-filled polypropylene. Other materials are available upon request.



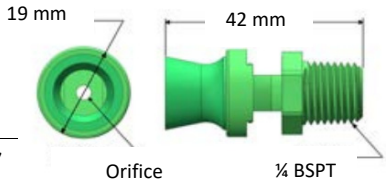
Sizes from 1/4” to 3” BSPT (NPT models also available)

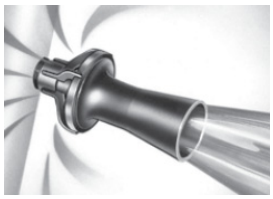
BEX Eductors – Molded Plastic Models

MODEL	Thread	Dim. L (cm)	Dim. D (cm)	Max. Free Passage (mm)	NOZZLE FLOW (L/min) AT VARIOUS PRESSURES (bar)							
					0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	4 bar
BT00MP	1/4”	7.9	3.8	4.78	12	14	18	20	23	25	27	29
BT0MP	3/8”	11.4	5.4	7.32	29	34	42	48	54	59	64	68
BT2MP	3/4”	16.2	7.6	9.80	51	62	75	87	97	107	115	123
BT3MP	1”	21.6	9.5	12.2	80	96	117	135	151	166	179	191
BT4MP	1½”	25.1	11.7	15.5	126	150	184	213	238	261	281	301

BEX Eductors – Mini Molded Plastic Models

MODEL	Max. Free Passage (mm)	Color	NOZZLE FLOW (L/min) AT VARIOUS PRESSURES (bar)						
			0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar
BTMMP6	1.50	red	1.18	1.40	1.70	2.00	2.20	2.41	2.77
BTMMP11	2.01	green	2.10	2.50	3.10	3.60	4.00	4.34	5.02
BTMMP18	2.49	blue	3.43	4.10	5.00	5.80	6.50	7.11	8.20
BTMMP26	3.00	yellow	4.96	5.90	7.30	8.40	9.40	10.3	11.9





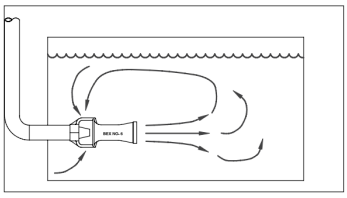
BEX TANK MIXING EDUCTORS – stainless steel 316 & cast iron

CONSTRUCTION:

These precision investment cast models are available in 316 stainless steel and iron. Other materials are available on request.
The capacity table provides the flow of water through the nozzle orifice.
To determine the discharge, multiply this value by five (5).

MODEL	Thread	Dim. L (cm)	Dim D (cm)	Max. Free Passage (mm)	NOZZLE FLOW (L/min) AT VARIOUS PRESSURES (bar)							
					0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	4 bar
BT0M	3/8" male	11.4	4.5	7.3	29	34	42	48	54	59	64	68
BT2M	3/4" male	17.2	6.0	9.8	51	62	75	87	97	107	115	123
BT3M	1" male	19.4	7.3	12.2	80	96	117	135	151	166	179	191
BT4M	1½" female	24.1	9.5	15.5	126	150	184	213	238	261	281	301
BT4	1½" female	24.1	9.5	15.5	126	150	184	213	238	261	281	301
BT5	2" female	31.1	12.4	19.8	210	251	307	355	396	434	469	501
BT6	3" female	43.5	19.1	30.2	480	574	703	812	908	995	1074	1149

USING BEX EDUCTORS AS STEAM SPARGERS

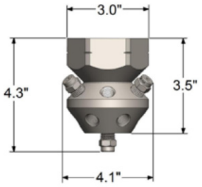


APPLICATIONS:

BEX Steam Spargers heat water and other liquids quickly and efficiently by direct injection of steam. They are designed for tank immersion and eliminate water hammer noise.

MODELL	Max. Free Passage (mm)	Thread	Dim. L (cm)	Dim. D (cm)	NOZZLE FLOW (kg/hr) AT VARIOUS PRESSURES (bar)							
					1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	10 bar
T0M	7.32	3/8" male	11.4	4.5	62	64	68	72	76	79	87	95
T2M	9.8	3/4" male	17.2	6.0	97	100	106	112	118	124	136	148
T3M	12.2	1" male	19.4	7.3	161	166	176	186	196	206	226	245
T4	15.5	1½" female	24.1	9.5	270	278	295	312	328	345	378	411
T5	19.8	2" female	31.1	12.4	410	422	448	473	498	524	574	625
T6	30.2	3" female	43.5	19.1	903	931	987	1043	1099	1154	1266	1377

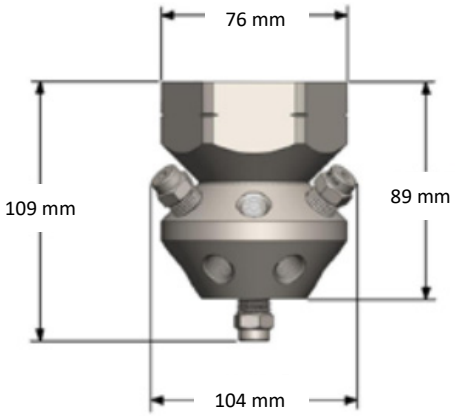
Other Types of Nozzles and Accessories – Tank Cleaning



TYPICAL APPLICATIONS:
This assembly is suitable for a variety of tank washing applications where the maximum tank diameter is no greater than approximately 3 m. The assembly will pass through a tank opening of at least 10.5 cm in diameter.

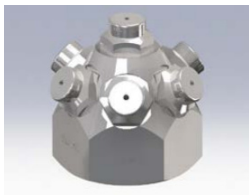
SPRAY CHARACTERISTICS:
This unit provides a fixed, non-rotating spray pattern. The assembly body has 13 individual female NPT nozzle connections which are designed to accept full cone nozzles. For best results, select 'S' series full cone spray nozzles from page 30. A wide variety of flow rates are available. A few standard combinations are listed in the table below.

CONSTRUCTION:
The assembly is available in brass, 303 and 316 stainless steel. A 1 1/2" female BSPT connection attaches to the supply line. Maximum recommended operating pressure is 4 bar.



Full Cone Spray Nozzles		CAPACITY (L/min) AT VARIOUS PRESSURES (bar)						
ONE PIECE BODY REMOVABLE INSERT	TWO PIECE BODY REMOVABLE INSERT	**0.7 bar**	**1.5 bar**	**2 bar**	**3 bar**	**4 bar**	**5 bar**	**6 bar**
11/2TWA1/4S5	**11/2TWA1/4GS5**	24.8	36	42	51	59	66	73
11/2TWA1/4S10	**11/2TWA1/4GS10**	50	73	84	103	119	132	145
11/2TWA3/8S15	**11/2TWA3/8GS15**	76	112	129	158	182	204	223
11/2TWA3/8S22	**11/2TWA3/8GS22**	111	162	187	229	264	296	324

Other Types of Nozzles and Accessories – Tank Cleaning



PRODUCT DESCRIPTION:

The M7S series cluster nozzle uses an array of seven (7) GS style full-cone spray nozzle caps mounted on a cluster nozzle body to produce a full-cone spray. Multiple full-cone spray nozzle caps produce a relatively small droplet size for large flow rates and are less susceptible to clogging. Nozzle caps are easily removed for cleaning or nozzle change-out.

CONSTRUCTION:

Standard cluster nozzle body and cap materials are brass, 303 stainless steel and 316 stainless steel. Other body and cap materials are available upon request.

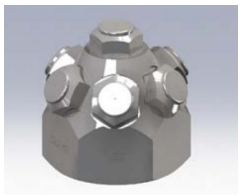
U.S. Patent No. 4,142,682
Canadian Patent No. 1,050,589

TYPICAL APPLICATIONS:

- Chemical Processing
- Cooling Spray
- Stack Gas Scrubbers

MODEL NUMBER	Thread Size	Nozzle Cap Model	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)						
			1.5 bar	3 bar	4 bar	5 bar	6 bar	8 bar	10 bar
3/4M7S1	3/4"	1/8GS1	3.90	5.50	6.40	7.10	7.80	9.00	10.1
3/4M7S1.5	3/4"	1/8GS1.5	5.90	8.30	9.60	10.7	11.7	13.5	15.1
3/4M7S2	3/4"	1/8GS2	7.80	11.1	12.8	14.3	15.6	18.0	20.2
3/4M7S3	3/4"	1/8GS3	11.7	16.6	19.1	21.4	23.4	27.1	30.3
3/4M7S3.5	3/4"	1/8GS3.5	13.7	19.3	22.3	25.0	27.4	32.0	35.0
3/4M7S5	3/4"	1/8GS5	19.5	27.6	32.0	36.0	39.0	45.0	50.0
3/4M7S6	3/4"	1/8GS6	27.4	39.0	45.0	50.0	55.0	63.0	71.0
1M7S6.5	1"	1/4GS6.5	25.0	36.0	41.0	46.0	51.0	59.0	66.0
1M7S7.5	1"	1/4GS7.5	29.0	41.0	48.0	54.0	59.0	68.0	76.0
1M7S10	1"	1/4GS10	39.0	55.0	64.0	71.0	78.0	90.0	101
11/2M7S9.5	11/2"	3/8GS9.5	37.0	52.0	61.0	68.0	74.0	86.0	96.0
11/2M7S15	11/2"	3/8GS15	59.0	83.0	96.0	107	117	135	151
11/2M7S16	11/2"	1/2GS16	63.0	88.0	102	114	125	144	161
11/2M7S20	11/2"	3/8GS20	78.0	111	128	143	156	180	202
11/2M7S22	11/2"	3/8GS22	86.0	122	140	157	172	199	222
11/2M7S25	11/2"	1/2GS25	98.0	138	160	178	195	226	252
11/2M7S32	11/2"	1/2GS32	125	177	204	228	250	289	323
11/2M7S40	11/2"	1/2GS40	156	221	255	285	313	361	404

Model	Dim. A (mm)	Dim. L (mm)
3/4M7S	61	53
1M7S	73	64
11/2M7S	104	86



PRODUCT DESCRIPTION:

The M7C series cluster nozzles uses an array of seven (7) hollow cone C-series hydraulic atomizing nozzle caps mounted on a cluster nozzle body to produce a radially oriented array of hollow cone sprays. Multiple hydraulic atomizing spray nozzle caps produce a small droplet size with a higher flow rate and larger distribution than a single nozzle assembly. Nozzle caps are easily removed for nozzle change-out.

CONSTRUCTION:

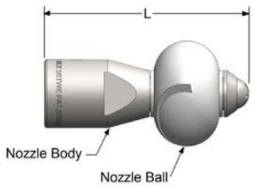
Standard cluster nozzle body and cap materials are brass, 303 stainless steel and 316 stainless steel. Other body and cap materials are available upon request.

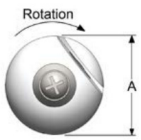
TYPICAL APPLICATIONS:

- Chemical Processing
- Cooling Spray
- Stack Gas Scrubbers

BEX Model	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)								
	2 bar	3 bar	5 bar	7 bar	15 bar	20 bar	35 bar	50 bar	70 bar
1M7C1.9	13.40	16.19	20.90	24.79	36.32	42.06	55.69	66.66	78.57
1M7C2.4	16.75	20.53	26.67	31.28	46.19	53.23	70.18	83.99	99.55
1M7C3.0	20.84	25.66	33.16	39.29	57.64	66.26	87.73	105.18	125.87
1M7C3.8	26.43	32.77	42.17	49.97	73.04	84.12	111.37	134.85	156.38
1M7C4.7	32.76	40.27	51.90	61.41	90.02	104.22	137.31	165.67	194.52
1M7C5.9	41.32	50.54	65.23	77.43	113.31	130.28	171.64	208.06	244.11
1M7C7.4	51.74	63.56	81.81	96.88	142.13	163.78	217.41	258.14	305.13
1M7C9.2	64.40	78.96	101.99	120.53	177.66	204.72	270.81	323.64	381.42
1M7C12	84.12	103.04	133.35	156.38	228.99	264.28	350.90	419.97	495.84
1M7C14	97.90	120.02	154.97	183.08	268.47	308.95	411.93	489.32	579.76
1M7C18	126.56	153.97	198.22	236.48	343.48	398.28	526.36	631.88	743.77
1M7C23	160.06	197.40	255.89	301.32	442.18	509.95	675.11	805.26	953.55
1M7C28	197.28	240.83	309.95	366.16	536.94	621.62	820.05	978.64	1159.51
1M7C35	245.67	300.05	389.24	457.70	671.17	774.23	1026.01	1225.22	1449.39
1M7C44	308.95	379.01	486.55	575.94	844.88	975.23	1289.19	1541.16	1823.18
1M7C55	383.39	469.82	609.09	720.88	1054.13	1217.18	1609.58	1926.45	2277.07
1M7C69	483.89	592.21	764.06	903.96	1322.60	1526.13	2021.52	2415.77	2856.82
1M7C86	603.01	738.29	951.47	1125.18	1650.29	1905.80	2517.36	3009.12	3562.44

Other Types of Nozzles and Accessories – Tank Cleaning





Sanitary connection (Includes stainless steel hitch pin)

PRODUCT DESCRIPTION:

The TWK series rotating nozzles provide true 360° spray coverage in a very compact assembly. The bearing mechanism is self-lubricating and self-cleaning. This nozzle can be installed in any orientation and is effective in vessels up to 3 meters (10 feet) in diameter. The maximum recommended operating pressure is 6 bar at 80°C.

CONSTRUCTION:

Standard nozzle body material is 316 stainless steel. Nozzle balls are available in 316 stainless steel, PVDF (Kynar®), Teflon® and polypropylene. Other body and ball materials are available upon request.

SPECIAL FEATURES:

- True 360° coverage
- Easy disassembly/assembly and cleaning
- FDA approved materials
- Keyed ball can not be installed backwards

TYPICAL APPLICATIONS:

- Keg Washing
- Carboy/Jug Washing
- Spray Tank Washing
- Small Tank Rinsing
- Machine Clean-In-Place (C.I.P.)
- Barrel Washing/Rinsing

U.S. Patent No. 5,316,218

TWK360xxx

TWK270xxx

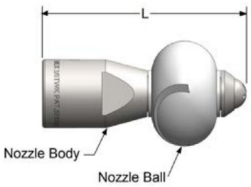
TWK072xxx

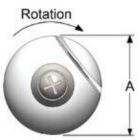
TWK180xxx

TWK081xxx

MODEL NUMBER	Thread Size	MAX. FREE PASSAGE (mm)	SANITARY TUBING SIZE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											SPRAY COVERAGE (degrees)	Dim. A (mm)	Dim. L (mm)	Dim. D (mm)
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	5 bar	6 bar				
1/4TWK36050	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	360°	25.4	50.8	9.5
1/4TWK27050	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	270°	25.4	50.8	9.5
1/4TWK07250	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	270°	25.4	50.8	9.5
1/4TWK18050	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	180°	25.4	50.8	9.5
1/4TWK08150	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	180°	25.4	50.8	9.5
3/8TWK36075	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	360°	31.8	63.5	9.5
3/8TWK27075	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	270°	31.8	63.5	9.5
3/8TWK07275	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	270°	31.8	63.5	9.5
3/8TWK18075	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	180°	31.8	63.5	9.5
3/8TWK08175	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	180°	31.8	63.5	9.5
1/2TWK360100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	360°	38.1	73.6	9.5
1/2TWK270100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	270°	38.1	73.6	9.5
1/2TWK072100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	270°	38.1	73.6	9.5
1/2TWK180100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	180°	38.1	73.6	9.5
1/2TWK081100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	180°	38.1	73.6	9.5
3/4TWK360180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	360°	50.8	97.5	12.7
3/4TWK270180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	270°	50.8	97.5	12.7
3/4TWK072180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	270°	50.8	97.5	12.7
3/4TWK180180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	180°	50.8	97.5	12.7
3/4TWK081180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	180°	50.8	97.5	12.7

Other Types of Nozzles and Accessories – Tank Cleaning





Sanitary connection (Includes stainless steel hitch pin)

PRODUCT DESCRIPTION:

The TWK series rotating nozzles provide true 360° spray coverage in a very compact assembly. The bearing mechanism is self-lubricating and self-cleaning. This nozzle can be installed in any orientation and is effective in vessels up to 3 meters (10 feet) in diameter. The maximum recommended operating pressure is 6 bar at 80°C.

CONSTRUCTION:

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SPECIAL FEATURES:

- True 360° coverage
- Easy disassembly/assembly and cleaning
- FDA approved materials
- Keyed ball cannot be installed backwards

TYPICAL APPLICATIONS:

- Keg Washing
- Carboy/Jug Washing
- Spray Tank Washing
- Small Tank Rinsing
- Machine Clean-In-Place (C.I.P.)
- Barrel Washing/Rinsing

U.S. Patent No. 5,316,218

TWK360xxx

TWK270xxx

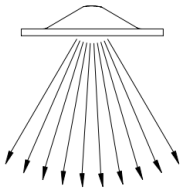
TWK072xxx

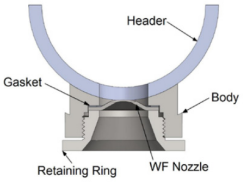
TWK180xxx

TWK081xxx

MODEL NUMBER	Thread Size	MAX. FREE PASSAGE (mm)	SANITARY TUBING SIZE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)											SPRAY COVERAGE (degrees)	Dim. A (mm)	Dim. L (mm)	Dim. D (mm)
				0.3 bar	0.5 bar	0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	5 bar	6 bar				
1/4TWK36050	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	360°	25.4	50.8	9.5
1/4TWK27050	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	270°	25.4	50.8	9.5
1/4TWK07250	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	270°	25.4	50.8	9.5
1/4TWK18050	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	180°	25.4	50.8	9.5
1/4TWK08150	1/4"	1.6	12.7	6.2	8.1	9.5	11	14	16	18	20	23	26	28	180°	25.4	50.8	9.5
3/8TWK36075	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	360°	31.8	63.5	9.5
3/8TWK27075	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	270°	31.8	63.5	9.5
3/8TWK07275	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	270°	31.8	63.5	9.5
3/8TWK18075	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	180°	31.8	63.5	9.5
3/8TWK08175	3/8"	1.6	15.9	9.4	12	14	17	21	24	27	30	34	38	42	180°	31.8	63.5	9.5
1/2TWK360100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	360°	38.1	73.6	9.5
1/2TWK270100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	270°	38.1	73.6	9.5
1/2TWK072100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	270°	38.1	73.6	9.5
1/2TWK180100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	180°	38.1	73.6	9.5
1/2TWK081100	1/2"	1.6	19.1	13	16	19	23	28	32	36	40	46	51	56	180°	38.1	73.6	9.5
3/4TWK360180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	360°	50.8	97.5	12.7
3/4TWK270180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	270°	50.8	97.5	12.7
3/4TWK072180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	270°	50.8	97.5	12.7
3/4TWK180180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	180°	50.8	97.5	12.7
3/4TWK081180	3/4"	2.24	25.4	23	29	34	41	50	58	65	71	82	92	100	180°	50.8	97.5	12.7

Other Types of Nozzles and Accessories – Self Aligning Disc





TYPICAL APPLICATIONS:

WF Series shower nozzles are designed to work in a number of commercially available "shower" bar systems where a self-aligning replaceable nozzle disc is required.
The back protruding design permits the nozzle orifice to be cleaned from inside the header, using a rotating brush.

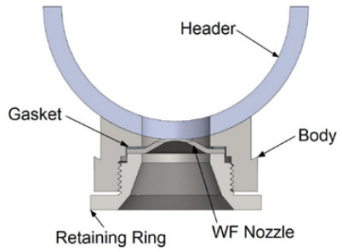
SPRAY CHARACTERISTICS:

Available in 30° and 60° flay V-shaped spray patterns, as well as zero (0) degree solid stream spray.

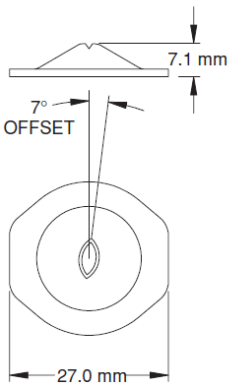
All flat V-shaped spray models are pre-aligned to a standard 7° offset angle to allow for spray overlap without interference from the adjacent nozzles.

CONSTRUCTION:

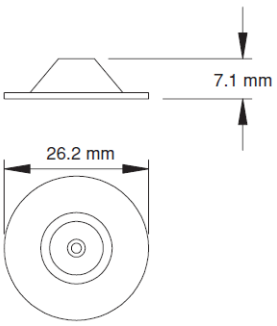
Standard material of construction for the spray disc is 317L stainless steel. A gasket is available for sealing the face between the nozzle disc and the body.



WF FLAT STREAM NOZZLE



WF SOLID STREAM NOZZLE



Spray-angle @ 3 bar	MODEL NUMBER	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)							
		1.5 bar	3 bar	4 bar	5 bar	6 bar	12 bar	25 bar	40 bar
0° Vollstrahl	WF00004	0.12	0.17	0.19	0.22	0.24	0.33	0.48	0.61
	WF00007	0.20	0.28	0.32	0.36	0.39	0.55	0.80	1.01
	WF00009	0.25	0.36	0.41	0.46	0.50	0.71	1.03	1.30
	WF0001	0.36	0.51	0.59	0.66	0.73	1.03	1.48	1.87
	WF0002	0.64	0.91	1.17	1.28	1.28	1.82	2.62	3.30
	WF0003	0.92	1.30	1.50	1.68	1.84	2.61	3.80	4.80
	WF0004	1.20	1.70	2.00	2.20	2.40	3.40	4.90	6.20
	WF0008	2.20	3.12	3.60	4.00	4.40	6.20	9.00	11.4
	WF0012	3.50	4.90	5.70	6.30	6.90	9.80	14.1	17.9
	WF0020	5.50	7.80	9.00	10.1	11.1	15.6	22.6	28.5
30°	WF3002	0.64	0.91	1.17	1.28	1.28	1.82	2.62	3.30
	WF3003	0.92	1.30	1.50	1.68	1.84	2.61	3.80	4.80
	WF3004	1.20	1.70	2.00	2.20	2.40	3.40	4.90	6.20
	WF3006	1.70	2.41	2.78	3.11	3.40	4.80	7.00	8.80
	WF3008	2.20	3.12	3.60	4.00	4.40	6.20	9.00	11.4
	WF3010	2.85	4.03	4.65	5.20	5.69	8.10	11.6	14.7
	WF3012	3.50	4.90	5.70	6.30	6.90	9.80	14.1	17.9
	WF3016	4.50	6.40	7.30	8.20	9.00	12.7	18.3	23.2
	WF3020	5.50	7.80	9.00	10.1	11.1	15.6	22.6	28.5
60°	WF6002	0.64	0.91	1.17	1.28	1.28	1.82	2.62	3.30
	WF6003	0.92	1.30	1.50	1.68	1.84	2.61	3.80	4.80
	WF6004	1.20	1.70	2.00	2.20	2.40	3.40	4.90	6.20
	WF6006	1.70	2.41	2.78	3.11	3.40	4.80	7.00	8.80
	WF6008	2.20	3.12	3.60	4.00	4.40	6.20	9.00	11.4
	WF6010	2.85	4.03	4.65	5.20	5.69	8.10	11.6	14.7
	WF6012	3.50	4.90	5.70	6.30	6.90	9.80	14.1	17.9
	WF6016	4.50	6.40	7.30	8.20	9.00	12.7	18.3	23.2
	WF6020	5.50	7.80	9.00	10.1	11.1	15.6	22.6	28.5
	WF6025	7.30	10.3	11.9	13.2	14.5	20.5	29.6	37.0
	WF6031	8.70	12.2	14.1	15.8	17.3	24.5	35.0	45.0
	WF6040	11.2	15.8	18.2	20.4	22.3	32.0	46.0	58.0
	WF6049	13.7	19.3	22.3	25.0	27.4	39.0	56.0	71.0
	WF6077	22.0	31.2	36.0	40.0	44.0	62.0	90.0	114
	WF6099	27.6	39.0	45.0	50.0	55.0	78.0	113	143
	WF60124	35.0	49.0	57.0	63.0	69.0	98.0	141	179

Other Types of Nozzles and Accessories – Series WA

Model	Dim. H (mm)	Dim. L (mm)
WA	38	41

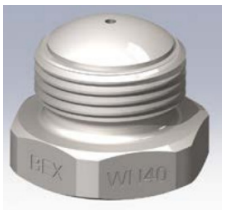
SPRAY CHARACTERISTICS:
Available in flat fan and solid stream (0 degree) models, these self-cleaning nozzles reduce shower maintenance. By reducing the supplied pressure, an internal piston retracts to purge fibers and other suspended solids from the clogged nozzle.

CONSTRUCTION:
Standard material of construction is 316 stainless steel.

TYPICAL APPLICATIONS:
- Cleaning Fabric (wire)
- Cleaning Felts
- Pre-wetting Showers
- Knock-off Showers
- Lubrication Shower

Spray Angle	Model	CAPACITY AT VARIOUS PRESSURES (bar)													
		1.5 bar	2 bar	2.5 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar	12 bar	15 bar	18 bar
0°	WA0002	0.56	0.64	0.72	0.79	0.91	1.02	1.12	1.21	1.29	1.37	1.44	1.58	1.77	1.93
	WA0006	1.67	1.93	2.16	2.37	2.73	3.06	3.30	3.60	3.90	4.10	4.30	4.70	5.30	5.80
	WA0008	2.23	2.58	2.88	3.20	3.60	4.10	4.50	4.80	5.20	5.50	5.80	6.30	7.10	7.70
	WA0010	2.79	3.20	3.60	3.90	4.60	5.10	5.60	6.00	6.40	6.80	7.20	7.90	8.80	9.70
15°	WA1506	1.67	1.93	2.16	2.37	2.73	3.06	3.30	3.60	3.90	4.10	4.30	4.70	5.30	5.80
30°	WA3005	1.40	1.61	1.80	1.97	2.28	2.55	2.79	3.01	3.20	3.40	3.60	3.90	4.40	4.80
	WA3014	3.90	4.50	5.00	5.50	6.40	7.10	7.80	8.40	9.00	9.60	10.1	11.1	12.4	13.5
40°	WA4012	3.30	3.90	4.30	4.70	5.50	6.10	6.70	7.20	7.70	8.20	8.60	9.50	10.6	11.6
	WA4014	3.90	4.50	5.00	5.50	6.40	7.10	7.80	8.40	9.00	9.60	10.1	11.1	12.4	13.5
	WA4032	8.90	10.3	11.5	12.6	14.6	16.3	17.9	19.3	20.6	21.9	23.1	25.3	28.2	30.9
45	WA4516	4.50	5.20	5.80	6.30	7.30	8.20	8.90	9.60	10.3	10.9	11.5	12.6	14.1	15.5
	WA4525	7.00	8.10	9.00	9.90	11.4	12.7	14.0	15.1	16.1	17.1	18.0	19.7	22.1	24.2
50°	WA5032	8.90	10.3	11.5	12.6	14.6	16.3	17.9	19.3	20.6	21.9	23.1	25.3	28.2	30.9
60°	WA6016	4.50	5.20	5.80	6.30	7.30	8.20	8.90	9.60	10.3	10.9	11.5	12.6	14.1	15.5
	WA6038	10.6	12.2	13.7	15.0	17.3	19.4	21.2	22.9	24.5	26.0	27.4	30.0	34.0	37.0
80°	WA8011	3.07	3.50	4.00	4.30	5.00	5.60	6.10	6.60	7.10	7.50	7.90	8.70	9.70	10.6
	WA8030	8.40	9.70	10.8	11.8	13.7	15.3	16.7	18.1	19.3	20.5	21.6	23.7	26.5	29.0
	WA8046	12.8	14.8	16.6	18.2	21.0	23.4	25.7	27.7	29.6	31.4	33.0	36.0	41.0	44.0
110°	WA11011	3.07	3.50	4.00	4.30	5.00	5.60	6.10	6.60	7.10	7.50	7.90	8.70	9.70	10.6
120°	WA12008	2.23	2.58	2.88	3.20	3.60	4.10	4.50	4.80	5.20	5.50	5.80	6.30	7.10	7.70
130°	WA13016	4.50	5.20	5.80	6.30	7.30	8.20	8.90	9.60	10.3	10.9	11.5	12.6	14.4	15.5
	WA13025	7.00	8.10	9.00	9.90	11.4	12.7	14.0	15.1	16.1	17.1	18.0	19.7	22.1	24.2

Other Types of Nozzles and Accessories – Series WN



SPRAY CHARACTERISTICS:
Available in flat fan and solid stream (0 degree) models, these self-cleaning nozzles reduce shower maintenance. By reducing the supplied pressure, an internal piston retracts to purge fibers and other suspended solids from the clogged nozzle.

CONSTRUCTION:
Standard material of construction is 316 stainless steel

Standard thread size is 11⁄8" - 20.

TYPICAL APPLICATIONS:
- Cleaning Fabric (wire)
- Cleaning Felts
- Pre-wetting Showers
- Knock-off Showers
- Lubrication Shower

Model	MAX. FREE PASSAGE (mm)	CAPACITY AT VARIOUS PRESSURES (bar)						
		3 bar	4 bar	5 bar	6 bar	15 bar	40 bar	60 bar
WN14	0.36	0.109	0.125	0.140	0.154	0.243	0.396	0.485
WN28	0.71	0.434	0.501	0.561	0.614	0.971	1.585	1.942
WN33	0.84	0.632	0.729	0.815	0.893	1.412	2.306	2.824
WN40	1.02	0.908	1.048	1.172	1.284	2.030	3.315	4.060
WN55	1.40	1.579	1.823	2.038	2.233	3.530	5.770	7.060
WN70	1.78	2.645	3.054	3.410	3.740	5.910	9.660	11.830
WN94	2.39	4.740	5.470	6.110	6.700	10.590	17.300	21.180
WN125	3.18	7.890	9.120	10.190	11.160	17.650	28.830	35.300

Other Types of Nozzles and Accessories – Ruby Orifice Nozzles

TYPICAL APPLICATIONS:
These nozzles are engineered specifically for the pulp and paper industry. The nozzles are designed to give a laminar stream of liquid at higher pressures with much higher wear resistance than the equivalent nozzles made of stainless steel.

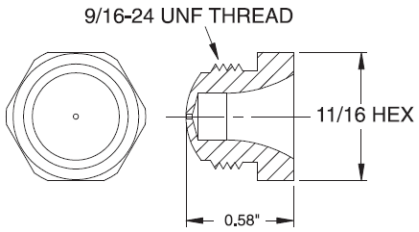
WT Series Spray Nozzles. These trim type of spray nozzles provide a consistent solid stream of water at various pressures up to 135 bar.

CONSTRUCTION:
The nozzles consist of a ruby insert pressed into a 317SS housing.

Model Number	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)									
		6 bar	12 bar	20 bar	25 bar	35 bar	40 bar	55 bar	70 bar	100 bar	135 bar
WT32	0.81	0.74	1.02	1.34	1.48	1.75	1.86	2.19	2.48	2.98	3.45
WT35	0.89	0.88	1.27	1.64	1.84	2.17	2.31	2.72	3.05	3.65	4.23
WT40	1.02	1.17	1.66	2.16	2.38	2.82	3.02	3.55	4.00	4.80	5.54
WT45	1.14	1.41	1.98	2.53	2.85	3.36	3.61	4.23	4.77	5.70	6.63

WN Series Spray Nozzles.
These trim type of spray nozzles provide a consistent solid stream of water at various pressures up to 55 bar. They are available in both the BEX WF disc style and the BEX WN threaded style.

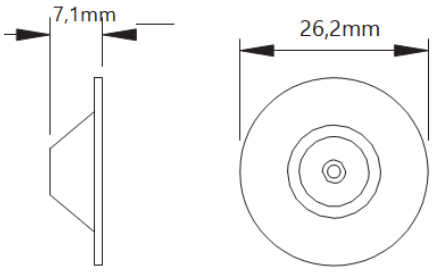
Standard body material is 316SS.



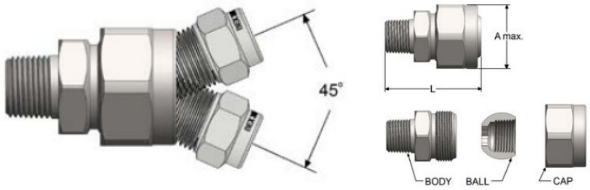
Model Number	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)								
		1.5 bar	3 bar	4 bar	5 bar	7 bar	15 bar	20 bar	40 bar	60 bar
WN32	0.81	0.4	0.5	0.6	0.7	0.8	1.1	1.3	1.9	2.3
WN35	0.89	0.4	0.6	0.7	0.8	1.0	1.4	1.6	2.3	2.8
WN40	1.02	0.6	0.8	1.0	1.1	1.3	1.8	2.2	3.0	3.7
WN45	1.14	0.7	1.0	1.2	1.3	1.5	2.2	2.5	3.6	4.4

WF Series Spray Nozzles.
These trim type of spray nozzles provide a consistent solid stream of water at various pressures up to 55 bar. They are available in both the BEX WF disc style and the BEX WN threaded style.

Standard body material is 317SS.



Model Number	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)								
		1.5 bar	3 bar	4 bar	5 bar	7 bar	15 bar	20 bar	40 bar	60 bar
WF32	0.81	0.4	0.5	0.6	0.7	0.8	1.1	1.3	1.9	2.3
WF35	0.89	0.4	0.6	0.7	0.8	1.0	1.4	1.6	2.3	2.8
WF40	1.02	0.6	0.8	1.0	1.1	1.3	1.8	2.2	3.0	3.7
WF45	1.14	0.7	1.0	1.2	1.3	1.5	2.2	2.5	3.6	4.4

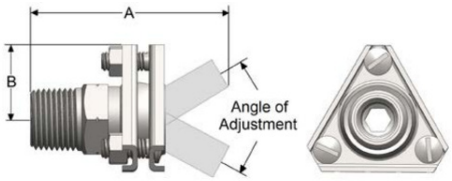


Retaining cap style adjustable joints MAJ-Series

TYPICAL APPLICATIONS:
The MAJ series of adjustable joints allow spray nozzles or other threaded items to be rotated and tilted to obtain the desired spray pattern or orientation, without having to disturb the surrounding piping. They may also be used within piping systems as an adjustable union type connection.

CONSTRUCTION:
The unit consists of a male inlet section and a female outlet section, held together by a threaded cap. The cap may be loosened to change the angle of adjustment between the inlet and outlet sections. Maximum recommended operating pressure is 20 bar. Standard materials are brass, 303 stainless steel, and 316 stainless steel.

MODEL NUMBER	Inlet Thread (BSPT)	Outlet Thread (BSPT)	Dim. A (max) (mm)	Dim. L (max) (mm)
1/8MAJ	1/8 male	1/8 female	25	36
1/4MAJ	1/4 male	1/4 female	28	41
3/8MAJ	3/8 male	3/8 female	35	46
1/2MAJ	1/2 male	1/2 female	44	56
3/4MAJ	3/4 male	3/4 female	49	61

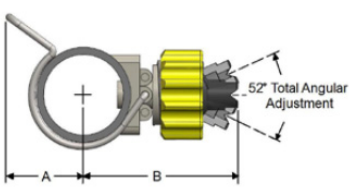


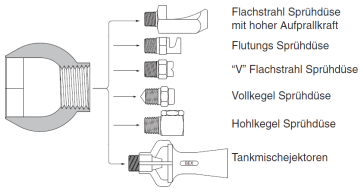
Flanged adjustable joints AJ-Series

TYPICAL APPLICATIONS:
To rotate and tilt spray nozzles, to obtain a desired positioning of a spray pattern, without having to disturb surrounding piping. May also be used within piping systems as an adjustable union type connection. Maximum recommended operating pressure is 120 p.s.i.

CONSTRUCTION:
The unit consists of a male inlet section and a female outlet section, held together by a flange assembly. Locking screws may be loosened to change the angle of adjustment between the inlet and outlet sections. Standard materials are brass and 303 or 316 stainless steel with 304 stainless steel flanges.

MODEL NUMBER	Inlet Thread (BSPT)	Outlet Thread (BSPT)	Dim. A (max) (mm)	Dim. B (max) (mm)	Maximum Angle of Adjustment
1/8 x 1/8AJ	1/8 male	1/8 female	44.5	25.4	60°
1/4 x 1/8AJ	1/4 male	1/8 female	44.5	25.4	60°
1/4 x 1/4AJ	1/4 male	1/4 female	44.5	25.4	60°
3/8 x 1/4AJ	3/8 male	1/4 female	44.5	25.4	60°
3/8 x 3/8AJ	3/8 male	3/8 female	44.5	25.4	45°
1/2 x 1/2AJ	1/2 male	1/2 female	63.5	38.1	50°
1/8 x 3/4AJ	1/8 male	3/4 female	63.5	38.1	50°
3/4 x 1/2AJ	3/4 male	1/2 female	66.7	38.1	50°
3/4 x 3/4AJ	3/4 male	3/4 female	66.7	38.1	40°





K-Ball® Clip-On as adjustable joints.

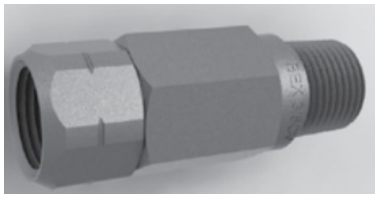
Use the threaded or clip-on K-Ball® to "tilt" the spray pattern into almost any desired orientation.

High Impact Spray Nozzle Series – SN4224

SN4224 is a specially designed spray nozzle that provides high impact per unit area. This flat spray nozzle works particularly well for screen-filters, pulp "knock-off" showers and other applications where loose scale and debris removal are required.

CONSTRUCTION:
SN4224 is available in 316 stainless steel with an 1/8" orifice and a 3/8" BSPT male fitting

MODEL NUMBER	MAX. FREE PASSAGE (mm)	CAPACITY (L/min) AT VARIOUS PRESSURES (bar)				
		1.5 bar	3 bar	4 bar	5 bar	6 bar
SN4224	3.18	8.1	11.4	13.2	14.8	16.2

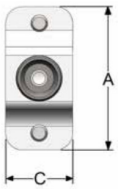


BEX Check Valves Series "CV"

Check valves are used in line with many spray nozzles when the application requires the complete shut-off of flow while maintaining full line pressure. The spring loaded ball-type design provides a drip-free seal with shut-off pressures of .3, .7 and 1.5 bar.

CONSTRUCTION:
The unit consists of a two-piece body, an internal spring and a shut-off stainless steel ball. Available in 1/8, 1/4, 3/8 and 1/2 BSPT sizes. Standard materials are brass, 303SS and 316SS.

Shut-Off bar	Model Number			
.3	1/8CV5	1/4CV5	3/8CV5	1/2CV5
.7	1/8CV10	1/4CV10	3/8CV10	1/2CV10
1.5	1/8CV20	1/4CV20	3/8CV20	1/2CV20



BEX Split Eyelets Series "FSE"

Anywhere an alternate connection to pipe is desired. Eliminates:

- Threading
- Brazing
- Welding

CONSTRUCTION:
The split eyelet consists of a top and bottom clamp, two retaining bolts, an outlet body and an O-ring. Clamps and retaining bolts are zincplated steel. Standard materials for the body are brass, 303 stainless steel and 316 stainless steel. The O-ring seal is Buna-N.

Pipe-size	Model (Outlet Thread BSPT)	Max. Capacity	Drill-size
1/2	**1/2X1/8FSE**	13 L/min	7.1 mm
	1/2X1/4FSE	13 L/min	7.1 mm
3/4	**3/4X1/8FSE**	13 L/min	7.1 mm
	3/4X1/8FSE	13 L/min	7.1 mm
	3/4X1/4FSE	13 L/min	7.1 mm
1	**1X1/8FSE**	13 L/min	7.1 mm
	1X1/4FSE	13 L/min	7.1 mm
	1X3/8FSE	13 L/min	7.1 mm
1 1/4	**1-1/4X1/8FSE**	72 L/min	17.4 mm
	1-1/4X1/4FSE	72 L/min	17.4 mm
	1-1/4X3/8FSE	72 L/min	17.4 mm
1 1/2	**1-1/2X1/8FSE**	72 L/min	17.4 mm
	1-1/2X1/4FSE	72 L/min	17.4 mm
	1-1/2X3/8FSE	72 L/min	17.4 mm
2	**2X1/8FSE**	72 L/min	17.4 mm
	2X1/4FSE	72 L/min	17.4 mm
	2X3/8FSE	72 L/min	17.4 mm
2 1/2	**2-1/2X1/8FSE**	72 L/min	17.4 mm
	2-1/2X1/4FSE	72 L/min	17.4 mm
	2-1/2X3/8FSE	72 L/min	17.4 mm

BEX Flow Stabilizers Series „STA“

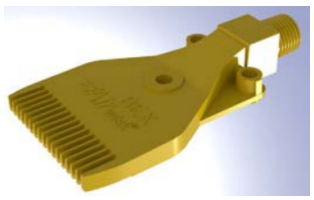
TYPICAL APPLICATIONS:

When liquid in a pipe emerges from elbows or tees, the resulting flow is often distorted. These flow stabilizers help to eliminate flow distortion, resulting in a more even and consistent spray pattern.

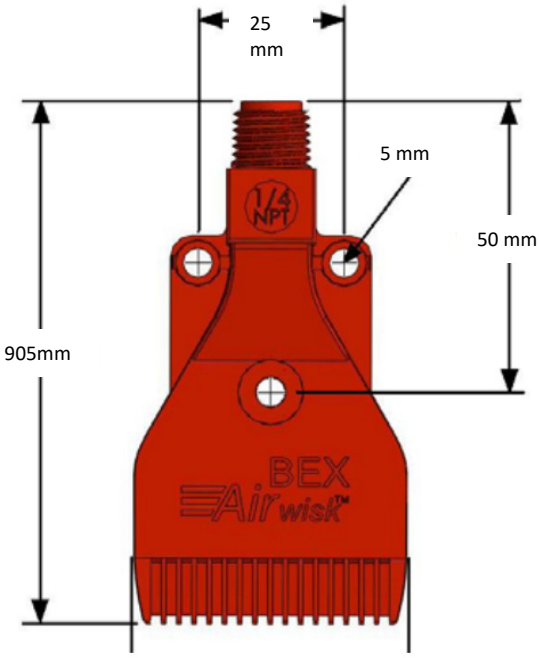
CONSTRUCTION:

This unit consists of a body and an internal vane. Available in 1/8", 1/4", 3/8" and 1/2" BSPT sizes, with a male inlet and female outlet connection. Standard materials are brass, 303 and 316 stainless steel.

MODEL	Inlet Thread BSPT	Outlet Thread BSPT	Dim. A (mm)	Dim. L (mm)
1/8STA	1/8 male	1/8 female	15 HEX	22
1/4STA	1/4 male	1/4 female	18 HEX	25
3/8STA	3/8 male	3/8 female	21 HEX	29
1/2STA	1/2 male	1/2 female	25 HEX	35



BEX Airwisk Nozzles produce a concentrated flat fan pattern of high impact air for cooling, drying and blow off applications. The Airwisk's design efficiently controls compressed air usage, reduces energy costs and provides optimum air distribution.



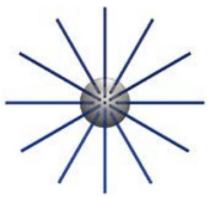
CONSTRUCTION:

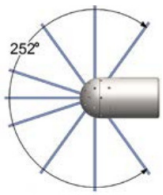
The BEX Airwisk is made of hard-wearing ABS plastic (rated to 65º C) and has a maximum pressure of 7 bar. The Airwisk can be mounted individually or side by side to provide greater coverage.

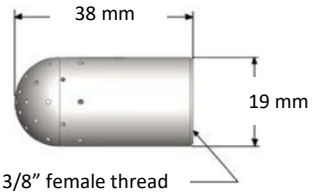
TYPICAL APPLICATIONS:

- Cooling of Components/Parts
- Cleaning and Drying of Parts
- Air Curtains
- Debris Remova

MODEL	Capacity (L/min) 0.7 bar	2 bar	3 bar	4 bar	6 bar
1/4AW15	193.3	359.7	424.7	586.7	816.7







SN4922 Clean in Place Sprühdüsen

CAPACITIES WATER

MODEL	CAPACITY (L/min) AT VARIOUS PRESSURE (bar) 0.7 bar	1.5 bar	2 bar	3 bar	4 bar	5 bar	7 bar	10 bar
SN4922	17.55	25.66	29.78	36.32	42.06	46.85	55.69	66.26

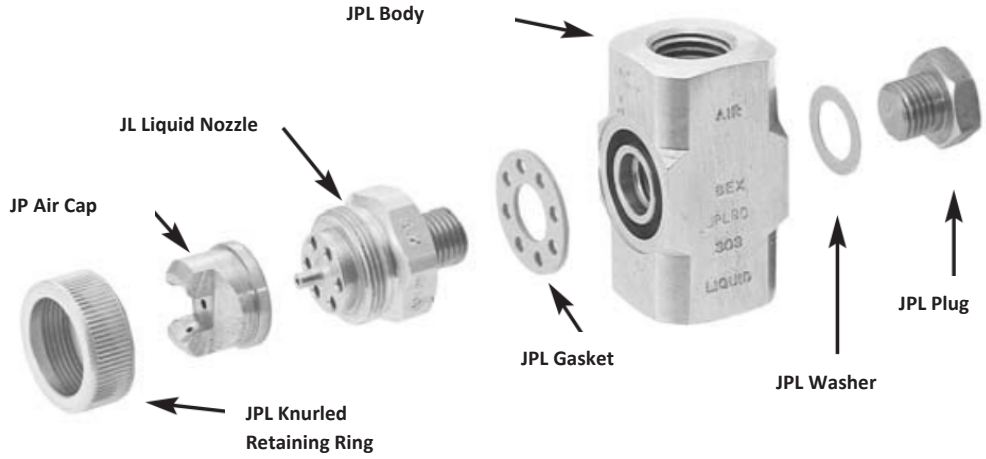
CAPACITIES AIR

MODEL	CAPACITY (L/min) AT VARIOUS PRESSURE (bar) 0.7 bar	1.5 bar	2 bar	4 bar	6 bar
SN4922	402.1	597.5	773.1	1302.57	1809.45

What is a Standard "JPL" Assembly?

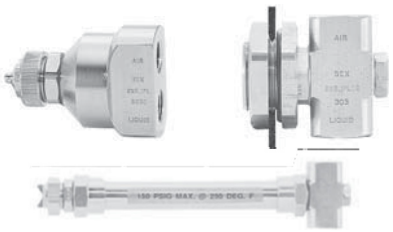
A standard BEX "JPL" assembly consists of seven (7) components that fit together to produce an atomized liquid spray pattern.

BEX JPL Series Air Atomizing Nozzle with standard 1/4" x 1/4" JPL body. (Other body styles available)



The "JP" Air Cap and "JL" Liquid Nozzle are the components that actually determine the spray pattern and liquid/air flow rates. We have arranged many of these Air Caps and Liquid Nozzles into a "set-up", which makes it much easier to select a suitable choice for your application.

BEX "JPL" series nozzles and components are available in 303 stainless steel, 316 stainless steel and nickel-plated brass (note: only the external/appearance surfaces of brass components are nickel-plated).



BEX offers a full complement of special body connections, wall mounts, shut-off needles, automatic body styles, etc: pages 98-99.

How to select a Set-Up

All BEX "JPL" Series products are designed to provide a wide range of performance flexibility, allowing the user to adjust the liquid and air feed to the setup. By adjusting the liquid and/or air source, a variety of spray droplets and atomization can be obtained. The performance tables that follow provide spray capacities at certain liquid/air flow combinations for water under standard conditions. These are not by any means the only possible results for each specific set-up.

Quick Reference

If you know how much liquid flow you desire from the nozzle, but are unsure of the other operating parameters, the tables below provide a quick starting point to determine which set-ups are most frequently chosen to provide the liquid flow rate desired.

FLAT SPRAY MODEL SET-UP NO.

L/H*	Pressure Feed Liquid	Siphon Fed Liquid
0.0-1.9	JPL - E15B, E18B, 14, N13	JPL - F1, F2C
1.9-3.8	JPL - E15B, E18B, 14, N13, 13A, 13	JPL - F2C, F3B
3.8-5.7	JPL - E15B, E18B, 14, N13, 13A, 13, E15A, E18A, N23, 23B	JPL - F3B, F4B
5.7-9.5	JPL - E15B, E18B, 14, N13, 13A, 13, E15A, E18A, E15, E18, N23, 23B	JPL - F4B
9.5-13	JPL - E15B, E18B, 14, N13, 13A, 13, E15A, E18A, E15, E18, N23, 23B, 23	
13-22	JPL - E15, E18, E25B, N13, E28B, 12, E15A, E18A, E25A, E28A, N23, 23B, 23	
22-34	JPL - E15, E18, E25B, 23B, E28B, E28B, 43, E25A, E28A, N23, 23	
34-49	JPL - E25, E45B, E25B, E28, E28B, 43, 23, N23, E25A, E28A	
49-75	JPL - E25, E45B, E25B, E28, E28B, 43, 23, N23, E25A, E28A, E45A	
75-114	JPL - E25, E45B, E45, E28, E45A, 43	
114-190	JPL - E25, 43, E45, E28, E45A	
190-265	JPL - E45	
over 190	Please contact your BEX representative	

ROUND SPRAY MODEL SET-UP NO.

L/H*	Pressure Feed Liquid	Siphon Fed Liquid
0.0-1.9	JPL - 11, 12A, 16	JPL - 1, 1A, 2A
1.9-3.8	JPL - 11, 12A, 12, 22B, 16, 26B	JPL - 1, 2A, 2
3.8-5.7	JPL - 11, 12A, 12, 22B, 16, 26B, 30	JPL - 2
5.7-9.5	JPL - 11, 12A, 12, 22B, 16, 26B, 26, 30	JPL - 4
9.5-13	JPL - 12A, 12, 22B, 16, 26B, 26, 29, 30, 46	JPL - 4, 5
13-22	JPL - 12, 22B, 22, 26B, 26, 29, 30, 46	JPL - 4, 5
22-34	JPL - 22B, 22, 26B, 26, 29, 46	JPL - 4, 5
34-49	JPL - 22, 26, 29, 42, 46	JPL - 5
49-75	JPL - 22, 26, 29, 42, 46	
75-114	JPL - 22, 42, 46	
114-190	JPL - 42	
190-265	JPL - 42	
over 190	Please contact your BEX representative	

CHOICE OF SPRAY SET-UPS

Each spray set-up consists of an air cap and liquid cap which provide a specific spray pattern, capacity and coverage performance. The set-up will produce comparable spray performance with any of the various bodies available.

Internal Mix

Liquid and gas are mixed internally to produce a completely atomized spray. Available in Round, Wide-Angle Round and Flat Spray patterns. Common uses: Dust control, pesticide application, humidification, cooling, coating and low viscosity fluids.

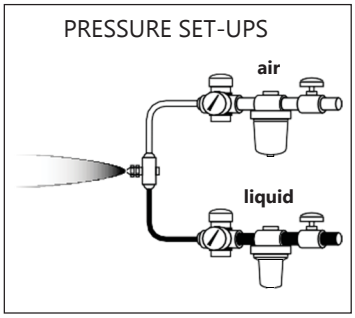
External Mix

Liquid atomization is controlled by varying the air pressure without changing the liquid pressure. Effective for higher viscosity liquids and abrasive suspensions. Common uses: Precisely metered applications, adhesives, coatings and viscous fluids.

BASIC NOZZLE INSTALLATIONS

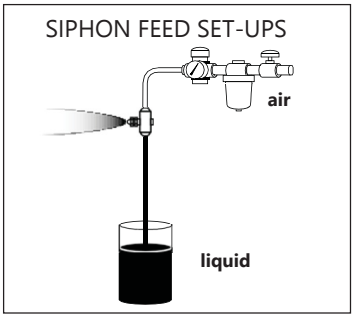
Fine or coarse droplet size atomization is produced by adjusting the air and liquid pressures. Finer atomization is achieved by increasing air pressure and/or lowering the liquid pressure.

PRESSURE SET-UPS



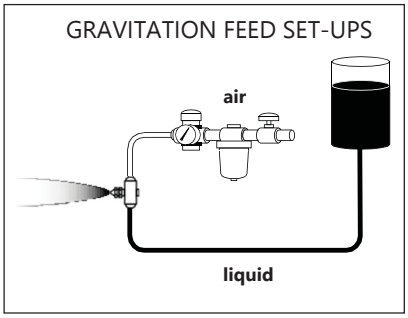
The liquid is supplied to the nozzle under pressure. Air and liquid can be externally or internally mixed to produce the proper atomized spray.

SIPHON FEED SET-UPS

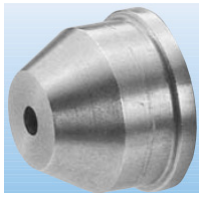


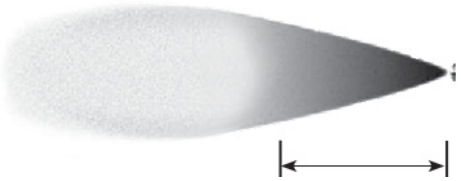
The liquid is supplied by either a liquid siphon or gravity feed. These set-ups are designed to draw liquid through the feed line into the air flow where it is properly atomized.

GRAVITATION FEED SET-UPS



The liquid is supplied by either a liquid siphon or gravity feed. These set-ups are designed to draw liquid through the feed line into the air flow where it is properly atomized.





Optimum spray pattern

Spray pattern

BEX JPE Series round spray

Pressure Feed - Internal Mix

APPLICATION AND PERFORMANCE

Set-ups with BEX JPG series air caps produce a round spray pattern. The liquid is pressure fed and internally mixed. Nozzle selection is not limited for other parameters.

BEX Set-Up No.	Spray Set-Up Consits of Liquid and Air Cap Combination	Liquid Capacity in (l/h)* and Air Capacity in (l/min)* Liquid Pressure in bar															Spray Dimensions		
		0.7			1.5			2			3			4			Optimal		MAX.
		Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Spray-angle	Spray-range cm	Spray-range m
JPL11	Liquid Cap JL2050 + Air Cap JPE20	0.7	2.5	15.6	1.1	6.4	11.9	1.4	6.4	13.9	2.7	6.2	23	3.5	7.8	28	13-15	30-43	2,7-4,2
		0.85	1.8	19	1.4	5	15	1.7	5.5	16.7	2.8	5.7	25	3.7	7.3	29			
		1	1.4	22	1.7	4.1	18.7	2	4.5	19.8	3	5.2	27	3.9	6.4	33			
		–	–	–	1.8	3.4	20	2.2	3.4	24	3.1	4.7	29	4.2	5.5	38			
		–	–	–	2	3	23	2.4	3	26	3.2	4.3	31	4.5	4.5	43			
		–	–	–	2.1	2.6	25	2.5	2.5	28	3.4	3.9	33	4.6	4.1	45			
		–	–	–	2.2	2	27	2.7	2.3	31	3.7	3	38	4.8	3.7	47			
JPL12A	Liquid Cap JL2050 + Air Cap JPE40	0.7	2.5	18.7	1.4	5.7	27	1.7	6.7	29	2.2	9.2	34	2.8	11.9	39	12-15	43-55	3,6-5,1
		0.85	2	22	1.5	5.2	29	1.8	6.4	31	2.5	8.2	39	3.1	11	43			
		1	1.6	26	1.7	4.8	32	2	5.9	34	2.8	7.2	44	3.4	10.1	47			
		–	–	–	1.8	4.3	35	2.1	5.2	37	3	6.7	47	3.7	9.2	52			
		–	–	–	2	3.9	37	2.2	4.8	40	3.1	6.3	49	3.9	8.4	58			
		–	–	–	2.1	3.4	40	2.4	4.3	43	3.2	5.9	52	4.2	7.6	62			
		–	–	–	–	–	–	2.7	3.6	48	3.4	5.5	55	4.5	6.8	68			
JPL12A	Liquid Cap JL2850 + Air Cap JPE40	0.85	4.8	21	1.7	8.4	31	2	10.7	33	2.7	16.5	37	3.4	20	43	12-15	48-58	3,9-5,1
		1.1	4.1	27	1.8	7.5	35	2.1	9.8	37	2.8	15.4	38	3.7	18.4	47			
		1.4	3.4	33	2	7	37	2.4	8.2	42	3.1	13.6	43	3.9	16.8	50			
		1.5	3.1	35	2.2	5.7	44	2.7	6.8	48	3.4	11.8	49	4.2	15.2	55			
		1.7	3	39	2.5	4.8	49	3	5.9	55	3.7	10.4	55	4.5	13.8	60			
		1.8	2.9	41	2.8	4.1	54	3.2	5	59	3.9	9.1	61	4.8	12.4	65			
		2	2.8	44	3.1	3.6	59	3.5	4.1	65	4.2	7.9	65	4.9	11.8	68			
JPL22B	Liquid Cap JL40100 + Air Cap JPE60	1.1	13	76	2.2	17.8	116	2.8	20	136	3.4	32	149	4.6	37	193	18-21	66-96	4,8-,91
		1.4	8.9	91	2.5	13.1	130	3.1	16.3	149	3.9	25	170	5.3	29	220			
		1.5	7.2	98	2.8	9.5	143	3.4	11.9	163	4.6	15.9	205	5.6	25	235			
		1.7	5.8	105	3.1	7	157	3.9	7	187	5.3	9.1	240	6	21	250			
		1.8	4.7	112	3.4	4.9	171	4.2	4.7	205	5.6	6.8	255	6.3	17.4	270			
		2.0	3.6	119	3.5	4.2	178	4.6	3	220	6	5	275	6.7	14	290			
		2.1	2.7	127	–	–	–	–	–	–	6.3	3.6	290	7	11	305			
JPL22	Liquid Cap JL60100 + Air Cap JPE60	0.85	31	57	1.4	61	69	2.1	53	96	2.7	80	103	3.8	88	135	17-21	60-91	4,8-8,5
		1	25	66	1.5	54	76	2.4	41	112	3	69	117	4.2	73	156			
		1.1	18.5	75	1.7	48	85	2.7	31	127	3.2	59	130	4.6	61	176			
		1.3	12.9	85	1.8	41	93	2.8	26	136	3.5	49	146	4.9	48	196			
		–	–	–	2	35	102	3	22	144	3.7	44	154	5.3	39	215			
		–	–	–	2.1	30	110	–	–	–	3.8	37	161	5.6	31	240			
		–	–	–	2.2	25	119	–	–	–	3.9	35	170	6	23	260			
JPL42	Liquid Cap JL100150 + Air Cap JPE80	1	44	86	1.4	125	79	2	123	108	2.2	199	88	3	250	99	19-22	88-116	6,0-9,1
		1.1	32	102	1.5	106	91	2.1	108	119	2.5	174	110	3.2	225	120			
		–	–	–	1.7	87	105	2.2	95	130	2.8	146	133	3.5	205	141			
		–	–	–	1.8	70	118	2.4	79	143	3.1	121	154	3.8	182	163			
		–	–	–	2	55	130	2.5	64	155	3.2	108	166	4.1	159	184			
		–	–	–	–	–	–	2.7	52	166	3.4	95	176	4.6	121	225			
		–	–	–	–	–	–	2.8	42	178	3.5	84	187	4.9	93	255			

"— —" means not recommended at this pressure

spray pattern

BEX JPG Series wide-angle round spray

Pressure Feed - Internal Mix

APPLICATION AND PERFORMANCE

Set-ups with BEX JPE series air caps produce a wide-angle round spray pattern. The liquid is pressure fed and internally mixed. Nozzle selection is not limited for other parameters.

BEX Set-Up No.	Spray Set-Up Consits of Liquid and Air Cap Combinati on	Liquid Capacity in (l/h)* and Air Capacity in (l/min)* Liquid Pressure in bar															Spray Dimensions			
		0.7			1.5			2			3			4			Optimal			MAX.
		Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	15 cm	22 cm	38 cm	m
JPL16	Liquid Cap JL2050 + Air Cap JPG15	0.6	5.3	10.2	1.1	8.1	13.3	1.5	8.1	16.4	2.4	8.9	22	3.1	10.5	24	12-17	17-22	22-30	1,5-4,0
		0.7	4.3	12.2	1.3	7	15	1.8	6.6	21	2.7	8.1	26	3.4	9.7	28				
		0.85	3	14.2	1.4	6.4	17	2.1	4.9	25	3	6.4	30	3.9	7.8	36				
		1	1.7	17	1.5	5.5	19	2.4	3.2	29	3.2	4.9	34	4.2	6.1	42				
		–	–	–	1.7	4.5	22	–	–	–	3.4	4.2	37	4.6	4.4	47				
		–	–	–	1.8	3.5	24	–	–	–	3.5	3.4	40	4.9	2.8	54				
JPL26B	Liquid Cap JL40100 + Air Cap JPG60	0.85	7	50	1.7	13.2	68	2	18.5	68	2.8	25	84	3.7	31	96	17-20	22-27	30-35	1,8-5,9
		1	2.1	62	1.8	9.8	79	2.1	15.1	76	3	22	92	3.8	28	105				
		–	–	–	–	–	–	2.2	11.7	85	3.1	18.5	101	3.9	26	113				
		–	–	–	–	–	–	–	–	–	3.2	15.1	109	4.1	23	122				
		–	–	–	–	–	–	–	–	–	3.4	12.1	119	4.2	20	130				
		–	–	–	–	–	–	–	–	–	3.5	9.1	130	4.6	13.6	153				
		–	–	–	–	–	–	–	–	–	3.7	6.1	142	4.9	6.8	183				
JPL26	Liquid Cap JL60100 + Air Cap JPG60	0.7	24	32	1.4	43	37	2.1	33	66	2.8	52	65	3.7	63	68	17-20	25-23	35-38	2,1-6,8
		0.85	13.6	44	1.5	35	49	2.2	26	78	3	46	76	3.8	58	79				
		1	7.6	57	1.7	28	61	2.4	18.9	89	3.1	39	87	3.9	52	101				
		–	–	–	1.8	21	71	2.5	11.7	100	3.2	33	99	4.2	41	111				
		–	–	–	–	–	–	–	–	–	3.4	26	110	4.6	27	138				
		–	–	–	–	–	–	–	–	–	3.5	19.5	122	4.9	15.9	166				
		–	–	–	–	–	–	–	–	–	3.7	13.2	133	–	–	–				
JPL29	Liquid Cap JL60100 + Air Cap JPG45	1.3	36	85	2.1	57	116	3.1	53	156	4.2	64	197	5.6	74	245	20-22	25-30	33-40	5,5-10,4
		1.5	29	102	2.4	51	130	3.2	50	163	4.9	51	230	6	68	260				
		1.8	23	117	2.7	45	143	3.4	47	170	5.6	40	265	6.3	62	280				
		2	19.7	125	3	39	157	3.5	45	177	6	34	285	6.7	56	295				
		2.1	16.7	133	3.2	33	170	3.9	38	194	6.3	28	300	7	51	315				
		2.3	14	142	3.5	28	185	4.6	25	230	6.7	22	320	–	–	–				
		2.4	11.4	149	4.2	13.6	220	4.9	18.5	245	7	17.8	335	–	–	–				
JPL30	Liquid Cap JL40100 + Air Cap JPG30	1.1	12.3	40	2.2	16.3	62	2.7	21	69	4.2	19.3	100	5.6	22	130	15-17	17-22	22-27	2,7-9,4
		1.3	9.9	45	2.5	12.1	71	3	16.3	78	4.6	14.6	113	6	17.6	142				
		1.4	7.9	50	2.8	8.9	79	3.2	12.3	86	4.9	10.8	124	6.3	14	152				
		1.5	6.1	54	3	7.6	83	3.4	10.7	91	5.3	8.1	135	6.7	11.4	163				
		1.7	4.9	58	3.1	6.4	87	3.5	9.3	94	5.6	6.2	146	7	9.1	174				
		1.8	3.9	62	3.2	5.5	91	3.9	6.4	105	6	4.9	157	–	–	–				
		2	3.1	67	3.4	4.7	95	4.2	4.7	115	6.3	4	167	–	–	–				
JPL46	Liquid Cap JL100150 + Air Cap JPG75	1.7	25	156	3	39	230	3.4	50	250	4.6	62	320	6	93	395	22-33	33-40	45-58	5,5-9,8
		1.8	19.7	167	3.1	33	240	3.5	43	260	4.9	47	345	6.3	77	425				
		2	15.1	178	3.2	27	255	3.7	41	275	5.3	36	375	6.7	62	460				
		2.1	11.4	193	3.4	23	265	3.9	27	300	5.6	26	405	7	52	495				
		2.3	7.6	205	3.5	18.5	280	4.1	23	310	6	18.9	435	–	–	–				
		–	–	–	3.7	14.8	290	4.2	18.9	320	6.3	13.6	460	–	–	–				
		–	–	–	–	–	–	4.4	15.9	335	–	–	–	–	–	–				

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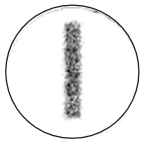

spray pattern

BEX JPD Series flat spray

Pressure Feed - Internal Mix

APPLICATION AND PERFORMANCE

Set-ups with BEX JPD series air caps produce a flat spray pattern. The liquid is pressure fed and internally mixed. Nozzle selection is not limited for other parameters.

BEX Set-Up No.	Spray Set-Up Consits of Liquid and Air Cap Combination	Liquid Capacity in (l/h)* and Air Capacity in (l/min)* Liquid Pressure in bar															Spray Dimensions Pattern Width in cm			MAX.
		0.7			1.5			2			3			4			15 cm	22 cm	38 cm	m
		Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min				
JPL13A	Liquid Cap JL2050 + Air Cap JPD30	0.7	5.5	24	1.3	9.1	31	2	8.6	42	2.7	11.2	52	3.9	12	69	25-56	36-74	46-94	2,6-4,0
		0.85	4.7	27	1.5	7.7	36	2.2	7.5	47	3	10.1	56	4.6	9.7	81				
		1	4.1	31	1.8	6.5	42	2.5	6.2	52	3.2	9.1	62	5.3	7.5	93				
		1.1	3.5	34	2.1	5.4	47	2.8	5.2	57	3.5	8.1	66	6	5.3	104				
		1.3	3	37	2.4	4.3	52	3.1	4.2	63	4.2	5.4	79	6.3	4.3	110				
		1.4	2.5	40	2.7	3.3	57	3.2	3.7	65	4.6	4.2	85	6.7	3.3	116				
		1.5	2	44	2.8	2.8	60	3.4	3.2	68	4.9	3.1	91	7	2.4	122				
JPL13	Liquid Cap JL2850 + Air Cap JPD30	0.85	8.2	19.8	1.4	14.4	27	2.1	13.5	36	2.7	19.1	42	4.6	16.1	69	36-58	46-76	71-97	2,1-3,2
		1	6.8	23	1.7	11.9	32	2.4	11.4	42	3	17.1	46	4.9	13.8	76				
		1.1	5.5	27	2	9.5	37	2.7	9.2	47	3.2	15.1	52	5.3	11.5	83				
		1.3	4.1	30	2.1	8.3	40	3	7.1	53	3.5	13.1	57	5.6	9.3	90				
		1.4	2.9	34	2.2	7.1	43	3.2	5	59	4.2	8.1	72	6	7.3	97				
		–	–	–	2.4	6.1	46	3.4	4	63	4.6	5.9	79	6.3	5.6	104				
		–	–	–	2.5	5.1	49	3.5	3.3	66	4.9	4	86	6.7	4.3	112				
JPLN13	Liquid Cap JL2850 + Air Cap JPD45	1	9	25	2	10.4	41	2.4	11.6	48	3.1	15.6	56	4.2	17.1	73	10-20	13-25	17-33	3,0-4,8
		1.1	7.8	30	2.1	9.3	45	2.5	10.4	51	3.2	14.6	59	4.6	15	80				
		1.3	6.6	32	2.2	8.2	48	2.7	9.4	54	3.4	13.7	62	4.9	12.8	87				
		1.4	5.2	36	2.5	6.1	55	3	7.3	61	3.8	10.8	71	5.3	11	94				
		1.7	3.1	44	2.8	4.3	62	3.2	5.5	68	4.2	8.5	82	5.6	9.4	103				
		2	2	50	3.1	3	69	3.5	4.1	75	4.9	5.2	98	6.3	7.2	119				
		2.2	1.1	56	3.4	2	75	3.8	2.9	81	6	2.3	120	7	6.1	134				
JPL14	Liquid Cap JL2850 + Air Cap JPD15	1.3	3.9	30	2.1	7.4	40	3	6.1	52	3.9	9.4	60	5.3	10.2	78	25-64	33-76	46-97	1,8-2,3
		1.4	3	33	2.4	5.3	45	3.1	5.3	54	4.2	7.2	67	5.6	8.3	84				
		1.5	2.3	35	2.5	4.4	47	3.2	4.5	57	4.6	5.3	73	6	6.6	89				
		1.7	1.8	38	2.7	3.7	50	3.4	3.8	59	4.9	3.8	80	6.3	5.1	98				
		1.8	1.3	41	2.8	3.1	52	3.5	3.2	62	–	–	–	–	–	–				
		2	0.95	44	3	2.6	55	3.9	1.8	68	–	–	–	–	–	–				
		–	–	–	3.1	2.1	57	–	–	–	–	–	–	–	–	–				
JPLN23	Liquid Cap JL60100 + Air Cap JPD75	1	17	23	2	24	44	2.4	28	51	3.4	38	72	3.9	65	75	10-20	13-25	15-35	2,4-4,0
		1.1	11	27	2.1	18.9	50	2.5	23	59	3.5	33	80	4.2	53	89				
		1.3	7.6	33	2.2	14.4	56	2.7	18.9	66	3.7	28	89	4.6	40	108				
		1.4	3.2	40	2.4	10.6	63	2.8	15.1	74	3.8	23	97	4.9	30	127				
		–	–	–	2.5	7.2	71	3	11.7	79	3.9	19.7	105	5.3	21	149				
		–	–	–	–	–	–	–	–	–	4.2	13.1	120	5.6	13.8	173				
		–	–	–	–	–	–	–	–	–	4.6	7.2	138	6.3	3.2	225				
JPL23B	Liquid Cap JL40100 + Air Cap JPD60	1.1	11.2	54	2.1	18	79	2.7	19.6	93	3.5	27	112	4.6	33	137	15-33	18-41	20-48	3,0-4,0
		1.3	8.5	60	2.2	15.8	84	2.8	17.3	98	3.7	25	116	4.9	28	149				
		1.4	6.5	65	2.4	13.6	89	3	15.2	103	3.8	23	121	5.3	24	161				
		1.5	5	71	2.5	11.6	95	3.1	13.2	109	3.9	21	126	5.6	19.7	174				
		1.7	3.8	77	–	–	–	3.2	11.4	114	4.1	18.9	132	6	15.7	187				
		–	–	–	–	–	–	–	–	–	4.2	17	137	6.3	12.4	200				
JPL23	Liquid Cap JL60100 + Air Cap JPD60	0.85	27	33	1.8	38	55	2.4	39	67	3.2	58	76	4.6	59	106	18-33	23-41	30-51	3,4-4,4
		1	20	38	2.1	28	66	2.7	30	77	3.5	47	87	5.3	40	132				
		1.1	15.9	45	2.2	24	71	3	24	87	3.8	38	97	5.6	32	145				
		1.3	12.5	48	2.4	21	76	3.2	17.8	98	3.9	34	103	6	26	158				
		1.4	10.2	56	2.5	17.8	82	3.4	15.1	103	4.2	27	113	6.3	20	172				
		1.5	7.6	62	2.7	15.1	87	3.5	12.9	109	4.6	20	126	6.7	15.9	185				
		–	–	–	–	–	–	3.7	10.6	114	4.9	14.8	140	7	12.7	198				
JPL43	Liquid Cap JL100150 + Air Cap JPD90	1	29	90	1.8	56	117	2.1	100	119	3	126	140	4.1	140	181	18-36	20-43	25-58	3,4-5,2
		1.1	18.9	108	2	40	133	2.2	79	133	3.1	110	151	4.2	125	193				
		–	–	–	–	–	–	2.4	62	147	3.2	95	163	4.6	89	225				
		–	–	–	–	–	–	2.5	48	162	3.4	78	184	4.9	58	265				
		–	–	–	–	–	–	2.7	36	177	3.5	62	193	5.3	34	305				
		–	–	–	–	–	–	–	–	–	3.7	48	210	5.6	16.7	340				
		–	–	–	–	–	–	–	–	–	3.8	37	225	–	–	–				

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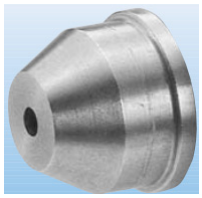

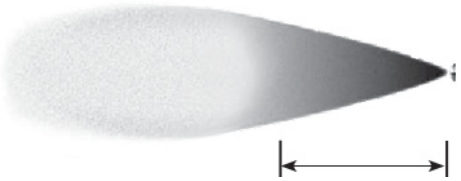

optimum pattern

spray pattern

BEX JPV Series round spray

Gravitation- / Siphon-Set-Up

APPLICATION AND PERFORMANCE

Set-ups with BEX JPV and JPK series air caps produce round and flat spray patterns respectively. The liquid is gravity or siphon fed into the airstream. Nozzle selection is not limited for other parameters. If you do not find the product for your application, please contact BEX.

BEX Set-Up No.	Spray Set-Up Consits of Liquid and Air Cap Combination	Atomizing Air		Liquid Capacity								Spray Dimensions at 20 cm siphon height			
												Air	Optimal		MAX.
		Air Pressure	Air Capacity	Gravity Head (cm)			Siphon Height (cm)						Spray Angle Degrees	Spray Range cm	Spray Range m
				45	30	15	10	20	30	60	90				
JPL1A	Liquid Cap JL1650 + Air Cap JPV20	0,7	11,3	1,5	1,3	1,1	0,87	0,68	0,53	–	–	0,7	18	28	1,8
		1,5	17	1,8	1,7	1,5	1,3	1,2	1,1	0,62	–	1,5	18	28	1,9
		3	28	2,1	1,9	1,7	1,5	1,4	1,3	1,1	0,76	3	18	30	2,3
		4	36	2,2	2	1,8	1,6	1,5	1,4	1,2	0,87	4	18	36	2,6
JPL1A	Liquid Cap JL2050 + Air Cap JPV20	0,7	13,3	2,4	2,1	1,7	1,5	1,2	0,79	–	–	0,7	18	30	2,1
		1,5	20	2,8	2,6	2,4	2,1	1,9	1,6	0,91	–	1,5	18	33	2,3
		3	32	3,4	3,1	2,9	2,8	2,6	2,4	1,7	1,1	3	18	38	2,6
		4	41	3,7	3,4	3,3	3,1	2,9	2,7	2,1	1,5	4	19	43	3
JPL2A	Liquid Cap JL2050 + Air Cap JPV40	0,7	23	2,5	2,3	2	1,6	1,4	1,1	–	–	0,7	18	30	2,4
		1,5	36	2,9	2,8	2,5	2,2	2	1,7	0,89	–	1,5	18	33	2,7
		3	58	3,4	3,3	3,2	2,9	2,8	2,5	1,9	1,2	3	19	38	3,4
		4	74	3,7	3,6	3,5	3,4	3,3	3	2,5	2	4	20	43	4
JPL2A	Liquid Cap JL2850 + Air Cap JPV40	0,7	19,3	4,5	4	3,4	2,1	1,8	1,4	–	–	0,7	21	38	3
		1,5	31	5,3	4,9	4,4	3,5	2,9	2,7	1,8	–	1,5	21	41	3,4
		3	50	6	5,6	5	4,4	4	3,4	2,4	1,2	3	21	46	4
		4	65	5,7	5,4	5	4,2	3,9	3,5	2,8	1,9	4	22	51	4,6
JPL4	Liquid Cap JL60100 + Air Cap JPV60	1,5	58	22	19,9	16,3	12,3	10,5	8,3	2,8	–	1,5	17	46	3,7
		3	88	25	23	19,5	16,7	14,2	11,5	6,4	2,8	3	18	51	4,3
		4	111	26	24	21	18,4	15,7	12,9	7,9	4,5	4	18	53	4,9
		5,6	147	26	24	22	19,7	17	14,6	9,8	6,1	5,6	19	58	5,5
JPL5	Liquid Cap JL100150 + Air Cap JPV80	2	144	–	–	–	27	22	16,8	–	–	2	20	51	6,7
		3	190	–	–	–	30	26	21	–	–	3	20	53	7
		4	240	–	43	40	31	28	23	11	–	4	21	58	7,6
		5,6	315	44	42	39	31	28	24	16,7	8,3	5,6	22	63	8,2

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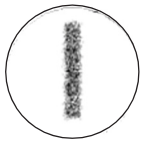


spray pattern

BEX JPK Series flat spray

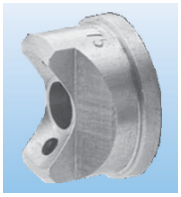
Gravitation- / Siphon-Set-Up

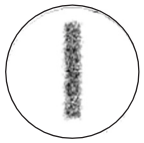
APPLICATION AND PERFORMANCE

Set-ups with BEX JPV and JPK series air caps produce round and flat spray patterns respectively. The liquid is gravity or siphon fed into the airstream. Nozzle selection is not limited for other parameters. If you do not find the product for your application, please contact BEX.

BEX Set-Up No.	Spray Set-Up Consits of Liquid and Air Cap Combination	Atomizing Air		Liquid Capacity								Spray Dimensions at 20 cm siphon height			
												Optimum Pattern			MAX.
		Air Pressure	Air Capacity	Gravity Head (cm)			Siphon Height (cm)					15 cm From Tip	23 cm From Tip	38 cm From Tip	Spray-range m
				45	30	15	10	20	30	60	90				
JPLF1	Liquid Cap JL2850 + Air Cap JPK20	0,7	28	1,3	1,2	1,1	1	0,95	0,83	0,64	0,49	20-23	26-30	15	1,8-2,1
		1,5	43	1,2	1,1	1	0,9	0,86	0,78	0,66	0,54				
		2	50	0,82	0,76	0,68	0,57	0,5	–	–	–				
JPLF2C	Liquid Cap JL35100 + Air Cap JPK40	1,5	56	3,7	3,5	3,3	2,9	2,8	2,5	2,3	2,1	23-28	32-39	38-48	2,7-3,0
		2	65	3,4	3,3	3,1	2,8	2,7	2,6	2,4	2,2				
		3	87	2,8	2,7	2,5	2,4	2,2	2,1	1,9	1,7				
		4	110	1,9	1,8	1,6	1,5	1,3	1,2	–	–				
JPLF3B	Liquid Cap JL40100 + Air Cap JPK60	1,5	68	5,1	4,8	4,5	3,8	3,7	3,5	3	2,4	19-22	23-27	27-30	3-3,4
		2	78	4,9	4,7	4,4	3,6	3,4	3,2	2,9	2,3				
		3	103	3,4	3,2	3	2,2	2	1,7	–	–				
		3,5	117	2,2	2	1,7	–	–	–	–	–				
JPLF4B	Liquid Cap JL40100 + Air Cap JPK80	1,5	63	7,6	7,2	6,6	5,7	5,4	5,1	4,6	3,7	17-20	22-27	27-33	3,4
		2	73	7,6	7,3	6,8	5,9	5,7	5,5	5	4,2				
		3	96	6,4	6,1	5,7	5	4,5	4,1	3,3	–				
		3,5	110	4,2	3,7	3,2	2,6	–	–	–	–				

"— —" means not recommended at this pressure





spray pattern

BEX JPT Series flat spray

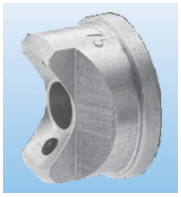
Pressure Feed - External Mix

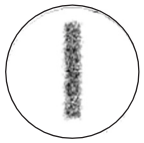
APPLICATION AND PERFORMANCE

BEX JPT series air caps produce a flat spray pattern. Liquid is pressure fed and externally mixed. Nozzle selection is not limited for other parameters. If you do not find the product for your application range, please contact BEX.

BEX Set-Up No.	Spray Set-Up Consits of Liquid and Air Cap Combination	Liquid Capacity in (l/h)* and Air Capacity in (l/min)* Liquid Pressure in bar															Spray Dimensions			
		0,2			0,3			0,7			1,5			3			15 cm from Tip	23 cm from Tip	38 cm from Tip	MAX. (m)
		Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min				
JPLE15B	Liquid Cap JL1650 + Air Cap JPT15	0,2	2,8	25,2	3,5	3,5	26,3	0,7	5,3	31,2	1,4	7,8	45,3	2,8	11	73,6	9-15	15-18	23-25	0,9-2,4
		0,35	2,8	26,3	0,7	3,5	31,2	1,05	5,3	39,6	1,75	7,8	53,8	3,5	11	85				
		0,7	2,8	31,2	1,05	3,5	39,6	1,4	5,3	45,3	2,1	7,8	59,5	4,2	11	102				
		1,05	2,8	39,6	1,4	3,5	45,3	1,75	5,3	53,8	2,8	7,8	73,6	4,9	11	119				
		1,4	2,8	45,3	1,75	3,5	53,8	2,1	5,3	59,4	3,5	7,8	85	5,3	11	127,5				
		1,75	2,8	53,8	2,1	3,5	59,4	2,8	5,3	73,6	4,2	7,8	102	5,6	11	139				
		2,1	2,8	59,4	2,8	3,5	73,6	3,5	5,3	85	5,6	7,8	139	6,3	11	159				
JPL18B	Liquid Cap JL1650 + Air Cap JPT30	0,35	2,8	22	0,35	3,5	22	0,4	5,3	25	0,6	7,8	28	0,7	11	34	20-30	28-38	33-51	1,2-2,7
		0,4	2,8	25	0,4	3,5	25	0,6	5,3	28	0,7	7,8	34	1,1	11	45				
		0,5	2,8	27,5	0,6	3,5	28	0,7	5,3	34	1,1	7,8	45	1,8	11	62				
		0,6	2,8	28	0,7	3,5	34	0,85	5,3	40	1,4	7,8	54	2,5	11	79				
JPLE15A	Liquid Cap JL2050 + Air Cap JPT15	0,35	4,5	26,3	0,7	5,5	31,2	1,05	8,3	39,6	1,75	12,2	53,8	3,15	16,6	82	7,5-15	14-22	22-30	1-3
		0,7	4,5	31,2	1,05	5,5	39,6	1,4	8,3	45,3	2,1	12,2	59,4	3,5	16,6	85				
		1,05	4,5	39,6	1,4	5,5	45,3	1,75	8,3	53,8	2,8	12,2	73,6	4,2	16,6	102				
		1,4	4,5	45,3	1,75	5,5	53,8	2,1	8,3	59,4	3,5	12,2	85	4,9	16,6	119				
		1,75	4,5	53,8	2,1	5,5	59,4	2,8	8,3	73,6	4,2	12,2	102	5,25	16,6	127				
		2,1	4,5	59,4	2,8	5,5	73,6	3,5	8,3	85	4,9	12,2	119	6,3	16,6	159				
		2,8	4,5	73,6	3,5	5,5	85	4,2	8,3	102	6,3	12,2	159	6,7	16,6	164				
JPLE18A	Liquid Cap JL2050 + Air Cap JPT30	0,35	4,5	22	0,35	5,5	22	0,6	8,3	28	0,7	12,2	34	1,1	16,6	45	28-41	33-48	40-66	1,5-3
		0,6	4,5	28	0,7	5,5	34	0,7	8,3	34	1,4	12,2	54	1,4	16,6	54				
		0,7	4,5	34	1,1	5,5	45	1,4	8,3	54	2,1	12,2	71	2,1	16,6	71				
		1,1	4,5	45	1,4	5,5	54	2,1	8,3	71	2,5	12,2	79	2,5	16,6	79				
JPLE15	Liquid Cap JL2850 + Air Cap JPT15	0,7	8,5	31,2	1,05	10,4	39,6	1,4	15,9	45,3	2,5	23	68	3,5	33	85	13-16,5	16,5-20	24-36	1,2-4
		1,05	8,5	39,6	1,4	10,4	45,3	1,75	15,9	53,8	2,8	23	73,6	4,2	33	102				
		1,4	8,5	45,3	1,75	10,4	53,8	2,1	15,9	59,4	3,5	23	85	4,9	33	119				
		1,75	8,5	53,8	2,1	10,4	59,4	2,8	15,9	73,6	4,2	23	102	5,3	33	127				
		2,1	8,5	59,4	2,8	10,4	73,6	3,5	15,9	85	4,9	23	119	5,6	33	139				
		2,8	8,5	73,6	3,5	10,4	85	4,2	15,9	102	5,6	23	139	6,3	33	159				
		3,5	8,5	85	4,2	10,4	102	4,9	15,9	119	6,3	23	159	7	33	176				
JPLE18	Liquid Cap JL2850 + Air Cap JPT30	0,4	8,5	25	0,4	10,4	25	0,4	15,9	25	0,7	23	34	1,4	33	54	35-43	48-53	61-69	1,5-2,9
		0,5	8,5	27,5	0,6	10,4	28	0,6	15,9	28	0,85	23	40	1,8	33	62				
		0,6	8,5	28	0,65	10,4	31	0,7	15,9	34	1,1	23	45	2,1	33	71				
		0,7	8,5	34	0,7	10,4	34	0,85	15,9	40	1,4	23	54	2,5	33	79				
JPLE25B	Liquid Cap JL35100 + Air Cap JPT45	0,7	13,4	85	1	16,4	102	1,4	25	116	2,5	37	178	3,2	52	212	13-16,5	19-23	25-37	1,7-4,9
		1	13,4	102	1,4	16,4	116	1,8	25	139	2,8	37	195	3,5	52	232				
		1,4	13,4	116	1,8	16,4	139	2,1	25	156	3,5	37	227	3,9	52	255				
		1,8	13,4	139	2,1	16,4	156	2,5	25	178	4,2	37	266	4,2	52	275				
		2,1	13,4	156	2,8	16,4	195	2,8	25	195	4,9	37	312	4,9	52	314				
		2,8	13,4	195	3,5	16,4	227	3,5	25	227	5,6	37	360	5,6	52	360				
		3,5	13,4	227	4,2	16,4	266	4,2	25	266	6,3	37	411	6,3	52	411				

"— —" means not recommended at this pressure





spray pattern

BEX JPT Series flat spray

Pressure Feed - External Mix

APPLICATION AND PERFORMANCE

BEX JPT series air caps produce a flat spray pattern. Liquid is pressure fed and externally mixed. Nozzle selection is not limited for other parameters. If you do not find the product for your application range, please contact BEX.

BEX Set-Up No.	Spray Set-Up Consits of Liquid and Air Cap Combination	Liquid Capacity in (l/h)* and Air Capacity in (l/min)* Liquid Pressure in bar															Spray Dimensions			
		0,2			15 cm from Tip			15 cm from Tip			15 cm from Tip			15 cm from Tip			15 cm from Tip	23 cm from Tip	38 cm from Tip	MAX. (m)
		Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min	Air Pressure	l/h	Air l/min				
JPLE28B	Liquid Cap JL35100 + Air Cap JPT60	0,6	13,4	91	0,7	16,4	102	1,4	25	156	2,1	37	210	3,2	52	285	33-41	38-51	48-71	3,8-5,2
		0,7	13,4	102	1,1	16,4	130	2,1	25	210	2,8	37	260	4,2	52	360				
		1,1	13,4	130	1,8	16,4	184	2,5	25	235	3,5	37	310	5,3	52	430				
		1,4	13,4	156	2,1	16,4	210	2,8	25	260	4,2	37	360	5,6	52	455				
JPLE25A	Liquid Cap JL40100 + Air Cap JPT45	0,7	17,6	85	1,4	22	116	1,8	33	139	2,8	48	195	3,5	68	232	15-18	19-25	27-37	2,1-5,8
		1	17,6	102	1,8	22	139	2,1	33	156	3,2	48	212	4,2	68	275				
		1,4	17,6	116	2,1	22	156	2,5	33	178	3,5	48	227	4,9	68	314				
		1,8	17,6	139	2,5	22	178	2,8	33	195	4,2	48	266	5,3	68	340				
		2,1	17,6	156	2,8	22	195	3,5	33	227	4,9	48	312	5,6	68	360				
		2,8	17,6	195	3,5	22	227	4,2	33	266	5,6	48	360	6,3	68	411				
		3,5	17,6	227	4,2	22	266	4,9	33	312	6,3	48	411	6,6	68	428				
JPLE28A	Liquid Cap JL40100 + Air Cap JPT60	0,6	17,6	91	0,7	22	102	1,1	33	130	2,5	48	235	3,5	68	310	33-38	38-48	51-64	3,0-5,2
		1,1	17,6	130	1,4	22	156	1,8	33	184	3,2	48	285	4,6	68	380				
		1,4	17,6	156	1,8	22	184	2,5	33	235	3,9	48	330	6	68	475				
		1,8	17,6	184	2,1	22	210	2,8	33	260	4,2	48	360	6,7	68	525				
JPLE28	Liquid Cap JL60100 + Air Cap JPT60	0,7	36	102	1,1	45	130	1,8	68	184	3,2	100	285	5,3	141	430	38-41	53-64	66-84	3,0-5,8
		1,1	36	130	1,4	45	156	2,1	68	210	3,5	100	310	6	141	475				
		1,4	36	156	2,1	45	210	2,8	68	260	4,9	100	405	6,7	141	525				
		1,8	36	184	2,5	45	235	3,2	68	285	5,9	100	455	7	141	550				
JPLE25	Liquid Cap JL60100 + Air Cap JPT45	1	36	102	1,8	45	139	2,5	68	178	3,2	100	212	3,9	141	255	15-20	20-28	25-39	2,7-5,9
		1,4	36	116	2,1	45	156	2,8	68	195	3,5	100	227	4,2	141	275				
		1,8	36	139	2,5	45	178	3,2	68	212	3,9	100	246	4,6	141	297				
		2,1	36	156	2,8	45	195	3,5	68	227	4,2	100	266	4,9	141	314				
		2,5	36	178	3,2	45	212	4,2	68	266	4,9	100	312	5,6	141	360				
		2,8	36	195	3,5	45	227	4,9	68	312	5,6	100	360	6,3	141	411				
		3,5	36	227	4,2	45	266	5,6	68	360	6,3	100	411	7	141	453				
JPLE45B	Liquid Cap JL60150 + Air Cap JPT75	1,8	36	235	1,8	45	235	2,5	68	300	3,9	100	410	–	–	–	15-17	20-23	29-34	3,0-5,5
		2,1	36	260	2,1	45	260	2,8	68	330	4,2	100	445	–	–	–				
		2,5	36	300	2,5	45	300	3,2	68	355	4,6	100	480	–	–	–				
		2,8	36	330	2,8	45	330	3,5	68	380	4,9	100	529	–	–	–				
		3,2	36	355	3,2	45	355	3,9	68	410	5,3	100	565	–	–	–				
		3,5	36	380	3,5	45	380	4,2	68	445	5,6	100	600	–	–	–				
		4,2	36	445	4,2	45	445	4,9	68	520	6,3	100	685	–	–	–				
JPLE45A	Liquid Cap JL80150 + Air Cap JPT75	2,1	64	260	2,8	78	330	3,9	119	410	4,9	175	520	–	–	–	17-20	24-25	34-38	3,5-6,1
		2,5	64	300	3,2	78	355	4,2	119	445	5,3	175	565	–	–	–				
		2,8	64	330	3,5	78	380	4,6	119	480	5,6	175	600	–	–	–				
		3,2	64	355	3,9	78	410	4,9	119	520	6	175	640	–	–	–				
		3,5	64	380	4,2	78	445	5,3	119	565	6,3	175	685	–	–	–				
		4,2	64	445	4,9	78	520	5,6	119	600	–	175	–	–	–	–				
		4,9	64	520	5,6	78	600	6,3	119	685	–	175	–	–	–	–				
JPLE45	Liquid Cap JL100150 + Air Cap JPT75	2,8	102	330	3,5	125	380	4,6	192	480	5,6	280	600	–	–	–	19-22	25-27	36-41	4,6-6,1
		3,2	102	355	3,9	125	410	4,9	192	520	6	280	640	–	–	–				
		3,5	102	380	4,2	125	445	5,3	192	565	6,3	280	685	–	–	–				
		3,9	102	410	4,6	125	480	5,6	192	600	–	280	–	–	–	–				
		4,2	102	445	4,9	125	520	6	192	640	–	280	–	–	–	–				
		4,6	102	480	5,3	125	565	6,3	192	685	–	280	–	–	–	–				
		4,9	102	520	5,6	125	600	–	192	–	–	280	–	–	–	–				

"— —" means not recommended at this pressure

Alternative Bodies (Connections) and Mounting

Top-Connect-Body

2JTPL - 1/4" Top-Connect JPL Body

Air (gas) and liquid inlets are both on top of this body, 90° from the nozzle outlet.

Back-Connect-Body

2JBPL - 1/4" Back-Connect JPL Body

Air (gas) and liquid inlets are on back of this body, 180° from the nozzle outlet.

Thick Wall Mount

JPLM

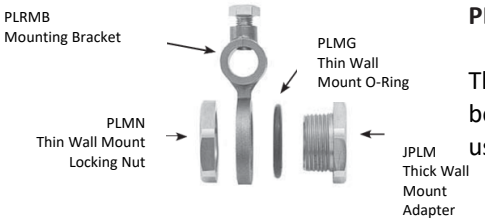
Wall adapter replaces the cap retaining ring with a 3/4” MNPT adapter which allows mounting any JPL assembly to a thick wall (over 3/8” thick).

Thin Wall Mount

JPLN

Thin wall adaptation, simply add a PLMN locking nut and PLMG O-ring to the JPLM thick wall adapter, and you can mount any JPL assembly to a wall less than 3/8" thick. (1-1/16" clearance hole required)

Rod Mounting Bracket



PLRMB

The rod mounting bracket allows for any air atomizing body to be mounted to a 1/2” diameter steel rod. Simply use the hardware from the thin wall mount (JPLN).

BEX Automatic Air Actuated Spray Nozzles can be fitted with any BEX spray set-ups to meet your atomizing needs. Liquid flow to the nozzle assembly may be either pressure, gravity or siphon fed. The flow is precisely controlled through an automatically operated air cylinder inside the body. For specific application details please contact BEX. Typical applications include: moistening, die lubrication, coatings, pattern lubrication, paper mills, and many others.

BEX - Automatic Air Actuated Nozzle Body

Standard Automatic Body

2JAPL -
Automatic Body

2JAFPL -
Automatic Body with Manuel Shut-Off

Single Air Line Automatic Body

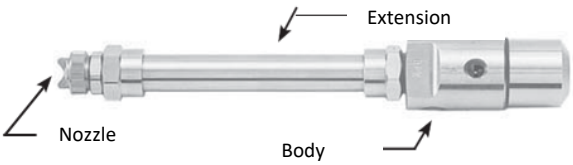
2JSPL -
Single Air Line Automatic Body

2JSFPL -
Singel Air Line with Manual Shut-Off

Extensions for JA-Series-Body

2JAX6PL–15cm Extension
2JAX12PL–30cm Extension

These extensions allow the spray tip to be positioned 6" or 12" away from the body.



Extensions for JPL, JTPL, JPBL Nozzle-Bodies

JX6PL-15 cm Extension
JX12PL-30 cm Extension

These extensions allow the spray tip to be positioned 6" or 12" away from the body.

How To Order

We have designed these two pages to help you select a model number for easy ordering. If you would like help in choosing the proper assembly to order, please give us a call and we will be happy to assist you.

Fitting Code

Code	Description
2	¼" x ¼" NPT – Thread
B2	¼" x ¼" BSPT – Thread

Note: 1/8" NPT and BSPT are available.
Contact BEX for ordering information.

Body Code

Code	Description
Standard Bodies	
JPL	Standard Body
JTPL	Top-Connect Body
JBPL	Back-Connect Body
JMPL	Thick Wall
JNPL	Thin Wall
JX6PL	15 cm Extension
JX12PL	30 cm Extension
Automatic Air-Actuated Bodies	
JAPL	Automatic Body
JAFPL	Automatic with Shut-Off
JSPL	Automatic Single-Airline
JSFPL	Automatic Single-Airline with Shut-Off
JAX6PL	15 cm Extension
JAX12PL	30 cm Extension

Examples of “JPL” assembly model numbers

Fitting Code	Body Code	Set-Up Code	Option Code	Material Code
B2	JPL	12		3
B2JPL12 3, is a standard JPL assembly consisting of: 1/4" x 1/4" BSPT fitting standard JPL body; knurled retaining ring, rear plug, fiber gasket and fiber washer; JPE40 air cap and JL2850 liquid nozzle in 303 stainless steel.				
B2	JSPL	12	T	6
B2JSPL12T 6, is a single airline automatic JPL assembly consisting of: 1/4" x 1/4" BSPT fitting single airline automatic JSPL body; knurled retaining ring; and Teflon® gasket; JPE40 air cap and JL2850 liquid nozzle in 316 stainless steel.				

Hinweis: Bei der Bestellung immer ein Leerzeichen zwischen Modellnummer und Materialcode lassen. Beispiel: B2JPL12 3

Set-Up Code

Code	Description
11, 12A, 12, 22B, 22, 42	Internal Mix, round
16, 26B, 30, 26, 29, 46	Internal Mix, wide-angle, round
13A, 13, N13, 14, 23B, N23, 23, 43	Internal Mix, flat spray
1A, 1, 2A, 2, 4, 5	Siphon, round
F1, F2C, F3B, F4B	Siphon, flat
E15B, E18B, E15A, E18A, E15, E18, E25B, E28A, E28A, E28A, E25, E28, E45B, E45A, E45	External Mix, flat

Option Code

Code	Description
H	HEX Retaining Ring
T	Teflon® Gasktet & Washer
C	Clean-out Assembly
F	Flow Control (Shut-off)**
S	Shut-off and Clean-out (for standard bodies)

Flow Control

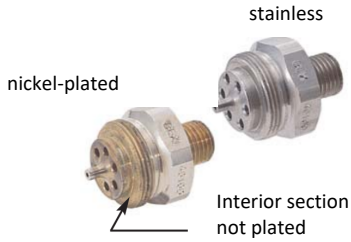
Clean Out

Shut Off & Clean Out

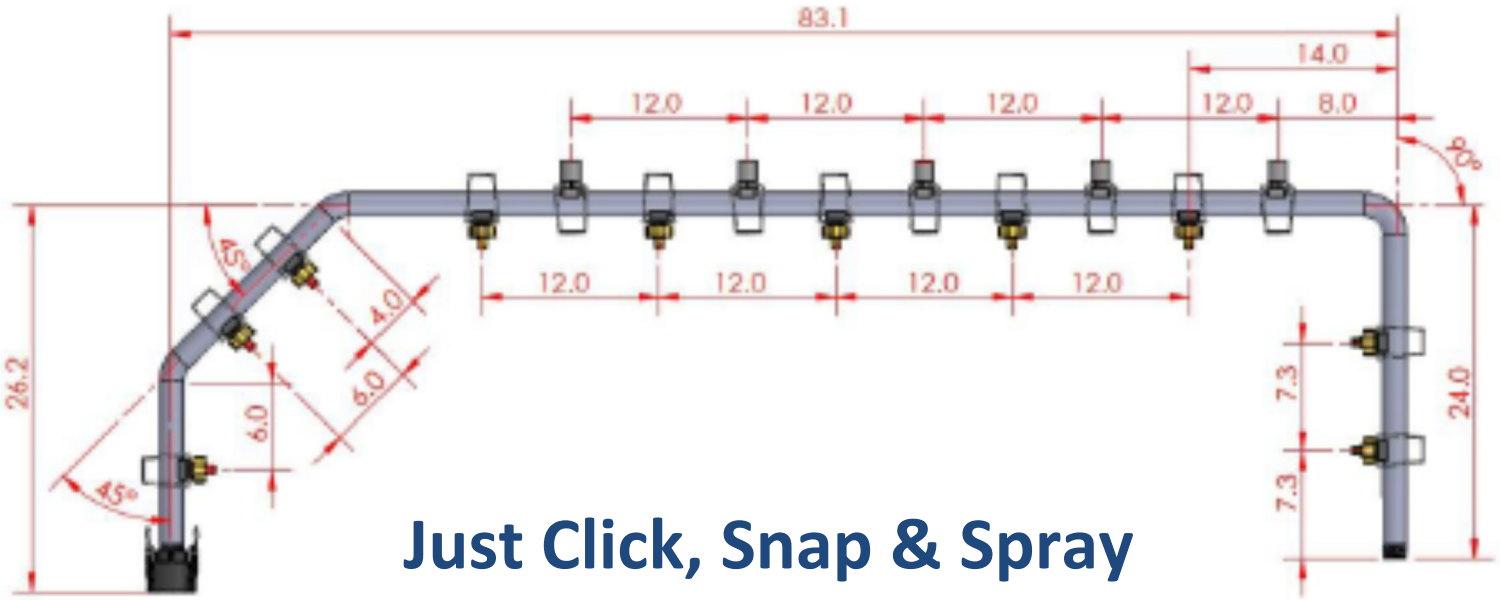
Material Code

Code	Description
3	Stainless 303
6	Stainless 316
NP	Nickel.Plated Brass

Note: Although nickel-plated brass assembly appears to be all nickel when assembled, only the exterior surfaces of brass component are nickel-plated - see comparison below.



Nickel-plated Brass assembly



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