



AN ISO 9001 : 2008 Certified Company

CIN No :U29219MH2006PTC163469



Decide with Confidence
D&B D-4-N-SI Number : 32-883-8427

Spraytech[®]
Systems (India) Pvt. Ltd. 
The Flow Technologists

Industrial Spray Nozzles, Spray Systems & Accessories

Complete Solution for Spray Applications





Spraytech House

Spraytech
Systems (India) Pvt. Ltd.

PREFACE



Spraytech Systems (India) Pvt. Ltd. was started by Shri. Bapusaheb Kharade, in early 2000 as a Spray Nozzle Manufacturer for replacement market catering to Steel Industries. Primarily company was started in a 1000 sq. feet workshop & within a decade it is elaborated to 7000 sq. feet modern factory. An another factory is started at Indapur 100 kms. away from Pune with a area of 2,00,000 sq. feet is again a big achievement for the Organisation. Recently Spraytech has started one another factory at Rabale (Navi Mumbai) with area of 13000 sq. feet. All three factories are facilitated with next generation class CNC machines, heavy material handling equipments to serve raising market demands with no compromise with world class product quality. Along with this field of engineering we are entered in forging to serve respective product demands.

"Spraytech" is a leading organization & a good name in the market for mfg. of Spray Nozzles.

We attribute our success to our motivated and skilled work force who can accomplish job orders of varying magnitudes and complexities. We are proud to have esteemed customers who have entrusted their faith in us over the years.

The aim of our organization is customer satisfaction which is achieved through following objectives: Commitment to quality, Prompt response, Technological solutions, On time delivery, After sales service.

Our challenge is to meet the widely ranging delivery demands of an equally diverse customer base coupled with constant up gradation of production equipment and techniques to keep pace with new market trends and applications.



Test Rig - 1



- A) Testing Capacity : 200 M³/Hr
Total Pressure Drop : 2 Bar
- B) Testing capacity : 43 M³/Hr
Total Pressure Drop : 7 Bar

Test Rig - 2



- A) Testing capacity : 1-350 LPM
Total Pressure Drop : 10 Bar
- B) Testing capacity : 1-260 LPM
Total Pressure Drop : 9 Bar

Quality Policy

We at SPRAYTECH SYSTEMS INDIA PVT. LTD. are committed to achieve total Customer satisfaction through Design, Development, Manufacturing and Supply of consistent quality Industrial Spray Nozzles & Systems with aim of zero percentage rejection at customer's end while remaining cost effective and competitive. This shall be achieved through team work and continual improvement in all our areas of operation.

Vision

We are putting all our efforts to improve efficiency of our products with effective cost cutting. We are all committed to on time delivery, quality products, prompt after sales service and product technical support.

Mission

We provide hygienic working environment with all necessary facilities for better working environment. We encourage to safety measures to avoid troubles to workers and processes. Our customer is our first priority and we always try to serve best to our customer.



Spray Nozzle Selection Guide - by Application & Spray Pattern

Category of Nozzles	Applications	Spray Patterns
FLAT SPRAY	Rinsing, High Pressure Cleaning, Granulation, Coating	
FULL CONE	Surface Spraying, Coating, Washing & Cooling of flue gases, Scrubbing	
MIST SPRAY NOZZLE	LDO firing in Boiler & Dust suppression.	
HOLLOW CONE	Fugitive dust suppression, Scrubbing essentially small droplet size, Coating	
OIL BURNER SPRAY NOZZLE	LDO firing in kilns of cement, sponge, Iron plants & Dust suppression.	
TANK WASHING	Cleaning of inside surface of barrels & tanks.CIP	
FINE ATOMIZING NOZZLE	Gas cooling, conditioning or humidifying applications, for improving the chemical reaction by increased contact surface	
AIR ATOMIZING NOZZLE	Coating, Atomizing of viscous liquids, Gas cooling, conditioning or humidifying, Chemical process engineering. Pan coating. Tablet coating, FBD Granulation	

Droplet Size Selection

Single Fluid Spray Nozzles	Liquid Pressure [barg]					
	1		2		3	
	Flowrate V [l/min]	Droplet size [μm]	Flowrate V [l/min]	Droplet size [μm]	Flowrate V [l/min]	Droplet size [μm]
Inline Entry Hollow Cone Spray Nozzle	0.10	110	0.10	130	0.17	110
	0.5	210	1.50	230	1.60	190
Tangential Entry Hollow Cone Spray Nozzle	0.10	290	1.00	330	1.60	230
	1.80	690	25	650	40	480
Full Cone Spray Nozzle	0.70	550	1.00	390	1.60	310
	18	1310	25	1090	40	760
Multi-Tip Spray Nozzle	0.90	190	1.25	185	2.00	140
	20	390	28	275	44	180
Flat Spray Nozzle	0.70	410	1.00	350	1.60	310
	18	1210	25	990	4.00	700

Air Atomizing Spray Nozzles	Air / Water [Nm³/h:l/min]					
	1		2		3	
	Flowrate V [l/min]	Droplet size [μm]	Flowrate V [l/min]	Droplet size [μm]	Flowrate V [l/min]	Droplet size [μm]
External / Internal Mix	As Per Ratio	95	As Per Ratio	95	As Per Ratio	95

Formulas

Specific gravity (fluid) =

$$\frac{\text{Density of fluid (kg / m}^3\text{)}}{1000}$$

$$Q_{\text{fluid}} = Q_{\text{Water}} \times \frac{1}{\sqrt{\text{Specific gravity (fluid)}}}$$

$$Q_2 = Q_1 \times \sqrt{\frac{P_2}{P_1}}$$

Units Conversion Data

Multiply	By	To Obtain
Feet/sec	18.29	Metres/Min
Feet or Water	0.0295	Atmospheres
Feet or Water	0.884	Inches of Mercury
Feet or Water	0.433	Psi
Gallons	3785	Cm ³
Gallons	0.1337	Ft ³
Gallons	0.83257	Imperial Gallons
Gallons	3.785	Litres
Gallons/min	0.06308	Litres /sec
Imperial Gallons	1.2	Gallons
Horsepower	1.014	Horsepower (metric)
Horsepower	33.000	Foot pounds/min
Horsepower	746	Watts
Inches	2.54	Centimeters
Kg/cm ²	14.22	Psi
Kilo Watts	1.340	Horsepower
Litres	1000	Cm ³
Litres	0.264	Gallons
Litres	0.22	Imperial Gallons
Litres	33.8	Ounces (Fluid)

Multiply	By	To Obtain
Metres	3.281	Feet
Microns (μ)	0.0394	Thousandth of an inch
Miles/hr	44.7	Centimeters/sec
Miles/hr	1.467	Feet/sec
Millimetres	0.0394	Inches
Psi	0.068	Atmospheres
Psi	0.06895	Bar
Psi	2.307	Feet of Water
Psi	0.0703	Kg/cm ²
Psi	6.895	KPA
Atmospheres	1.013	Bar
Atmospheres	33.931	Feet of water
Atmospheres	1.0332	Kg/cm ³
Atmospheres	101.3Kilo	Pascals (k Pa)
Atmospheres	14.696	Psi
Bar	100	KPA
Bar	14.5	Psi
Barrels (oil)	42	Galions
Centimeters	0.3937	Inches
Centi Stokes	Sp.gravity	Centi Poise

Multiply	By	To Obtain
Cm ³	0.061	in ³
Cm ³	0.000264	in ³
Cm ³	0.001	M ³
Ft ³	1728	Gallons
Ft ³	0.02832	Litres
Ft ³	7.48	Pounds (Water)
Ft ³	28.32	Cm ²
Ft ³ (water)	62.43	Gallons
In ³	16.39	Litres
In ³	0.00433	Minutes
In ³	0.164	Degree (Fahrenheit)
M ³	35.31	Degree (Celsius)
M ³	61.016	Metres
M ³	264.2	Gallons
M ³	1000	Litres
Degree (Angle)	60	Ft [°]
Degree (Celsius)	(°C x 1.8) + 32	In ³
Degree (Fahrenheit)	(°F - 32)x0.56	Gallons
Feet	0.3048	Centimeters/sec
Feet/sec	30.48	Litres

Unit	bar	Pascal [Pa]=N/m ²	kg/cm ² = 1 at	psi	lb/sq.ft.
1 bar	1	100000	1.02	14.5	2089
	-5		-5	-5	
1 Pascal	1x10	1	1.02x10	14.5x10	0.0209
1 at					
kg/cm ²	0.9807	98070	1	14.22	2048
1 Psi	0.06895	6895	0.07031	1	144
	-3		-3	-3	
1lb/sq.ft.	0.479x10	47.9	0.4882x10	6.94x10	1

Unit	l/s	l/min	m ³ /hr	Us-gal min	Imp-gal min
1 l/s	1	60	3.6	15.85	13.2
1 l/min	0.01667	1	0.06	0.2642	0.22
1 m ³ /hr	0.28	16.67	1	4.4	3.66
1 Us-gal/min	0.0631	3.785	0.227	1	0.8327
1 Imp-gal/min	0.076	4.546	0.273	1.201	1

Theoretical spray Width (in mm) at various height from nozzle tip

Spray Angle	50	100	150	200	250	300	400	500	600	700	800	1000
5°	4	9	13	18	22	26	35	44	52	61	70	87
10°	9	18	26	35	44	53	70	88	105	123	140	175
15°	13	26	40	53	66	79	105	132	158	184	211	263
20°	18	35	53	71	88	106	141	176	212	247	282	353
25°	22	44	67	89	111	133	177	222	266	310	355	443
30°	27	54	80	107	134	161	214	268	322	375	429	536
35°	32	63	95	126	158	189	252	315	378	441	505	631
40°	36	73	109	146	182	218	291	364	437	510	582	728
45°	41	83	124	166	207	249	331	414	497	580	663	828
50°	47	93	140	187	233	280	373	466	560	653	746	933
55°	52	104	140	208	260	312	417	521	625	729	833	1040
60°	58	116	173	231	289	346	462	577	693	808	924	1150
65°	64	127	191	255	319	382	510	637	765	892	1020	1270
70°	70	140	210	280	350	420	560	700	840	980	1120	1400
75°	77	154	230	307	384	460	614	767	921	1070	1230	1530
80°	84	168	252	336	420	504	671	839	1010	1180	1340	1680
85°	92	183	275	367	458	550	733	916	1100	1280	1470	1830
90°	100	200	300	400	500	600	800	1000	1200	1400	1600	2000
95°	109	218	327	437	546	655	873	1090	1310	1530	1750	2180
100°	119	238	358	477	596	715	953	1190	1430	1670	1910	2380
110°	143	286	429	571	714	857	1140	1430	1710	2000	2290	2860
120°	173	346	520	693	866	1040	1390	1730	2080	2430	2771	3464
130°	215	429	643	858	1070	1290	1720	2150	2570	3002	3431	4289

Metallurgical Industry



Continuous Casting of steel Secondary Cooling

For higher productivity secondary cooling plays critical part where various rates of heat flux are to be removed from hot slab at various stages. Thus, spray nozzles are used for secondary cooling. For this purpose single fluid, twin fluid spray nozzles are used.

Descaling

During the process of cooling, iron oxide scales are formed on hot steel surface where high pressure water jet are used to remove this scales. For this purpose specially designed flat spray nozzle are used which has operating pressure range from 80 to 450 bar.

Roll Cooling

As hot slab rolls through series of rollers, heat transfers due to mutual contact; Thus to recover this heat from rolls, spray nozzles are used. This also helps to control and improves the shape of rolls.

In steel industries spray nozzles are used for so many other applications elaborated as below :

Coke ovens

- Coke quenching
- Gas cleaning and droplet separators
- Strip spray-off and blow-off

Hot rolling

- Settlement of oxide dusts in the stand
- Intermediate stand cooling
- Strip surface quenching to protect the work rolls

Chemical Industry



Cleaning packing columns and Demister pads

Packing columns are used in chemical and petrochemical industries, for washing of packing materials / beds spray nozzles are used. Specially non-clogging spray nozzles are used for this purpose.

Wet gas scrubber

To absorb the chemical compounds from gas, some absorbents are sprayed into the gas scrubber. For even distribution of absorbents, spray nozzles are used.

Cleaning of fermentation tanks and reactors

Several types of cleaning agents and solvents are used to clean fermentation tanks and reactors. Thus, here specially designed self-rotating and stationary spray nozzles are used.

Food and Beverages Industries



Cooling and Heating (Pasteurization)

During the packaging of hot or cold foods full cone spray nozzles are used for thermal transfer, the uniform circular spray pattern helps to maintain uniform and steady heat transfer. In pasteurizing tunnels tangential entry hollow cone spray nozzles are used for both cooling or heating of packed cans, bottles, pouches of food or beverages.

Sanitizing, Washing Bottles and Cans

Spray nozzles and spray balls are used for sanitizing, washing and drying packaged or empty bottles / barrels. This is being used in automated packages and material handling equipments

Pharmaceutical Industry



Tablet coating

After making a good tablet, you must often coat it. The coating can have several functions. It can strengthen the tablet, control its release, improve its taste, colour, it makes it easier to handle and package, and protect it from moisture.

Clean In Place (CIP)

For efficient cleaning of mixing tanks, containers, equipment, coating pans spray balls / turbo disc spray nozzles are installed inside the equipments made of pharma grade stainless steel which cleans the equipments in place.

Granulation With RMG / HSG

Also known as wet granulation process. Material is loaded into bowl having agitator and chopper and mixed rigorously then binder material is sprayed from top and granules are formed.

Good quality granules are foundation for good quality tablet.

Various liquid blenders are used for wet granulation.

Spraying binder over bulk material could reduce wet granulation cycle time and increase productivity.

Air Pollution Control



Emission regulations are made compulsory everywhere by government for small, large industries which creates dust, exhaust gases which are dangerous for environment.

Dust Suppression system

Fine mist spray nozzle are used at various dumping, transfer points where large emission of dust happens to suppress flying contamination water spray nozzles are used. Application industries are power plants Cement Industry, Glass Industry, Refineries, Pulp and Paper Industries, Chemical Industries, Steel Industries, Mining Industries etc.

Some other applications

- Wet Flue Gas Desulphurization
- Circulating Fluidized Bed
- Spray Dry Absorber
- NOX Removal
- Fire Protection Systems
- Gas Conditioning

Automotive / Sheet Metal Industry



Surface treatment

Surface treatment consist of several process stations like cold / hot water rising, degreasing, phosphatising, coating, galavnizing, and cleaning. Full cone, Flat spray nozzles with quick release type assembly and clip on mountings are used to set in several spray angels, assemble and dismantle easily. Surface treatment plays critical role in automotive and sheet metal industries as it is giving base for painting operations.

Assembly and Quality Assurance

In the final stages of automotive production, many applications require the use of nozzles. These include sealing, dewaxing car bodies, vehicle washing, high-pressure cleaning and various simulation tests (e.g. corrosion tests, leak tests, aquaplaning tests).

Some other applications we provide spray nozzles for

- Humidification with water and steam
- Desuperheating
- Oil burners
- Incinerator

For any other application please contact with our technical experts.

Paper Industry



Coating

Surface sizing operations are performed to provide increased surface strength, as well as to produce paper with an increased resistance to penetration by liquid solutions. Treatment can also provide better surface characteristics and improve certain physical properties of the paper sheet.

Showers and Oscillators

spray showers with the built-in cleaning device have been successfully used in paper mills around the world for years. A simple turn of the handwheel sweeps contaminants away from the nozzle orifices and directs all debris down the flush-out valve.

Trimming

Paper trim and edge sprays are used in various sections of paper machines. Generally, they improve the mill speed and reduce risk of web breaks. Some machines use trim nozzles after the last drying roll as well.

Fire Suppression for Tanks

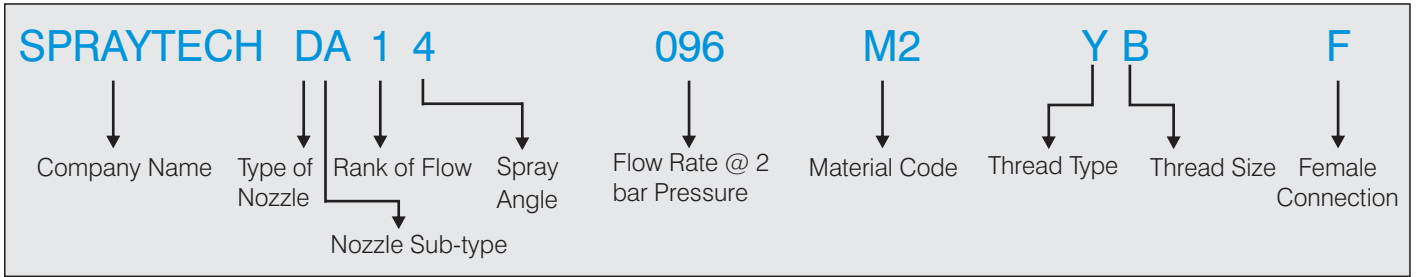


Spray irrigation of tanks aims to protect tanks and other vessels against unacceptable heating during burning. Here, heating must be understood as a condition where an increase of a tank's inner pressure and a decrease of the tank walls' resistance will lead to bursting of the tank.

Also important is the heat-influenced breakdown of the sealing elements in detachable connections. Water spray simultaneously extinguishes and cools the complete surface of the incendiary matter.

The following description will help to explain our Part Number/ Code in relation to the “SPRAYTECH” Spray Nozzle.

EXAMPLE ORDERING.



Note:- DA14.096.M2.YB(F)

'F' Only when there is female connection other wise DA14.096.M2.YB will be Male connection as standard.

Type of Nozzles

Codes	Spray Nozzles Type
A	Air Atomizing /Fine Atomizing Spray Nozzle
B	Hollow Cone Spray Nozzle
C	Flat Spray Nozzle
D	Full Cone Spray Nozzle
E	Tank Washing Spray Nozzle
F	Steel Mill Spray Nozzles
G	General Engineering & Accessories
H	Special Project

B	A	Hollow Cone Spray Nozzle
B	B	Hollow Cone Spray Nozzle - Female Connection
B	C	Hollow Cone Spray Nozzle
B	D	Hollow Cone Spray Nozzle
B	E	Hollow Cone Spray Nozzle, Flanged Connection
B	F	Hollow Cone Spray Nozzles, Moulded Plastic Nozzle
B	G	Inline Entry Hollow Cone Spray Nozzle
B	H	Hollow Cone Spray Nozzles
B	I	Hollow Cone Spray Nozzle - Spiral
B	J	Hollow Cone Spray Nozzle - Adjustable
B	K	Hollow Cone Spray Nozzle - Fine Fog

Hollow Cone Spray Nozzles

Nozzle Sub Types

Codes		
C	A	Flat Spray Nozzle
C	B	Flat Spray Nozzle
C	C	Flat Spray Nozzle
C	D	Flat Spray Nozzle
C	E	Flat Spray Nozzle - Dove Tail Type
C	F	Flat Spray Nozzle - Dove Tail Type
C	G	High Impact Flat Spray Nozzles
C	H	Flood Spray Nozzle - Flat Type
C	I	Flood Spray Nozzle - Tip Flat Type
C	J	Air Wiping Spray Nozzle
C	K	Flat Spray Nozzle for Air & Saturated Steam

Flat Spray Nozzles

E	A	Self Rotating Spray Nozzle
E	B	Self Rotating Spray Nozzle
E	C	Self Rotating Spray Nozzle - CIP Application
E	D	Barrel Tank Washing Spray Nozzle
E	E	Gyro Jet Tank Washing Spray Nozzle
E	F	Turbo Cleaning Tank Washing Spray Nozzle
E	G	Slotted Spray Ball
E	H	Static Spray Ball
E	I	Static Spray Ball - Higher Flow Rates
E	J	Fixed Tank Washing Spray Nozzle
E	K	Pop - Up nozzle

Tank Washing Spray Nozzles

C	L	Straight Jet Spray Nozzle
---	---	---------------------------

Straight Jet Spray Nozzles

D	A	Full Cone Spray Nozzle
D	B	Full Cone Spray Nozzle - Female Connection
D	C	Full Cone Flanged Connection Spray Nozzle
D	D	Full Cone Spray Nozzle - Square Pattern
D	E	Full Cone Spray Nozzle - Square Pattern - Female Connection
D	F	Spiral Full Cone Spray Nozzle
D	G	Multiple Full Cone Spray Nozzle
D	H	Multiple Full Cone Spray Nozzle
D	I	Tangential Entry Vaneless Full Cone Spray Nozzle
D	J	Tangential Entry Vaneless Full Cone Spray Nozzle - Female Connection
D	K	Narrow Angle Full Cone Spray Nozzle
D	L	Narrow Angle Full Cone Spray Nozzle - Female Connection
D	M	Full Cone Spray Nozzle - Customized
D	N	Full Cone Spray Nozzle - Customized -Female Connection

Full Cone Spray Nozzles

K	S	Steam Spray Nozzle
K	S1	Steam Spray Nozzle (With NRV)

Steam Spray Nozzles

Material Codes

Codes	Rank of Flow (LPM)
1	0 - 9
2	10 - 99
3	100 - 999
4	1000 - 9999

Codes	Spray Angle
1	15°
2	30°
3	45°
4	60°
5	75°
6	90°
7	105°
8	120°
9	130° & Above

Codes	Thread Size
A	1/8"
B	1/4"
C	3/8"
D	1/2"
E	3/4"
F	1"
G	1 1/4"
H	1 1/2"
K	2"
L	2 1/2"
M	3"
N	3 1/2"
O	4"
P	5"
Q	6"

Codes	Thread Type
X	BSPP
Y	BSPT
Z	NPT
M	METRIC

Codes	Connections
F	Female
M	Male
FLG	Flanged
PIN	Pin Type
TIP	Tip Models
DTL	Dove Tail

Code	Material (Metals & Alloys)
M0	M.S.
M1	SS 304 / SS303
M1L	SS 304L
M1T	SS 304 Ti
M2	SS 316
M2L	SS 316L
M2T	SS 316 Ti
M3	Brass
M3N	Nickel Plated Brass
M4A	SS 410
M4B	SS 420
M5	Cast Iron
M6	Aluminum
M7A	Hastelloy 2000
M7B	Hastelloy B
M7C	Hastelloy C 276
M7D	Hastelloy C 22
M8A	Titanium Grade 2
M8B	Titanium Grade 3
M8C	Titanium Grade 7
M9	Monel
M10	SS 310
M11	Carbon Steel
M12	Bronze
M13	Copper
M14	Nickel
M15	SS 416
M16	Alloy 20
M17	Inconel
M18	Incoloy
M19	Silicon Carbide
M20	Tungsten Carbide
M21	Ceramic

Code	Material (Plastics)
P1	PVC (Polyvinylchloride)
P2	PP (Polypropylene)
P3	Teflon®/ PTFE (Polytetrafluoroethylene)
P4	Nylon (Polyamide)
P5	Delrin®/ POM (Polyacetate)
P6	PVDF (Polyvinylidene fluoride)
P7	Polyethylene
P7A	LDPE (Low density Polyethylene)
P7B	HDPE (high density Polyethylene)
P7C	UHMW (Ultra-High-Molecular-Weight Polyethylene)

Material code O rings (as per ASTM)	
VMQ	Silicone Rubber
FPM	Fluoro Rubber (Viton®)
NBR	Nitrile Rubber
EPDM	Ethylene Propylene Diene Rubber
CR	Chlorobutadiene Rubber (Neoprene)
PU	Polyurethane Rubber
ACM	Polyacrylic Rubber
IIR	Butyl Rubber
SBR	Styrene Butadiene Rubber

Trademarks Registered Trademark Ownership

Trademark	Property of :
Hastelloy®	Haynes International, Inc.
Inconel®	Inco Nickel Sales, Inc.
Teflon®	E.I. Dupont de Nemours and Company
Viton®	Dupont Dow Elastomers.
Monel®	The International Nickel Company, Inc.
Stellite®	Stoddy Deloro Stellite, Inc.

Flat Spray Nozzles Series

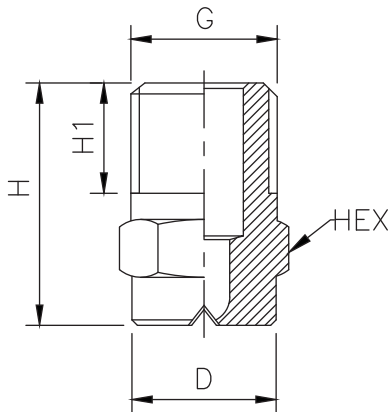


APPLICATION

- Belt cleaning
- Coating
- Steam cleaning
- Degreasing
- High pressure cleaning
- Gravel washing
- Cooling
- Surface treatment
- Phosphating
- Rain curtains
- Foam control
- Foam spraying
- Lubrication
- Filter cleaning
- Spray cleaning
- Washing processes and many others...

CA Series Flat Spray Nozzles

CA



Standard design with self sealing thread connection. Stable spray angle, Uniform distribution of liquid, parabolical distribution of liquid.

Design : One piece construction, Non clogging type.

Application : Rinsing, Lubricating, Industrial washing machines, Cake washing in Centrifuge, CIP, Tray washing.

'C' Series Flat Spray Nozzles are designed for high pressure / high impact washing application. These nozzles are specially designed and machined with precision which allows even spray coverage and distribution. This results in effective and uniform cleaning action over the surface being processed. Flat spray nozzles are available in all steel grades, Plastics & other alloys. Spray angle range available from 15° to 120°

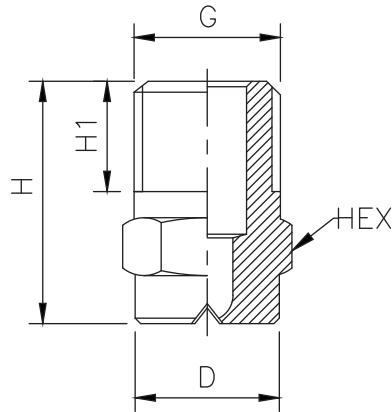
MODEL NO.	CONNECTION END		ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	YA	YB		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
15° SPRAY ANGLE	1/8" BSPT	1/4" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
													G/A DIMENSION. MM			
													H	H1	D	HEX
CA11.050	YA	YB	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12					
CA11.075	YA	YB	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	YA				
CA11.100	YA	YB	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	18	6.5	10.2	11	
CA11.150	YA	YB	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	Weight (Metals) = 8.5 gms. Approx				
CA11.175	YA	YB	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91					
CA11.200	YA	YB	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47					
CA11.250	YA	YB	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB				
CA11.350	YA	YB	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	22	10	13	14	
CA11.400	YA	YB	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	Weight (Metals) = 17.5 gms. Approx				
CA11.475	YA	YB	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62					
CA11.650	YA	YB	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53					
CA11.800	YA	YB	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89					
CA21.100		YB	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36					
CA21.125		YB	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95					
CA21.160		YB	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78					
CA21.200		YB	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72					
CA21.225		YB	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31					
CA21.250		YB	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90					

* Flow rate in US GPM @40 psi Pressure

Standard design with connection suitable spray angle uniform distribution of liquid. The internal geometry of each nozzles is specifically engineered to provide maximum uniformity of the spray angle and flow rate.

Application :

- Spray Coating
- Lubricating
- Circuit Board Rinsing
- Metal Processing
- Part Washing



Headers



MODEL NO.	CONNECTION END		ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES									MATERIAL CODE			
	YA	YB		Flow Capacity in GPM	Pressure [bar]									M1/M2	M3	P1/P2
30° SPRAY ANGLE	1/8" BSPT	1/4" BSPT			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D	HEX
CA12.050	YA	YB	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	YA	18	6.5	10.2	11
CA12.075	YA	YB	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	SS304/SS316	Brass	PVC/PP	G/A DIMENSION. MM	
CA12.100	YA	YB	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24				H	H1
CA12.150	YA	YB	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	Weight (Metals) = 8.5 gms. Approx				
CA12.175	YA	YB	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	YB	22	10	13	14
CA12.200	YA	YB	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47					
CA12.250	YA	YB	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	Weight (Metals) = 17.5 gms. Approx				
CA12.350	YA	YB	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB	22	10	13	14
CA12.400	YA	YB	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94					
CA12.475	YA	YB	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	Weight (Metals) = 17.5 gms. Approx				
CA12.650	YA	YB	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	YB	22	10	13	14
CA12.800	YA	YB	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89					
CA22.100		YB	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	Weight (Metals) = 17.5 gms. Approx				
CA22.125		YB	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YB	22	10	13	14
CA22.160		YB	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78					
CA22.200		YB	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	Weight (Metals) = 17.5 gms. Approx				
CA22.225		YB	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YB	22	10	13	14
CA22.250		YB	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90					

* Flow rate in US GPM @40 psi Pressure

CA Series Flat Spray Nozzles

MODEL NO.	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	YA	YB	YC	YD		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
45° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D
CA13.050	YA	YB			0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	YA			
CA13.075	YA	YB			1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	18	6.5	10.2	11
CA13.100	YA	YB			1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24				
CA13.150	YA	YB				0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
CA13.175	YA	YB			1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
CA13.200	YA	YB			1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CA13.250	YA	YB			1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB			
CA13.350	YA	YB			2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	22	10	13	14
CA13.400	YA	YB			2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CA13.475	YA	YB			2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CA13.650	YA	YB			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CA13.800	YA	YB			3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CA23.100		YB	YC		3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YC			
CA23.125		YB	YC		4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	25	12	16	17
CA23.160		YB	YC		4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 25.0 gms. Approx			
CA23.200		YB	YC		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
CA23.225		YB	YC		5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YD			
CA23.250		YB	YC		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	27	13.2	21	22
CA23.320			YC	YD	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55				
CA23.400			YC	YD	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44				
CA23.520				YD	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28				
CA23.650				YD	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34				
CA23.800				YD	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89				

MODEL NO.	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	YA	YB	YC	YD		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
60° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D
CA14.050	YA	YB			0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	YA			
CA14.075	YA	YB			1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	18	6.5	10.2	11
CA14.100	YA	YB			1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24				
CA14.150	YA	YB			1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
CA14.175	YA	YB			1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
CA14.200	YA	YB			1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CA14.250	YA	YB			1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB			
CA14.350	YA	YB			2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	22	10	13	14
CA14.400	YA	YB			2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CA14.475	YA	YB			2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CA14.650	YA	YB			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CA14.800	YA	YB			3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CA24.100		YB	YC		3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YC			
CA24.125		YB	YC		4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	25	12	16	17
CA24.160		YB	YC		4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 25.0 gms. Approx			
CA24.200		YB	YC		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
CA24.225		YB	YC		5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YD			
CA24.250			YC		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	27	13.2	21	22
CA24.320			YC	YD	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55				
CA24.400			YC	YD	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	Weight (Metals) = 39.0 gms. Approx			
CA24.520				YD	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28				
CA24.650				YD	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34				
CA24.800				YD	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89				

* Flow rate in US GPM @40 psi Pressure

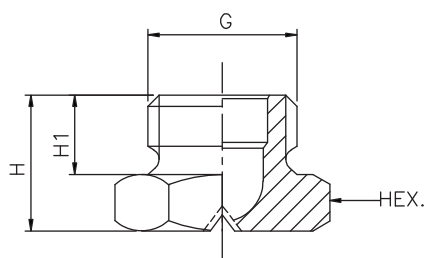
MODEL NO.	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	YA	YB	YC	YD		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
90° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
														G/A DIMENSION. MM			
														H	H1	D	HEX
CA16.050	YA	YB			0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	YA			
CA16.075	YA	YB			1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	18	6.5	10.2	11
CA16.100	YA	YB			1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	Weight (Metals) = 8.5 gms. Approx			
CA16.150	YA	YB			1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
CA16.175	YA	YB			1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	YB			
CA16.200	YA	YB			1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47	22	10	13	14
CA16.250	YA	YB			1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	Weight (Metals) = 17.5 gms. Approx			
CA16.350	YA	YB			2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83				
CA16.400	YA	YB			2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CA16.475	YA	YB			2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CA16.650	YA	YB			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CA16.800	YA	YB			3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CA26.100		YB	YC		3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YC			
CA26.125		YB	YC		4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	25	12	16	17
CA26.160		YB	YC		4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 25.0 gms. Approx			
CA26.200		YB	YC		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
CA26.225		YB	YC		5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YD			
CA26.250			YC		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	27	13.2	21	22
CA26.320			YC	YD	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	Weight (Metals) = 39.0 gms. Approx			
CA26.400			YC	YD	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44				
CA26.520				YD	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28				
CA26.650				YD	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34				
CA26.800				YD	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89				

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	YA	YB	YC		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
120° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
														G/A DIMENSION. MM			
														H	H1	D	HEX
CA18.050	YA	YB			0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12				
CA18.075	YA	YB			1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68				
CA18.100	YA	YB			1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
CA18.150	YA	YB			1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
CA18.175	YA	YB			1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
CA18.200	YA	YB			1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47	YB			
CA18.250	YA	YB			1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	22	10	13	14
CA18.350	YA	YB			2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83				
CA18.400	YA	YB			2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CA18.475	YA	YB			2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CA18.650	YA	YB			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CA18.800	YA	YB			3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CA28.100		YB	YC		3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
CA28.125		YB	YC		4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
CA28.160		YB	YC		4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	YC			
CA28.200		YB	YC		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	25	12	16	17
CA28.225		YB	YC		5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31				
CA28.250			YC		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90				
CA28.320			YC		6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55				
CA28.400			YC		7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44				

* Flow rate in US GPM @40 psi Pressure

CB Series Flat Spray Nozzles

CB



Uniform, Parabolic distribution of liquid. Compact design, suitable for confined installation conditions.

Application :

Cleaning plants, spray headers, cooling pipes.

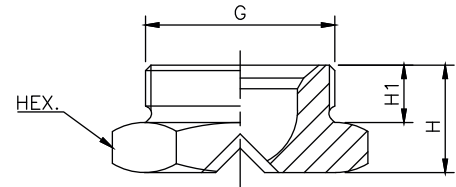
Small flow rates upon request.

MODEL NO.	END CONNECTION	Orifice Size (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XB		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
15° Spray Angle	1/4" BSPP			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	BRASS
											G/A DIMENSION. MM		
											H	H1	HEX
CB11.050	XB	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	XB		
CB11.075	XB	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	13	8	17
CB11.100	XB	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CB11.150	XB	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CB11.175	XB	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 11.0 gms. Approx		
CB11.200	XB	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CB11.250	XB	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CB11.350	XB	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CB11.400	XB	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CB11.475	XB	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CB11.650	XB	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CB11.800	XB	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CB21.100	XB	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CB21.125	XB	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CB21.160	XB	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CB21.200	XB	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			

MODEL NO.	END CONNECTION	Orifice Size (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XB		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
30° Spray Angle	1/4" BSPP			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	BRASS
											G/A DIMENSION. MM		
											H	H1	HEX
CB12.050	XB	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	XB		
CB12.075	XB	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	13	8	17
CB12.100	XB	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CB12.150	XB	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CB12.175	XB	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 11.0 gms. Approx		
CB12.200	XB	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CB12.250	XB	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CB12.350	XB	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CB12.400	XB	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CB12.475	XB	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CB12.650	XB	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CB12.800	XB	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CB22.100	XB	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CB22.125	XB	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CB22.160	XB	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CB22.200	XB	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			

* Flow rate in US GPM @40 psi Pressure

CB type nozzles deliver a flat spray with parabolic distribution pattern, which allows for obtaining an even distribution when several nozzles are assembled in a row on to a manifold. Their short body design makes it possible to use nozzle spray pipes in such machines or systems where the available space is very limited. CB nozzles are manufactured in two different capacity ranges, out of brass or 303 stainless steel and on request from a choice of additional metallic and plastic materials. Because of their limited length these nozzles can only be produced with a straight BSP thread and require some extra care when being assembled to get the proper flat alignment also note the different dimensions given in the table below

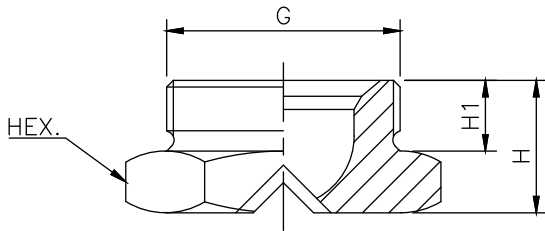


Application :

- Cooling of Roll Stock
- Water Treatment
- Cleaning Plants

MODEL NO.	END CONNECTION					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	XB	XE	XF	XG	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
45° SPRAY ANGLE	1/4" BSPP	3/4" BSPP	1" BSPP	1 1/4" BSPP	2" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
								G/A DIMENSION. MM								H	H1	HEX
CB13.050	XB					0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	XB			
CB13.075	XB					1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	13	8		
CB13.100	XB					1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	Weight (Metals)= 11.0 gms. Approx			
CB13.150	XB					1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
CB13.175	XB					1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
CB13.200	XB					1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CB13.250	XB					1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
CB13.350	XB					2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83				
CB13.400	XB					2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CB13.475	XB					2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CB13.650	XB					3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CB13.800	XB					3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CB23.100	XB					3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
CB23.125	XB					4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
CB23.160	XB					4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78				
CB23.200	XB					5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
CB23.225	XB					5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31				
CB23.250		XE				6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90				
CB23.320		XE				6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55				
CB23.400		XE				7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	XE			
CB23.520		XE	XF			8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	15	9	32	
CB23.650		XE	XF	XG		9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	Weight (Metals) = 52.0 gms. Approx			
CB23.800		XE	XF	XG		11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	XF			
CB33.100		XE	XF	XG		11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6	20	12	36	
CB33.160				XG	XK	14.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	Weight (Metals) = 115.0 gms. Approx			
CB33.175					XK	14.9	53.64	87.50	123.74	175.0	214.33	276.70	327.40	391.31	XG			
CB33.200					XK	16.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21	22	14	50	
CB33.250					XK	17.8	76.63	125.0	176.78	250.0	306.19	395.28	467.71	559.02	Weight (Metals) = 218.0 gms. Approx			
CB33.325					XK	20.3	99.62	162.5	229.81	325.0	398.04	513.87	608.02	726.72	XK			
CB33.430					XK	23.4	131.81	215.0	304.06	430.0	526.64	679.89	804.46	961.51	32	20	70	

* Flow rate in US GPM @40 psi Pressure



Characteristic

Increased, Non-clogging features. mor jet energy, Low share of fog. Headers, Equipped with these nozzles, Shows a highly uniform total distribution of liquids, Even at different installation heights and centers.

Application :

Cleaning plants spray headers, cooling pipes roll cooling of rolled products.

MODEL NO.	END CONNECTION					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE		
	XB	XE	XF	XG	XK		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3
60° SPRAY ANGLE	1/4" BSPP	3/4" BSPP	1" BSPP	1 1/4" BSPP	2" BSPP			0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
							40*psi							G/A DIMENSION. MM		
														H	H1	HEX
CB14.050	XB					0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	XB		
CB14.075	XB					1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	13	8	17
CB14.100	XB					1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87			
CB14.150	XB					1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81			
CB14.175	XB					1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27			
CB14.200	XB					1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74			
CB14.250	XB					1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68			
CB14.350	XB					2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55			
CB14.400	XB					2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48			
CB14.475	XB					2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89			
CB14.650	XB					3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16			
CB14.800	XB					3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97			
CB24.100	XB					3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71			
CB24.125	XB					4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39			
CB24.160	XB					4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93			
CB24.200	XB					5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42			
CB24.225	XB					5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09			
CB24.250	XB					6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77			
CB24.320		XE				6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87			
CB24.400		XE				7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83			
CB24.520		XE	XF			8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	XE		
CB24.650		XE	XF	XG		9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	15	9	32
CB24.800		XE	XF	XG		11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67			
CB34.100		XE	XF	XG		11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	XF		
CB34.160				XG	XK	14.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33		12	36
CB34.175					XK	14.9	53.64	87.50	123.74	175.0	214.33	276.70	327.40	XG		
CB34.200					XK	16.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	22	14	50
CB34.250					XK	17.8	76.63	125.0	176.78	250.0	306.19	395.28	467.71			
CB34.325					XK	20.3	99.62	162.5	229.81	325.0	398.04	513.87	608.02	XK		
CB34.430					XK	23.4	131.81	215.0	304.06	430.0	526.64	679.89	804.46	32	20	70

* Flow rate in US GPM @40 psi Pressure

Increased, non-clogging features, more jet energy, low share of fog. Headers, equipped with these nozzles, show a highly uniform total distribution of liquids, even at different installation heights and centers. These types of nozzles provide uniform parabolic distribution of liquid.

Application:

Cleaning plants, spray headers, cooling pipes, roll cooling, cooling of rolled products.

MODEL NO.	END CONNECTION					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XB	XE	XF	XG	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
90° SPRAY ANGLE	1/4" BSPP	3/4" BSPP	1" BSPP	1 1/4" BSPP	2" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
															G/A DIMENSION. MM		
															H	H1	HEX
CB16.050	XB					0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	XB		
CB16.075	XB					1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	13	8	17
CB16.100	XB					1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	Weight (Metals)= 11.0 gms. Approx		
CB16.150	XB					1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CB16.175	XB					1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CB16.200	XB					1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CB16.250	XB					1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CB16.350	XB					2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CB16.400	XB					2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CB16.475	XB					2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CB16.650	XB					3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CB16.800	XB					3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CB26.100	XB					3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CB26.125	XB					4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CB26.160	XB					4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CB26.200	XB					5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CB26.225	XB					5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CB26.250		XE				6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CB26.320		XE				6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	XE		
CB26.400		XE	XF			7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	15	9	32
CB26.520		XE	XF	XG		8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	Weight (Metals)= 52.0 gms. Approx		
CB26.650		XE	XF	XG		9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	XF		
CB26.800		XE	XF	XG		11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	20	12	36
CB36.100		XE	XF	XG		11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6	Weight (Metals)= 115.0 gms. Approx		
CB36.160				XG	XK	14.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	XG		
CB36.175					XK	14.9	53.64	87.50	123.74	175.0	214.33	276.70	327.40	391.31	22	14	50
CB36.200					XK	16.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21	Weight (Metals)= 218.0 gms. Approx		
CB36.250					XK	17.8	76.63	125.0	176.78	250.0	306.19	395.28	467.71	559.02	XK		
CB36.325					XK	20.3	99.62	162.5	229.81	325.0	398.04	513.87	608.02	726.72	32	20	70
CB36.430					XK	23.4	131.81	215.0	304.06	430.0	526.64	679.89	804.46	961.51	Weight (Metals)= 340.0 gms. Approx		

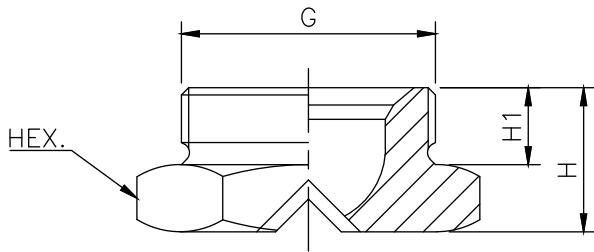
* Flow rate in US GPM @40 psi Pressure

CB Series Flat Spray Nozzles

CB



CB nozzles are manufactured in two different capacity ranges out of Brass or 303 stainless steel and in request from a choice of additional metallic and plastic material. Because of their limited length these nozzles can only be produced with a straight BSP thread also note the different dimension given in the table below.



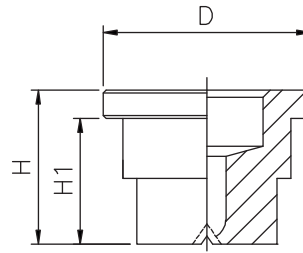
MODEL NO.	END CONNECTION					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XB	XE	XF	XG	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
120° SPRAY ANGLE	1/4" BSPP	3/4" BSPP	1" BSPP	1 1/4" BSPP	2" BSPP	40°psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																	
H H1 HEX																	
CB18.050	XB					0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	XB		
CB18.075	XB					1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	13	8	17
CB18.100	XB					1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	Weight (Metals) = 12.0 gms. Approx		
CB18.150	XB					1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CB18.175	XB					1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CB18.200	XB					1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CB18.250	XB					1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CB18.350	XB					2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CB18.400	XB					2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CB18.475	XB					2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CB18.650	XB					3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CB18.800	XB					3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CB28.100	XB					3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CB28.125	XB					4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CB28.160	XB					4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CB28.200		XE				5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CB28.225		XE				5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XE		
CB28.250		XE				6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	15	9	32
CB28.320		XE				6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	Weight (Metals) = 56.0 gms. Approx		
CB28.400		XE				7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CB28.520		XE	XF			8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	XF		
CB28.650		XE	XF	XG		9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	20	12	36
CB28.800		XE	XF	XG		11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
CB38.100		XE	XF	XG		11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6	XG		
CB38.160				XG	XK	14.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	22	14	50
CB38.175					XK	14.9	53.64	87.50	123.74	175.0	214.33	276.70	327.40	391.31			
CB38.200					XK	16.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21			
CB38.250					XK	17.8	76.63	125.0	176.78	250.0	306.19	395.28	467.71	559.02	XK		
CB38.325					XK	20.3	99.62	162.5	229.81	325.0	398.04	513.87	608.02	726.72	32	20	70
CB38.430					XK	23.4	131.81	215.0	304.06	430.0	526.64	679.89	804.46	961.51			

* Flow rate in US GPM @40 psi Pressure

CC Series Flat Spray Nozzles

CC

Versatile program offering a wide range of performance and stable jet angles, easy adjusting of jet by means of loosening the nut stable jet angles headers, equipped with these nozzles, show a highly uniform total distribution of liquids, even at different installation heights and centers universally suitable.



Application :

Jet cleaning, surface treatment, filter cleaning, band cleaning, lubricating, coating.

Flat nozzle tips are usually mounted onto a pipe by means of a welded nipple or a clamp, and secured in place with a retaining nut. Seals are available for higher pressure operation. They can be therefore easily replaced and the jet can be conveniently oriented in the desired direction.

The tip models shown in this page deliver very low flow values, the precision machined tiny orifices can be protected against the risk of plugging by means of a filter fitting inside our nipples and clamps which are designed for this purpose.

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE			
		Flow capacity in GPM	Pressure [bar]							M1/M2	M3		
15° Spray Angle										SS304/SS316	Brass		
											G/A DIMENSION. MM		
											H	H1	D
		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	11	9	14.8	
CC11.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12				
CC11.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68				
CC11.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24				
CC11.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
CC11.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
CC11.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CC11.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
CC11.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83				
CC11.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CC11.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CC11.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CC11.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CC21.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
CC21.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
CC21.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78				
CC21.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
CC21.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31				
CC21.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90				

*Flow rate in US GPM @40 psi Pressure

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
30° Spray Angle	40*psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	
										G/A DIMENSION. MM		
										H	H1	D
CC12.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	11	9	14.8
CC12.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	Weight (Metals) = 9.0 gms. Approx		
CC12.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CC12.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CC12.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CC12.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CC12.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CC12.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CC12.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CC12.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CC12.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CC12.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CC22.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CC22.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CC22.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CC22.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CC22.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CC22.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
45° Spray Angle	40*psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	
										G/A DIMENSION. MM		
										H	H1	D
CC13.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	11	9	14.8
CC13.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	Weight (Metals) = 9.0 gms. Approx		
CC13.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CC13.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CC13.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CC13.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CC13.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CC13.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CC13.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CC13.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CC13.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CC13.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CC23.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CC23.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CC23.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CC23.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CC23.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CC23.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			

*Flow rate in US GPM @40 psi Pressure

CC Series Flat Spray Nozzles

CC

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]							M1/M2	M3	
60° Spray Angle	40*psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	
										G/A DIMENSION. MM		
										H	H1	D
CC14.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	11	9	14.8
CC14.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68			
CC14.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CC14.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	Weight (Metals) = 9.0 gms. Approx		
CC14.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CC14.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CC14.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CC14.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CC14.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CC14.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CC14.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CC14.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CC24.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CC24.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CC24.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CC24.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CC24.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CC24.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			

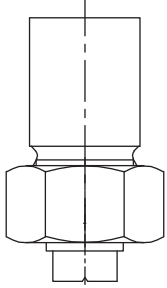
Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]							M1/M2	M3	
90° Spray Angle	40*psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	
										G/A DIMENSION. MM		
										H	H1	D
CC16.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	11	9	14.8
CC16.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68			
CC16.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	Weight (Metals) = 9.0 gms. Approx		
CC16.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CC16.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CC16.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CC16.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CC16.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CC16.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CC16.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CC16.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CC16.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CC26.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CC26.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CC26.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CC26.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CC26.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			

*Flow rate in US GPM @40 psi Pressure

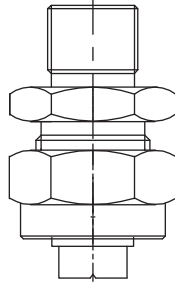
CC Series Flat Spray Nozzles

CC

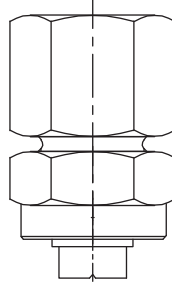
Type of Fitting Arrangements



Weldable



Threaded (M)



Threaded (F)

Typical application :

- Spray Coating
- Lubricating
- Metal Processing
- Spray Cooling
- Parts Washing

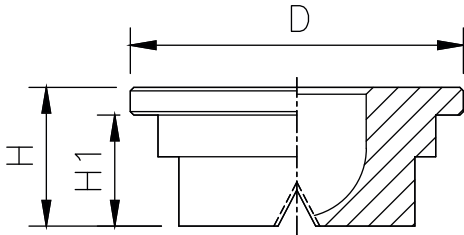


Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
120° Spray Angle	40° psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/ SS316	Brass	
			G/A DIMENSION. MM									
										H	H1	D
CC18.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	11	9	14.8
CC18.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68			
CC18.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CC18.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CC18.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CC18.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CC18.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CC18.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CC18.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CC18.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CC18.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CC18.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CC28.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CC28.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CC28.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CC28.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CC28.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			

*Flow rate in US GPM @40 psi Pressure

CD Series Flat Spray Nozzles

CD



Headers, Equipped with these nozzles, Show a highly uniform total distribution of liquids even at different installation heights and centers.

Application

Cleaning plants, Spray headers cooling pipes roll products. Connection to pipe by means of nut and nipple.

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
15° Spray Angle			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
										H	H1	D
										10	8	24
										Weight (Metals) = 12 gms. Approx		
CD11.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CD11.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CD21.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CD21.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CD21.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CD21.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CD21.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CD21.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CD21.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CD21.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CD21.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CD21.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
CD21.800	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
CD31.100	11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6			
30° SPRAY ANGLE												
CD12.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	10	8	24
CD12.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 12 gms. Approx		
CD22.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CD22.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CD22.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CD22.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CD22.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CD22.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CD22.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CD22.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CD22.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CD22.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
CD22.800	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
CD32.100	11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6			

*Flow rate in US GPM @40 psi Pressure

CD Series Flat Spray Nozzles

45° SPRAY ANGLE		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D
CD13.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	10	8	24
CD13.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 12 gms. Approx		
CD23.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CD23.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CD23.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CD23.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CD23.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CD23.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CD23.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CD23.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CD23.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CD23.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
CD23.800	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
CD33.100	11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6			
60° SPRAY ANGLE												
CD14.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	10	8	24
CD14.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 11 gms. Approx		
CD24.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CD24.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CD24.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CD24.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CD24.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CD24.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CD24.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CD24.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CD24.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CD24.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
CD24.800	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
CD34.100	11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6			
90° SPRAY ANGLE												
CD16.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	10	8	24
CD16.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 8.5 gms. Approx		
CD26.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CD26.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CD26.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CD26.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CD26.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CD26.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CD26.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CD26.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CD26.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CD26.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
CD26.800	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
CD36.100	11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6			
120° SPRAY ANGLE												
CD18.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	10	8	24
CD18.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 8.5 gms. Approx		
CD28.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CD28.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CD28.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CD28.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CD28.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CD28.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CD28.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CD28.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CD28.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CD28.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
CD28.800	11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
CD38.100	11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6			

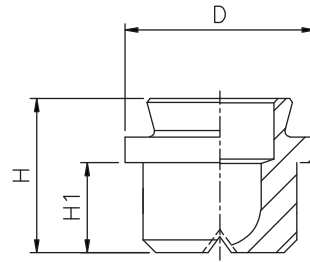
CE Series Flat Spray Nozzles - Dove Tail Type

CE

Very uniform, parabolic distribution of liquid. Rectangular distribution pattern on request. Headers, equipped with these nozzles, show a highly uniform total distribution installation heights and centers.

Application :

Cleaning plants, spray headers, cooling pipes, connection to pipe by means of screwed nut and nipple. The ideal nozzle position is always secured with the aid of the dove- tail fixing. The flat is pre-set at 5° to the tube axis.



Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE			
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3	
15° Spray Angle											SS304/SS316	Brass	
											G/A DIMENSION. MM		
											H	H1	D
		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	12	7	14.8	
CE11.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	Weight (Metals) = 8.5 gms. Approx			
CE11.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68				
CE11.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24				
CE11.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
CE11.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
CE11.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CE11.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
CE11.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83				
CE11.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CE11.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CE11.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CE11.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CE21.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
CE21.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
CE21.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78				

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE			
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3	
30° Spray Angle											SS304/SS316	Brass	
											G/A DIMENSION. MM		
											H	H1	D
		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	12	7	14.8	
CE12.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	Weight (Metals) = 8.5 gms. Approx			
CE12.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68				
CE12.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24				
CE12.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
CE12.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
CE12.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CE12.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
CE12.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83				
CE12.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
CE12.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CE12.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CE12.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CE22.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
CE22.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
CE22.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78				

*Flow rate in US GPM @40 psi Pressure

CE Series Flat Spray Nozzles - Dove Tail Type

CE

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
45° Spray Angle	40°psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM		
		H	H1	D								
										SS304/SS316	Brass	
										12	7	14.8
										Weight (Metals) = 8.5 gms. Approx		
CE13.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12			
CE13.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68			
CE13.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CE13.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CE13.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CE13.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CE13.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CE13.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CE13.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CE13.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CE13.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CE13.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CE23.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CE23.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CE23.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
60° Spray Angle	40°psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM		
		H	H1	D								
										SS304/SS316	Brass	
										12	7	14.8
										Weight (Metals) = 8.5 gms. Approx		
CE14.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12			
CE14.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68			
CE14.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CE14.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CE14.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CE14.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CE14.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CE14.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CE14.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CE14.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CE14.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CE14.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CE24.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CE24.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CE24.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			

*Flow rate in US GPM @40 psi Pressure

CE Series Flat Spray Nozzles - Dove Tail Type

CE

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
90° Spray Angle	40*psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D
										SS304/SS316	Brass	
										G/A DIMENSION. MM		
										12	7	14.8
CE16.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	Weight (Metals) = 8.5 gms. Approx		
CE16.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68			
CE16.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CE16.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CE16.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CE16.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CE16.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CE16.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CE16.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CE16.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CE16.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CE16.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CE26.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CE26.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CE26.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
120° Spray Angle	40*psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D
										SS304/SS316	Brass	
										G/A DIMENSION. MM		
										12	7	14.8
CE18.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	Weight (Metals) = 8.5 gms. Approx		
CE18.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68			
CE18.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CE18.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CE18.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CE18.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CE18.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CE18.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CE18.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CE18.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CE18.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CE18.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CE28.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CE28.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CE28.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			

*Flow rate in US GPM @40 psi Pressure

CF Series Flat Spray Nozzles - Dove Tail Type

CF



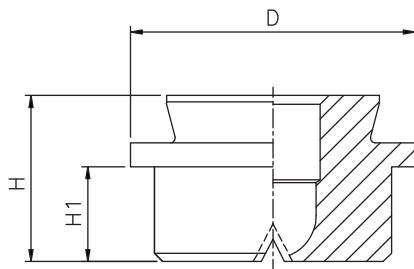
Uniform, parabolic distribution of liquid Headers, equipped with these nozzles, show a highly uniform total distribution of liquids, even at different installation heights and centers.

Application:

Cleaning plants, spray headers, cooling pipes, roll cooling, cooling of rolled products.

Note :

Connection to pipe by means of screwed nut and nipple. Nozzle position fixed by self-setting dove-tail. Flat preset at 15° to pipe axis.



Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Pressure [bar]								M1/M2	M3	
15° Spray Angle	Flow capacity in GPM									SS304/SS316	Brass	
		40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0		G/A DIMENSION. MM	
										H	H1	D
CF11.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	14	8	24
CF11.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 35.0 gms. Approx		
CF21.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CF21.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CF21.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CF21.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CF21.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CF21.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CF21.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CF21.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CF21.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CF21.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
30° SPRAY ANGLE												
CF12.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	14	8	24
CF12.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	35.0 gms. Approx		
CF22.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CF22.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CF22.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CF22.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CF22.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CF22.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CF22.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CF22.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CF22.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CF22.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			

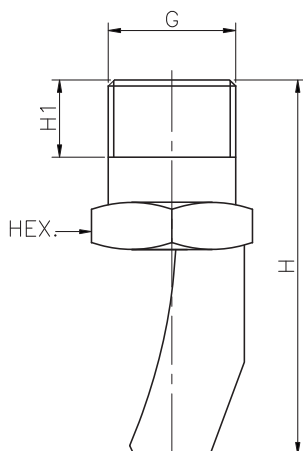
*Flow rate in US GPM @40 psi Pressure

CF Series Flat Spray Nozzles - Dove Tail Type

CF

45° SPRAY ANGLE		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D
CF13.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	14	8	24
CF13.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 35.0 gms. Approx		
CF23.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CF23.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CF23.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CF23.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CF23.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CF23.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CF23.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CF23.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CF23.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CF23.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
60° SPRAY ANGLE												
CF14.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	14	8	24
CF14.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 35.0 gms. Approx		
CF24.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CF24.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CF24.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CF24.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CF24.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CF24.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CF24.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CF24.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CF24.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CF24.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
90° SPRAY ANGLE												
CF16.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	14	8	24
CF16.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 35.0 gms. Approx		
CF26.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CF26.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CF26.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CF26.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CF26.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CF26.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CF26.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CF26.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CF26.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CF26.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			
120° SPRAY ANGLE												
CF18.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	14	8	24
CF18.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 35.0 gms. Approx		
CF28.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CF28.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
CF28.160	4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CF28.200	5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CF28.225	5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
CF28.250	6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CF28.320	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
CF28.400	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CF28.520	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CF28.650	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			

CG Series High Impact Flat Spray Nozzles



CG Flat nozzles work on the deflection principal conveying a water vein onto a deflection surface designed to produce a narrow jet with flat spray pattern, high impact value and medium size droplets. CG style nozzles shown in this page are available with a threaded connection and, for the capacity sizes shown in the table with a quick coupling connection for assembly onto the matching quick connection nipple.

How to compose the nozzle code :

The nozzle shown on this page can be supplied with same capacity and a different connection thread, the size is indicated by the second digit in the nozzle code.

Application :

Cleaning, washing decreasing and phosphating processing Powerful jet narrowly defined spray pattern. Non-clogging.

MODEL NO. A	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	YB	YC	YD	YE		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	HEX	
15° SPRAY ANGLE η 10°																		
CG11.350	YB				2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB				
CG11.650						1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	65	10	17		
CG21.100		YC			3.9	3.07	5.00	7.07	10.0	12.25	15.81	18.71	22.36	Weight (Metals) = 55.0 gms. Approx				
CG21.125		YC			4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YC				
CG21.160		YC			4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	75	10	17		
CG21.200			YD		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	Weight (Metals) = 61.0 gms. Approx				
CG21.250			YD		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	YD				
CG21.320			YD	YE	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	80	13.2	22		
CG21.400				YE	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	Weight (Metals) = 143.0 gms. Approx				
CG21.520				YE	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	YE	Weight (Metals) = 136.0 gms. Approx			
CG21.650				YE	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	102	14.5	27		

MODEL NO. A	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	YB	YC	YD	YE		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	HEX	
30° SPRAY ANGLE η 20°																		
CG12.350	YB				2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB				
CG12.650	YB				3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	45	10	17		
CG22.100		YC			3.9	3.07	5.00	7.07	10.0	12.25	15.81	18.71	22.36	Weight (Metals) = 55.0 gms. Approx				
CG22.125		YC			4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YC				
CG22.160		YC			4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	75	10	17		
CG22.200			YD		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	Weight (Metals) = 61.0 gms. Approx				
CG22.250			YD		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	YD				
CG22.320			YD	YE	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	80	13.2	22		
CG22.400				YE	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	Weight (Metals) = 143.0 gms. Approx				
CG22.520				YE	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	YE	Weight (Metals) = 136.0 gms. Approx			
CG22.650				YE	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	102	14.5	27		

*Flow rate in US GPM @40 psi Pressure

CG Series High Impact Flat Spray Nozzles

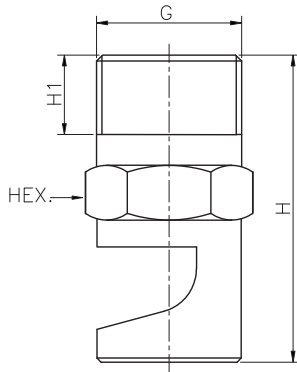
MODEL NO. 	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	YE		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
45° SPRAY ANGLE η 25°	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
														G/A DIMENSION. MM		
														H	H1	HEX
CG13.350	YB				2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB		
CG13.650	YB				3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	42	10	17
CG23.100		YC			3.9	3.07	5.00	7.07	10.0	12.25	15.81	18.71	22.36			
CG23.125		YC			4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YC		
CG23.160		YC			4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	50	10	17
CG23.200			YD		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CG23.250			YD		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	YD		
CG23.320			YD	YE	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	60	13.2	22
CG23.400				YE	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
CG23.520				YE	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	YE	Weight (Metals) = 136.0 gms. Approx	
CG23.650				YE	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	70	14.5	27

MODEL NO. 	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	YE		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
60° SPRAY ANGLE η 40°	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
														G/A DIMENSION. MM		
														H	H1	HEX
CG14.350	YB				2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB		
CG14.650	YB				3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	42	10	17
CG24.100		YC			3.9	3.07	5.00	7.07	10.0	12.25	15.81	18.71	22.36			
CG24.125		YC			4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YC		
CG24.160		YC			4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	50	10	17
CG24.200			YD		5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CG24.250			YD		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	YD		
CG24.320			YD	YE	6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	60	13.2	22
CG24.400				YE	7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	YE		
CG24.520				YE	8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	70	14.5	27
CG24.650				YE	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	Weight (Metals) = 136.0 gms. Approx		

*Flow rate in US GPM @40 psi Pressure

CH Series Flood Spray Nozzles - Flat Type

CH



CH series flat nozzles work on the deflection principal conveying a water vein onto a machined deflection surface and produce a jet with a wide angle flat spray pattern medium impact value and medium size droplets.

Wide angle flat with sharply defined spray pattern. It is available with a threaded connection for the sizes form 1/8" to 1". These type of nozzles assure a wide coverage and an even distribution.

- Characteristic : Flat nozzle work on the impact principle, with high efficiency and low plugging risks.
- Design : One Piece construction, non clogging type accurately machined to provide very high impact
- Application : Gravel washing, rinsing control of foam etc.

MODEL NO. ✶	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	YA	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT			0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
90° SPRAY ANGLE η 50°								40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM			
									H	H1	HEX								
CH16.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
CH16.150	YA						1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	22	6.5	11	
CH16.175	YA						1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 21.0 gms. Approx			
CH16.200	YA						1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CH16.250	YA	YB					1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB			
CH16.350	YA	YB					2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	30	10	14	
CH16.400	YA	YB					2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	Weight (Metals) = 51.0 gms. Approx			
CH16.475	YA	YB					2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
CH16.650	YA	YB					3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CH16.800	YA	YB					3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CH26.100	YA	YB	YC				3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YC			
CH26.125		YB	YC				4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	36	10	17	
CH26.160		YB	YC				4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 140.0 gms. Approx			
CH26.200			YC	YD			5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
CH26.250				YD			6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90				
CH26.320				YD			6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	YD			
CH26.400				YD			7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	50	13.2	22	
CH26.520					YE		8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	Weight (Metals) = 185.0 gms. Approx			
CH26.650					YE		9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	YE			
CH26.800					YE		11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	56	14.5	27	
CH36.100					YE		11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6	Weight (Metals) = 235.0 gms. Approx			
CH36.160						YF	14.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	YF			
CH36.200						YF	16.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21	72	17	46	

*Flow rate in US GPM @40 psi Pressure

CH Series Flood Spray Nozzles - Flat Type

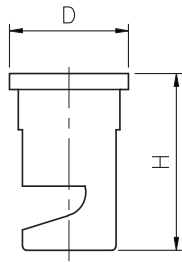
CH

MODEL NO. ✕ 140° SPRAY ANGLE η 75°	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YA	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2
	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT	0.5			1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
G/A DIMENSION. MM															H	HEX		
CH19.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA		
CH19.150	YA						1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	25	11	
CH19.175	YA						1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CH19.200	YA						1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CH19.250	YA	YB					1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB		
CH19.350	YA	YB					2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	27	14	
CH19.400	YA	YB					2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CH19.475	YA	YB					2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CH19.650	YA	YB					3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CH19.800	YA	YB					3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CH29.100	YA	YB	YC				3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YC		
CH29.125		YB	YC				4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	33	17	
CH29.160		YB	YC				4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
CH29.200			YC	YD			5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
CH29.250				YD			6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
CH29.320				YD			6.4	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	YD		
CH29.400				YD			7.8	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	50	22	
CH29.520					YE		8.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
CH29.650					YE		9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	YE		
CH29.800					YE		11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	56	27	
CH39.100					YE		11.3	30.65	50.00	70.71	100.0	122.4	158.1	187.0	223.6			
CH39.160						YF	14.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	YF		
CH39.200						YF	16.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21	72	46	
CH39.250						YF	17.8	76.63	125.00	176.00	250.0	306.19	395.28	467.71	559.02			

*Flow rate in US GPM @40 psi Pressure



CI Series Flood Spray Nozzles - Flat Tip Type



Wide angle jet with sharply defined spray pattern

Application :

Control of foam in effluent tanks, sewage treatment plants, coal treatment plants, coal washing cooling washing and rinsing operations where high jet impact flow is required.

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
90° Spray Angle											SS304/SS316	Brass
		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM		
										H	D	
CI16.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	22	14.8	
CI16.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	Weight (Metals) = 32.0 gms. Approx		
CI16.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24			
CI16.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CI16.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CI16.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CI16.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CI16.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CI16.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CI16.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CI16.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CI16.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CI26.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			

Model No.	Orifice Size (mm)	Flow Capacity in Lpm at different Pressure Values								MATERIAL CODE		
		Flow capacity in GPM	Pressure [bar]								M1/M2	M3
140° Spray Angle											SS304/SS316	Brass
		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM		
										H	D	
CI19.050	0.8	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12			
CI19.075	1.0	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68	22	14.8	
CI19.100	1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	Weight (Metals) = 32.0 gms. Approx		
CI19.150	1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			
CI19.175	1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91			
CI19.200	1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
CI19.250	1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
CI19.350	2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
CI19.400	2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
CI19.475	2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
CI19.650	3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
CI19.800	3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
CI29.100	3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
CI29.125	4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			

*Flow rate in US GPM @40 psi Pressure

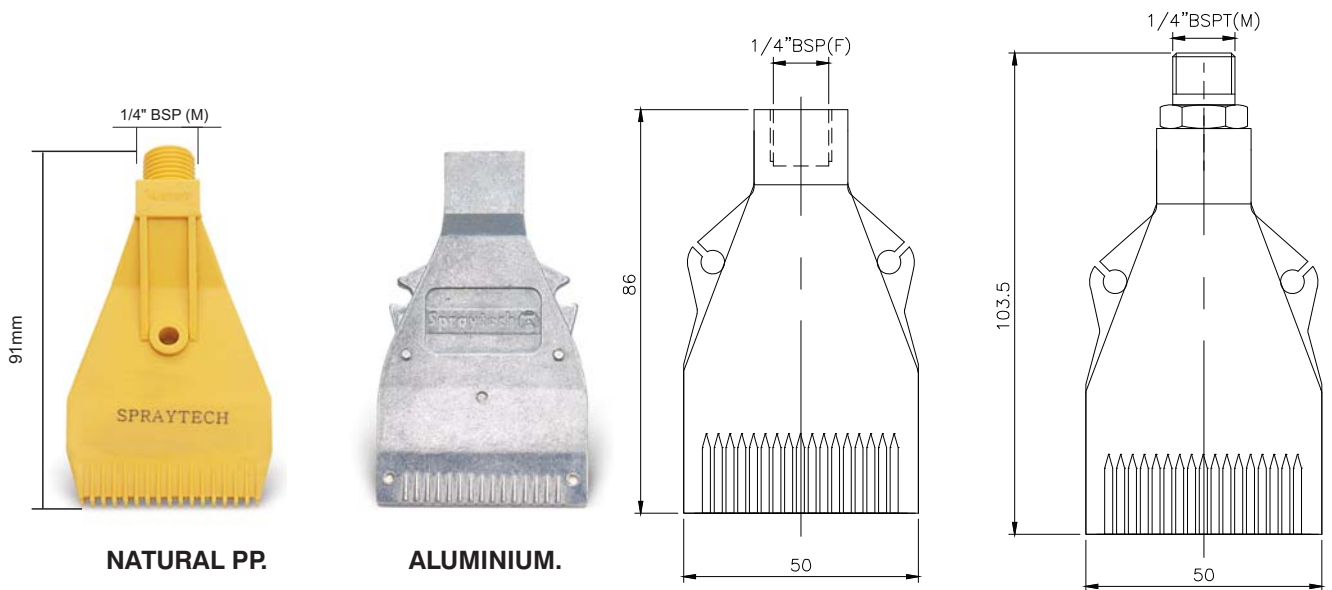
Air Knife Nozzles



CJ Series Flat Spray Nozzles For Air & Saturated Steam



Multi channel flat air spray nozzle have been specially designed for high impact of compressed air with attenuate noise, to obtain an intensive, precise blowing power to minimize cost by reducing air consumption.

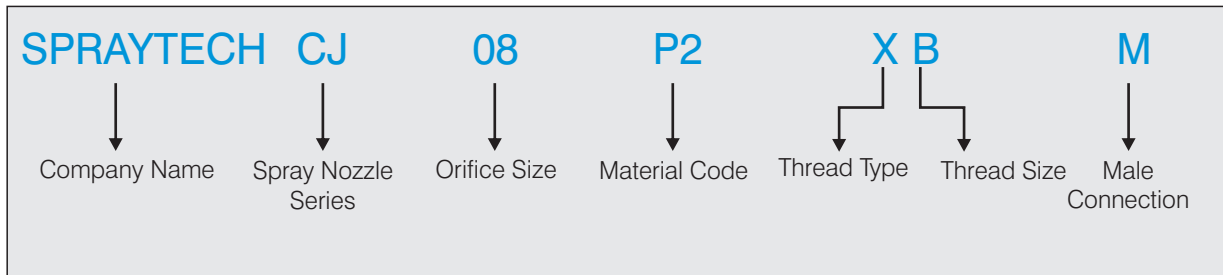


CJ Series Flat Spray Nozzles For Air & Saturated Steam

CJ

The following description will help to explain our Part Number/ Code in relation to the “SPRAYTECH” Spray Nozzle.

EXAMPLE ORDERING.



SPRAY CHARACTERISTICS

Produces a flat pattern of high impact compressed air.

FEATURES

- With its multiple orifices a volume of compressed air is converted into a high speed stream with uniform distribution and good spray pattern.
- Low noise levels which are under OSHA standard.
- Low air consumption.
- Can be mounted side by side to produce an effective air curtain.

PERFORMANCE DATA

CJ08

Flow rate in NM³/hr at Pressure (for 0.8mm Orifice)

Pressure (Bar)	1	2	3	4	5
Flow Rate (NM ³ /hr)	12	16	22	28	34.0

Sound Level (dB) at Pressure (for 0.8mm Orifice)

Pressure (Bar)	1	2	3	4	5
Sound Level (dB)	62	69	75	80	84

TYPICAL APPLICATIONS

- Cooling
- Warming
- Drying
- Cleaning, Wipping
- Moving of Parts

ORIFICE SIZE

- 08 = 0.8mm
- 10 = 1.0mm

MATERIAL

P2 = PP (Polypropylene)
M1 = SS304 / SS303
M6 = Aluminum

THREAD TYPE

- X=BSPP
- Y=BSPT
- Z=NPT

THREAD SIZE

- B=1/4"

CJ10

Flow rate in NM³/hr at Pressure (for 1.0mm Orifice)

Pressure (Bar)	1	2	3	4	5
Flow Rate (NM ³ /hr)	14	21	26	35	40

Sound Level (dB) at Pressure (for 1.0mm Orifice)

Pressure (Bar)	1	2	3	4	5
Sound Level (dB)	75	82	88	93	97

CK Series Flat Spray Nozzles For Air & Saturated Steam



Features :

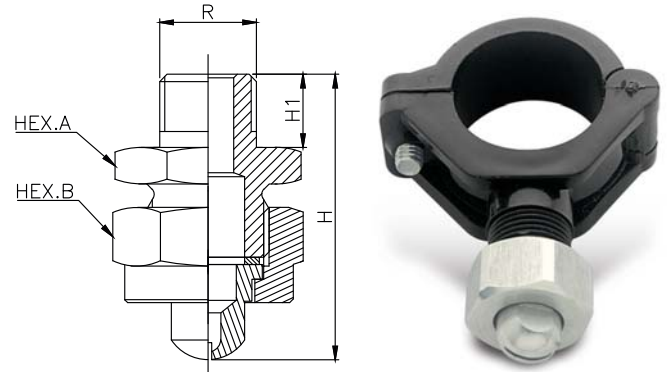
- Produce flat spray pattern in air or steam.
- Effective spray angle does not hold long since air or steam disperses very quickly.

Standard Operating Air Pressure :

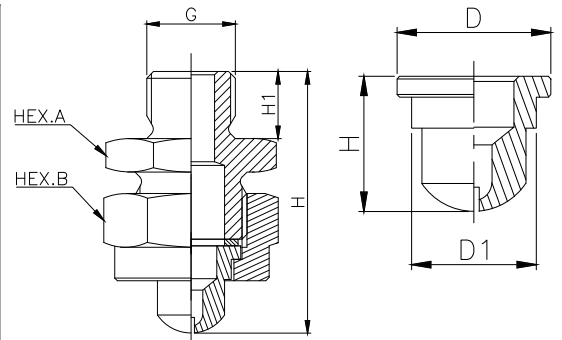
- 3 Bar

Applications :

- **Compressed air :**
Cleaning, dust suppression, drying air curtain, etc.
- **Steam :**
Humidification, temperature control, moisture control, etc.



CK - series (3-piece structure)	
Structure	<ul style="list-style-type: none"> • 3-piece structure of all metal • Comprises three parts : Spray tip, cap and adaptor, worn-out spray tip can be replaced separately. • Cap and adaptor standard flat spray nozzle for liquid.
Material	<ul style="list-style-type: none"> • B (Brass) or S.S.304 (Stainless Steel 304) • Optional material : S316



COMPLETE NOZZLE :

Series	End Connection Size of Complete Nozzle	Dimensions(mm)				Weight (g)	
		H	H1	Hex A	Hex B	Brass	S.S.304
CK	1/4 ,3/8 G(M)	39	10	22	22	47	44
	1/4 ,3/8 R(M)	41.5	10	22	22	78	73

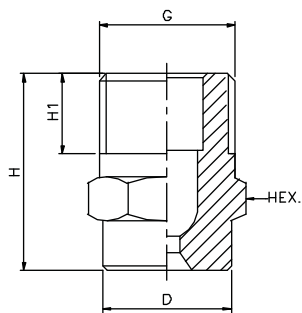
SPRAY TIP :

Series	Spray Tip	Dimensions (mm)			Weight (g)	
		H	D	D1	Brass	S.S.304
CK	1/4	13	14.8	12	5.0	4.8
	3/8	13	14.8	12	8.2	7.8

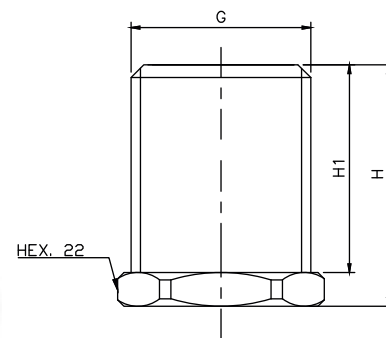
Note : Appearance and dimensions may be slightly changed depending on materials and nozzle codes.

KS Series Steam Spray Nozzles

KS



KS Series : 3/8" & 1/2"



KS1 Series : 3/4" & 1/2"

'Spraytech' make KS series steam spray nozzle offers various capacities of mass flow rate for saturated and superheated steam which is widely used for applications such as steam purging, heating, humidification, sterilization etc.

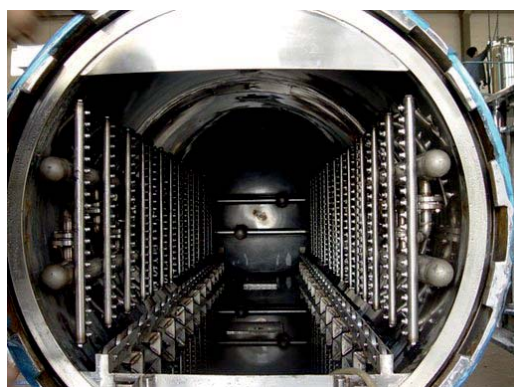
KS series are available with inbuilt NRV design which allows the nozzle to work in immersible conditions. It opens when pressure is applied and locks itself when there is no pressure.

Available in two body designs, Standard (KS) and Full Threading (KS1)

Note: Designs are available with and without NRV features, please mention while ordering.



		MASS FLOW RATE OF SAT. STREAM (kg/hr)					G/A DIMENSION MM			
		Pressure [bar]								
MODEL NO	END CONNECTION	1	2	3	4	5	H	H1	D	HEX
KS.03	3/8"	8.3	11.4	15.48	19.80	23.04	25	10	16	17
KS.04	3/8"	10.6	15.3	21.60	27.36	32.40				
KS.05	3/8"	16.4	21.6	30.96	39.60	46.44				
KS.08	KS1.08	31.8	47.71	63.61	79.51	95.42	32	13.2	21	22
KS.13	KS1.13	83.9	125.9	167.7	209.6	251.5				
	KS1.16	127.2	190.8	256.4	318.0	381.6	42	15	32	27
	KS1.18	161.0	241.5	322.0	402.5	483.0				



Straight Jet Spray Nozzle

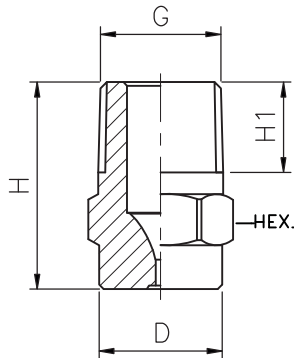


APPLICATION

- Paper cutting
- Paper slitting
- Component Washing machines
- Vehicles washing machines
- Floor washing machine

CL Series Straight Jet Spray Nozzle

CL



Compact stream jet with a defined jet length owing to optimum flow geometry. Flow conditions are not affected by turbulence. A concentrated jet with high impact force is achieved. This is used for powerful punctiform impact, wherever concentrated jet power is vital.

Characteristic : A high efficiency and economical performance is obtained.

Design : One Piece Construction.

Application : For High pressure cleaning systems, Jet Cutting and separating.

Features : Optimized flow maximum jet power concentrated energy.

MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE				
	YA	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2	
0° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
															G/A DIMENSION. MM				
															H	H1	D	HEX	
CL10.100	YA						1.1	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
CL10.150	YA						1.3	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
CL10.175	YA						1.4	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 8.0 gms. Approx			
CL10.200	YA						1.5	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
CL10.250	YA	YB					1.7	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
CL10.350	YA	YB					2.0	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB			
CL10.400		YB					2.1	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	22	10	13	14
CL10.475		YB					2.3	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	Weight (Metals) = 17.0 gms. Approx			
CL10.650		YB	YC				2.7	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
CL10.800		YB	YC				3.0	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
CL20.100		YB	YC				3.4	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YC			
CL20.125		YB	YC				3.7	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	25	12	16	17
CL20.160		YB	YC				4.2	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 23.0 gms. Approx			
CL20.200		YB	YC				4.7	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
CL20.225		YB	YC				5.0	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31				
CL20.250			YC	YD			5.3	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	YD			
CL20.320			YC	YD	YE		6.0	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	32	13.2	21	22
CL20.400			YC	YD	YE		6.7	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	Weight (Metals) = 51.0 gms. Approx			
CL20.520				YD	YE	YF	7.6	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	YE			
CL20.650				YD	YE	YF	8.5	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	42	14.5	32	27
CL20.720					YE	YF	9.0	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.00	Weight (Metals) = 70.0 gms. Approx			
CL20.800					YE	YF	9.5	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	YF			
CL30.100					YE	YF	10.6	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61				
CL30.118					YE	YF	11.5	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	56	16.8	39	36
CL30.130						YF	12.1	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	Weight (Metals) = 90.0 gms. Approx			
CL30.160						YF	13.4	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77				

• X – BSPP, Y- BSPT, Z – NPT, As Required

• *Flow rate in US GPM @40 psi Pressure

• Special Material on Request

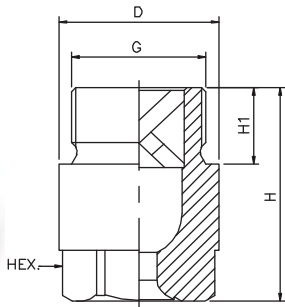
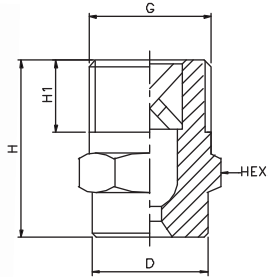
Full Cone Spray Nozzles Series



APPLICATION

- Absorption
- Chemical process engineering
- Chlorine precipitation
- Cleaning
- Cooling
- Desuperheating
- Dust control
- Fire protection
- Foam control
- Gas treatment
- Spraying onto mats in air
- Washers
- Spraying over packings
- Surface spraying
- Water treatment and many others...

DA Series Full Cone Spray Nozzles



Full Cone Spray Nozzle form complete spray coverage in a round area. It provides an uniform spray distribution of medium to large size drops resulting from their vane design which features large flow passage and control characteristics.

Characteristic : Internal vane design features large flow passage and fine control.

Design : Removable vane, Axial flow.

Type : Round pattern, Threaded connection.

MODEL NO.	CONNECTION END										ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE				
	YA	YB	YC	YD	XE	XF	XG	XH	XK									M1/M2	M3	P1/P2			
SPRAY ANGLE		1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPP	3/4" BSPP	1" BSPP	1 1/4" BSPP	1 1/2" BSPP	2" BSPP		Flow Capacity in GPM	Pressure [bar]					SS304/SS316	Brass	PVC/PP			
15°	30°										40°psi		0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	D	HEX
DA11.100	DA12.100	YA									1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
DA11.150	DA12.150	YA									1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35				
DA11.175	DA12.175	YA									1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	18	6.5	10.2	11
DA11.200	DA12.200	YA									1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
DA11.250	DA12.250	YA									1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
DA11.350	DA12.350	YA									2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB			
DA11.400	DA12.400	YA									2.5	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	YC	10	13	14
DA11.475	DA12.475	YA	YB								2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC			
DA11.650	DA12.650	YB	YB								3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	25	10	16	17
DA11.800	DA12.800	YB	YB								3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
DA21.100	DA22.100			YC							3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
DA21.125	DA22.125			YC							4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YD			
DA21.160	DA22.160				YD						4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	32	13.2	21	22
DA21.200	DA22.200				YD						5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
DA21.225	DA22.225				YD						5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XE			
DA21.250	DA22.250					XE					6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	42	15	32	27
DA21.320	DA22.320					XE					6.9	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55				
DA21.400	DA22.400					XE					7.7	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	XF			
DA21.520	DA22.520					XE	XF				8.8	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	56	17	39	36
DA21.650	DA22.650						XF				9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34				
DA21.720	DA22.720						XF				10.4	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.00				
DA21.800	DA22.800						XF	XG			11.5	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	XG			
DA31.100	DA32.100							XG			12.9	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	74	19	49	41
DA31.118	DA32.118							XG			14.0	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86				
DA31.130	DA32.130							XG	XH		14.7	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	XH			
DA31.160	DA32.160								XH		16.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	85	22	59	50
DA31.200	DA32.200								XH	XK	18.2	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	XK			
DA31.227	DA32.227									XK	19.4	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	106	24	68	60
DA31.250	DA32.250									XK	20.4	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02				
DA31.337	DA32.337									XK	23.7	103.0	168.5	238.29	337.0	412.74	532.84	630.47	753.55				

- X - BSPP, Y - BSPT, Z - NPT, As Required
- *Flow rate in US GPM @40 psi Pressure
- Special Material on Request
- DB Series Stands For Female Connction
- Flanged Connection on Request

DA Series Full Cone Spray Nozzles

DA
DB*

MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE				
	YA	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2	
45° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																			
H H1 D HEX																			
DA13.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
DA13.150	YA						1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
DA13.175	YA						1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 9.1 gms. Approx			
DA13.200	YA						1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47	YB	Weight (Metals) = 15.0 gms. Approx		
DA13.250	YA	YB					1.6	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	22	10	13	14
DA13.350		YB	YC				2.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YC	Weight (Metals) = 32.0 gms. Approx		
DA13.400		YB	YC				2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	25	10	16	17
DA13.475		YB	YC				2.6	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YD	Weight (Metals) = 64.0 gms. Approx		
DA13.650			YC	YD			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	32	13.2	21	22
DA13.800				YD			3.4	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	XE			
DA23.100				YD			3.8	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	42	15	32	27
DA23.125				YD	XE		4.2	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	Weight (Metals) = 150.0 gms. Approx			
DA23.160				YD	XE		4.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78				
DA23.200					XE		5.4	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
DA23.225						XF	5.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XF			
DA23.250						XF	6.0	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	56	17	39	36
DA23.320						XF	6.8	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	Weight (Metals) = 323.0 gms. Approx			

MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE				
	YA	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2	
60° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																			
H H1 D HEX																			
DA14.100	YA						1.1	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
DA14.150	YA						1.4	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
DA14.175	YA						1.5	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
DA14.200	YA						1.6	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
DA14.250	YA						1.8	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
DA14.350	YA	YB					2.1	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB			
DA14.400		YB	YC				2.3	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	22	10	13	14
DA14.475		YB	YC				2.5	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC			
DA14.650		YB	YC				2.9	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	25	10	16	17
DA14.800			YC				3.25	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
DA24.100			YC				3.6	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
DA24.125				YD			4.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
DA24.160				YD			4.6	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	YD			
DA24.200					XE		5.1	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	32	13.2	21	22
DA24.225					XE		5.5	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XE			
DA24.250					XE		5.8	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	42	15	32	27
DA24.320						XF	6.5	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	XF			
DA24.400						XF	7.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	56	17	39	36
DA24.520						XF	8.3	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28				

- X - BSPP, Y - BSPT, Z - NPT, As Required
- *Flow rate in US GPM @40 psi Pressure
- Special Material on Request
- DB Series Stands For Female Connection
- Flanged Connection on Request

DA Series Full Cone Spray Nozzles

DA

DB*

- DB Series Stands For Female Connection

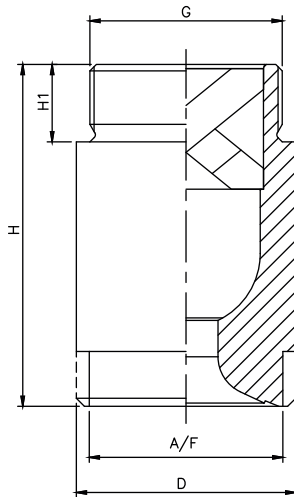
MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	YA	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
90° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
																G/A DIMENSION. MM			
																H	H1	D	HEX
DA16.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
DA16.150	YA						1.4	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
DA16.175	YA						1.5	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 9.1 gms. Approx			
DA16.200	YA						1.6	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
DA16.250	YA						1.8	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB			
DA16.350	YA		YC				2.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	22	10	13	14
DA16.400	YA	YB	YC				2.3	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	Weight (Metals) = 15.0 gms. Approx			
DA16.475		YB	YC				2.5	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC			
DA16.650		YB	YC				2.9	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	25	10	16	17
DA16.800		YB	YC				3.3	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 32.0 gms. Approx			
DA26.100			YC				3.6	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YD			
DA26.125			YC				4.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	32	13.2	21	22
DA26.160			YC	YD			4.6	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	XE			
DA26.200				YD			5.2	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	Weight (Metals) = 150.0 gms. Approx			
DA26.225				YD			5.5	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	42	15	32	27
DA26.250				YD	XE		5.8	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	Weight (Metals) = 150.0 gms. Approx			
DA26.320				YD	XE		6.5	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	XF			
DA26.400					XE		7.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	56	17	39	36
DA26.520						XF	8.3	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28				
DA26.650						XF	9.3	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34				
DA26.720						XF	9.8	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.0	Weight (Metals) = 323.0 gms. Approx			

MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	YA	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
120° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
																G/A DIMENSION. MM			
																H	H1	D	HEX
DA18.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
DA18.150	YA						1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
DA18.175	YA						1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
DA18.200	YA						1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
DA18.250	YA						1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
DA18.350	YA						2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB			
DA18.400	YA	YB	YC				2.5	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	22	10	13	14
DA18.475	YA	YB	YC				2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC			
DA18.650		YB	YC				3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	25	10	16	17
DA18.800		YB	YC				3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
DA28.100			YC				3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36				
DA28.125			YC				4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YD			
DA28.160			YC	YD			4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	32	13.2	21	22
DA28.200				YD			5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72				
DA28.225				YD			5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XE			
DA28.250				YD	XE		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	42	15	32	27
DA28.320				YD	XE		6.9	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55				
DA28.400					XE		7.7	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	XF			
DA28.520						XF	8.8	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	56	17	39	36
DA28.650						XF	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34				
DA28.720						XF	10.4	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.0				

*Flow rate in US GPM @40 psi Pressure

DA Series Full Cone Spray Nozzles (Axial Flow)

DA
DB*

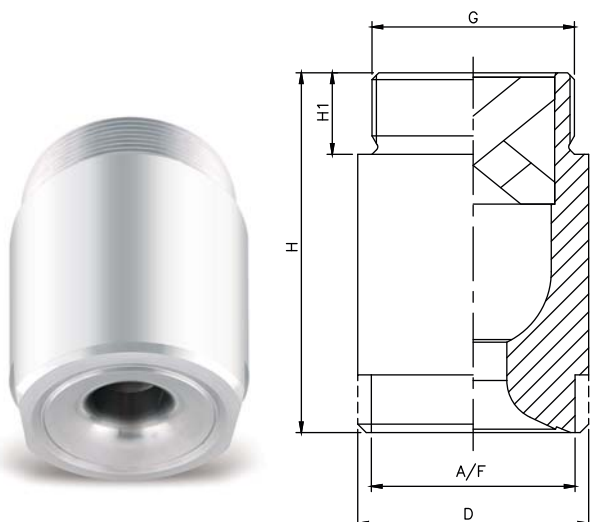


The larger spray nozzles in the D series are widely used in the industry, for a wide variety of applications. They maintain the simple design of the smaller nozzles, with the inherent resistance to clogging due to design of the X-vane, and are often manufactured out high quality alloys and special plastic materials.

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	XG	XH	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
60° SPRAY ANGLE	1 1/4" BSPP	1 1/2" BSPP	2" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
														G/A DIMENSION. MM			
														H	H1	D	A/F
DA24.650	XG			9.0	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	XG				
DA24.800	XG			10.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	74	19	49	41	
DA34.100	XG			11.20	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61					
DA34.118		XH		12.2	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	XH				
DA34.130		XH		12.8	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	85	22	59	50	
DA34.160		XH		14.2	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77					
DA34.200			XK	15.8	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21					
DA34.227			XK	16.9	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59					
DA34.250			XK	17.7	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02	XK				
DA34.337			XK	20.6	103	168.5	238.29	337.0	412.74	532.84	630.47	753.55	106	24	68	60	

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	XG	XH	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
90° SPRAY ANGLE	1 1/4" BSPP	1 1/2" BSPP	2" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
														G/A DIMENSION. MM			
														H	H1	D	A/F
DA26.650	XG			9.7	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	XG				
DA26.800	XG			10.7	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	74	19	49	41	
DA36.100	XG			12.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	Weight (Metals) = 525.0 gms. Approx				
DA36.118		XH		13.0	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	XH				
DA36.130		XH		13.7	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	85	22	59	50	
DA36.160		XH		15.20	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77					
DA36.200			XK	17.0	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	Weight (Metals) = 915.0 gms. Approx				
DA36.227			XK	18.1	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	XK				
DA36.250			XK	19.0	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02	106	24	68	60	
DA36.337			XK	22.0	103.0	168.5	238.29	337.0	412.74	532.84	630.47	753.55	Weight (Metals) = 1535.0 gms. Approx				

- X – BSPP, Y - BSPT, Z – NPT, As Required
- *Flow rate in US GPM @40 psi Pressure
- Special Material on Request
- DB Series Stands For Female Connection
- Flanged Connection on Request



- Application** : Surface spraying, Washing & Cooling of flue gasses to remove fly ash , Cooling condenser, Scrubbing, Foam breaking.
- Flow Rate** : 65 LPM to 1250 LPM
- Pressure** : 2.0 Kg/cm² or specified
- Spray Angle** : 60° to 120°
- End Connection** : 1 1/4" to 4" BSPT / NPT or BSPP
- M.O.C.** : S.S. 316, 304, Brass, PVC, PVDF, PP, Teflon[®]

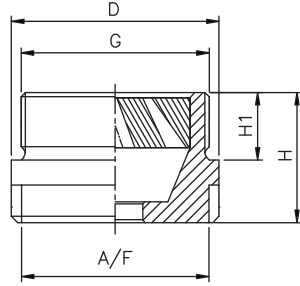
The larger spray nozzles in the DA Series are widely used in the industry, for a wide variety of applications. They maintain the simple design of the smaller nozzles, with the inherent resistance to clogging due to design of the X-vane and are often manufactured by any type of machinable material like SS304, SS316, PP/PVC etc.

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	XG	XH	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
120° SPRAY ANGLE	1 1/4" BSPP	1 1/2" BSPP	2" BSPP			0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM			
												H	H1	D	A/F	
DA28.650	XG			10.2	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	XG			
DA28.800	XG			11.4	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	74	19	49	41
DA38.100	XG			12.7	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	XH			
DA38.118		XH		13.8	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	85	22	59	50
DA38.130		XH		14.5	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69				
DA38.160		XH		16.1	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77				
DA38.200			XK	18.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21	XK			
DA38.227			XK	19.1	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	106	24	68	60
DA38.250			XK	20.1	76.63	125.0	176.78	250.0	306.19	395.19	467.71	559.02				
DA38.337			XK	23.3	103.0	168.5	238.29	337.0	412.74	532.84	630.47	753.55				

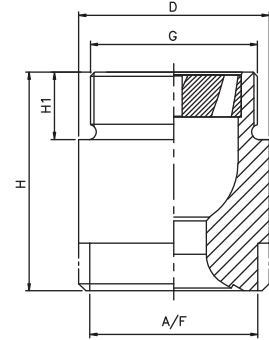
- X – BSPP, Y- BSPT, Z – NPT, As Required
- DB Series Stands For Female Connection
- *Flow rate in US GPM @40 psi Pressure
- Female / Flanged Connections on Request
- Special Material on Request

DA Series Full Cone Spray Nozzles

DA
DB*



Spray Angle 60°/ 90°



Spray Angle 90°/ 120°

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	XL	XM	XN		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
60° SPRAY ANGLE	2 1/2" BSPP	3" BSPP	3 1/2" BSPP												SS304/SS316	Brass
					40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM			
						H	H1	D	A/F							
DA34.400	XL			25.0	122.61	200	282.84	400	489.90	632.46	748.33	894.43	XL			
DA34.500	XL			28.0	153.27	250	353.55	500	612.37	790.57	935.41	1118.03	52	27	83	75
DA34.625		XM		31.3	191.58	312.5	441.94	625	765.47	988.21	1169.27	1397.54	XM			
DA34.710		XM		33.3	217.64	355	502.05	710	869.57	1122.61	1328.29	1587.61	60	30	98	85
DA34.810			XN	35.4	245.23	400	565.69	800	979.80	1264.91	1496.66	1788.85	XN			
													70	32	118	105

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	XL	XM	XN		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
90° SPRAY ANGLE	2 1/2" BSPP	3" BSPP	3 1/2" BSPP												SS304/SS316	Brass
					40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM			
						H	H1	D	A/F							
DA36.400	XL			25.0	122.61	200	282.84	400	489.90	632.46	748.33	894.43	XL			
DA36.500	XL			28.0	153.27	250	353.55	500	612.37	790.57	935.41	1118.03	52	27	83	75
DA36.625		XM		31.3	191.58	312.5	441.94	625	765.47	988.21	1169.27	1397.54	XM			
DA36.710		XM		33.3	217.64	355	502.05	710	869.57	1122.61	1328.29	1587.61	60	30	98	85
DA36.800			XN	35.4	245.23	400	565.69	800	979.80	1264.91	1496.66	1788.85	XN			
DA46.1000			XN	39.5	306.54	500	707.11	1000	1224.74	1581.14	1870.83	2236.07	70	32	118	105

MODEL NO.	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	XL	XM	XN	XO		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
120° SPRAY ANGLE	2 1/2" BSPP	3" BSPP	3 1/2" BSPP	4" BSPP											SS304/SS316	Brass	PVC/PP
						40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM			
							H	H1	D	A/F							
DA38.400	XL				25.0	122.61	200	282.84	400	489.90	632.46	748.33	894.43	XL			
DA38.500	XL				28.0	153.27	250	353.55	500	612.37	790.57	935.41	1118.03	52	27	83	75
DA38.625		XM			31.3	191.58	312.5	441.94	625	765.47	988.21	1169.27	1397.54	XM			
DA38.710		XM			33.3	217.64	355	502.05	710	869.57	1122.61	1328.29	1587.61	60	30	98	85
DA38.800			XN		35.4	245.23	400	565.69	800	979.80	1264.91	1496.66	1788.85	XN			
DA48.1000			XN		39.5	306.54	500	707.11	1000	1224.74	1581.14	1870.83	2236.07	70	32	118	105
DA48.1250				XO	44.2	383.17	625	883.88	1250	1530.93	1976.42	2338.54	2795.08	XO			
														165	36	128	110

*Flow rate in US GPM @40 psi Pressure

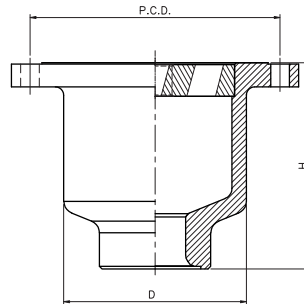
DC Series Full Cone Flanged Connection Spray Nozzles



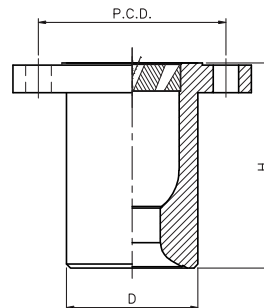
DC Type nozzles are designed to deliver large capacity value, with a carefully designed and machined inside profile, which offers uniform spray distribution and perfect performance even with very low inlet pressure values. The nozzle is made from castings or welded form steel bar.

Typical Application :

Even surface spraying, Cooling and washing of gas, column spraying as well as improvement of chemical reaction by surface enlargement



THIS DESIGN IS IN ABOVE 5" FLANGE END NOZZLE



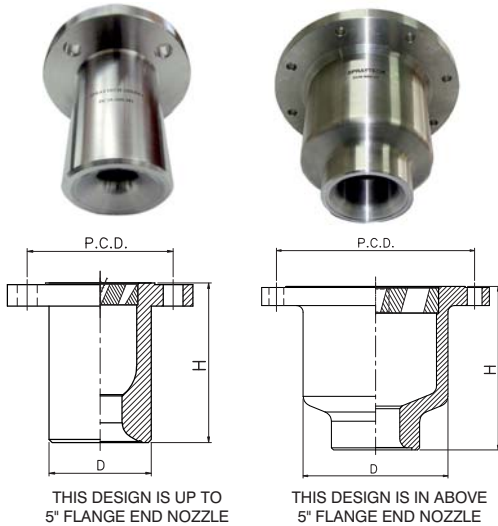
THIS DESIGN IS UP TO 5" FLANGE END NOZZLE



MODEL NO.	ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES									
		Pressure [bar]							ANSI 16.5 Flange Ø mm	PCD	H
60° SPRAY ANGLE		0.3	0.5	0.7	1.0	2.0	3.0	5.0			
DC34.800 (A)	37.0	309	400	473	565.69	800	979.80	1264.91	(3") 190.5	152.4	140
DC44.1000 (A)	41.4	387	500	591	707.11	1000	1224.74	1581.14	(3") 190.5	152.4	140
DC44.1250 (A)	46.3	484	625	739	883.88	1250	1530.93	1976.42	(4") 228.6	190.5	160
DC44.1600 (A)	52.3	619	800	946	1131.37	1600	1959.59	2529.82	(5") 254.0	215.9	177
DC44.2000 (A)	58.5	774	1000	1183	1414.21	2000	2449.49	3162.28	(5") 254.0	215.9	177
DC44.2500 (A, B)	65.4	968	1250	1479	1767.77	2500	3061.86	3952.85	(6") 279.4	241.3	190
DC44.3125 (A, B)	73.1	1210	1562	1848	2209.71	3125	3827.33	4941.06	(6") 279.4	241.3	190
DC44.4000 (B)	82.7	1549	2000	2366	2828.43	4000	4898.98	6324.56	(8") 342.9	298.4	250
DC44.5000 (B)	92.5	1936	2500	2958	3535.53	5000	6123.72	7905.69	(8") 342.9	298.4	250
DC44.6250 (B)	103.4	2420	3125	3697	4419.42	6250	7654.66	9882.12	(10")406.4	361.9	290
DC44.8000 (B)	117.0	3098	4000	4732	5656.85	8000	9797.96	12649.11	(10")406.4	361.9	290

• Flange size can be changed to higher size on request

• Special Material on Request



DC Type nozzles are designed to deliver large capacity value, with a carefully designed and machined inside profile, which offers uniform spray distribution and perfect performance even with very low inlet pressure values. The nozzle is made from castings or welded form steel bar.

Typical Application :

Even surface spraying, Cooling and washing of gas, column spraying as well as improvement of chemical reaction by surface enlargement

MODEL NO.	ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES									
		Pressure [bar]							ANSI 16.5 Flange Ø mm	PCD	H
90° SPRAY ANGLE		0.3	0.5	0.7	1.0	2.0	3.0	5.0			
DC36.800 (A)	37.0	309	400	473	565.69	800	979.80	1264.91	(3") 190.5	152.4	140
DC46.1000 (A)	41.4	387	500	591	707.11	1000	1224.74	1581.14	(3") 190.5	152.4	140
DC46.1250 (A)	46.3	484	625	739	883.88	1250	1530.93	1976.42	(4") 228.6	190.5	160
DC46.1600 (A)	52.3	619	800	946	1131.37	1600	1959.59	2529.82	(5") 254.0	215.9	177
DC46.2000 (A)	58.5	774	1000	1183	1414.21	2000	2449.49	3162.28	(5") 254.0	215.9	177
DC46.2500 (A, B)	65.4	968	1250	1479	1767.77	2500	3061.86	3952.85	(6") 279.4	241.3	190
DC46.3125 (A, B)	73.1	1210	1562	1848	2209.71	3125	3827.33	4941.06	(6") 279.4	241.3	190
DC46.4000 (B)	82.7	1549	2000	2366	2828.43	4000	4898.98	6324.56	(8") 342.9	298.4	250
DC46.5000 (B)	92.5	1936	2500	2958	3535.53	5000	6123.72	7905.69	(8") 342.9	298.4	250
DC46.6250 (B)	103.4	2420	3125	3697	4419.42	6250	7654.66	9882.12	(10") 406.4	361.9	290
DC46.8000 (B)	117.0	3098	4000	4732	5656.85	8000	9797.96	12649.11	(10") 406.4	361.9	290
DC48.10000 (B)	127.0	3872.98	3065	5000	7071.07	10000	12247.45	15811.39	(10") 406.4	361.9	290

MODEL NO.	ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES									
		Pressure [bar]							ANSI 16.5 Flange Ø mm	PCD	H
120° SPRAY ANGLE		0.3	0.5	0.7	1.0	2.0	3.0	5.0			
DC38.800 (A)	37.0	309	400	473	565.69	800	979.80	1264.91	(3") 190.5	152.4	140
DC48.1000 (A)	41.4	387	500	591	707.11	1000	1224.74	1581.14	(3") 190.5	152.4	140
DC48.1250 (A)	46.3	484	625	739	883.88	1250	1530.93	1976.42	(4") 228.6	190.5	160
DC48.1600 (A)	52.3	619	800	946	1131.37	1600	1959.59	2529.82	(5") 254.0	215.9	177
DC48.2000 (A)	58.5	774	1000	1183	1414.21	2000	2449.49	3162.28	(5") 254.0	215.9	177
DC48.2500 (A, B)	65.4	968	1250	1479	1767.77	2500	3061.86	3952.85	(6") 279.4	241.3	190
DC48.3125 (A, B)	73.1	1210	1562.5	1848	2209.71	3125	3827.33	4941.06	(6") 279.4	241.3	190
DC48.4000 (B)	82.7	1549	2000	2366	2828.43	4000	4898.98	6324.56	(8") 342.9	298.4	250
DC48.5000 (B)	92.5	1936	2500	2958	3535.53	5000	6123.72	7905.69	(8") 342.9	298.4	250
DC48.6250 (B)	103.4	2420	3125	3697	4419.42	6250	7654.66	9882.12	(10") 406.4	361.9	290
DC48.8000 (B)	117.0	3098	4000	4732	5656.85	8000	9797.96	12649.11	(10") 406.4	361.9	290
DC48.10000 (B)	127.0	3872	3065	5000	7071.07	10000	12247.45	15811.39	(10") 406.4	361.9	290

• Flange size can be changed to higher size on request

• Special Material on Request

DD Series Full Cone Spray Nozzles - Square Pattern

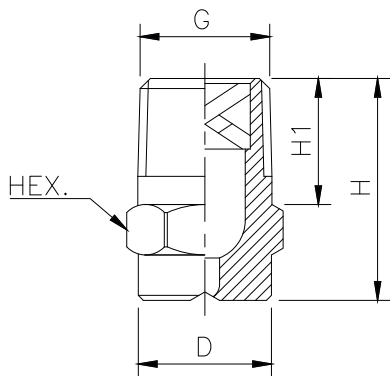


The square pattern full cone spray nozzle are used in continuous casting cooling areas. Secondary Cooling areas is of vital importance.

This nozzle gives uniform distribution of cooling water, fine sprays with narrow drop spectrums and quick removing of cooling water from the strand surface which are considered vital for obtaining a perfect steel quality.

Characteristic :

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



Typical Applications:

- Cooling and quenching
- Product washing
- Air and gas washers
- Scrubbers
- Liquor washers

MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE			
	YA	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2
60° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
								G/A DIMENSION. MM										
								H	H1	D	HEX							
DD14.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA		
DD14.150	YA						1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2
DD14.175	YA						1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 8.0 gms. Approx		
DD14.200	YA						1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47			
DD14.250	YA	YB					1.6	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB		
DD14.350		YB	YC				2.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	22	10	13.2
DD14.400		YB	YC				2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	Weight (Metals) = 15.0 gms. Approx		
DD14.475		YB	YC				2.6	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC		
DD14.650			YC	YD			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	25	10	16.2
DD14.800				YD			3.4	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 33.0 gms. Approx		
DD24.100				YD			3.8	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YD		
DD24.125				YD	XE		4.2	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	32.5	13.2	21.2
DD24.160				YD	XE		4.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 57.0 gms. Approx		
DD24.200					XE		5.4	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	XE		
DD24.225						XF	5.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	42	15	32
DD24.250						XF	6.0	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	XF		
DD24.320						XF	6.8	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	56	17	40

- X - BSPP, Y - BSPT, Z - NPT, As Required
- DE Series Stands For Female Connection

- Flow rate in US GPM @40 psi Pressure
- Special Material on Request
- Female / Flanged Connections on Request

DD Series Full Cone Spray Nozzles - Square Pattern

DD
DE*

MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE				
	YA	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2	
90° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																			
								H	H1	D	A/F								
DD16.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
DD16.150	YA						1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
DD16.175	YA						1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	Weight (Metals) = 8.0 gms. Approx			
DD16.200	YA						1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
DD16.250	YA	YB					1.6	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB			
DD16.350		YB	YC				2.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	22	10	13.2	14
DD16.400		YB	YC				2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	Weight (Metals) = 15.0 gms. Approx			
DD16.475		YB	YC				2.6	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC			
DD16.650		YB	YC	YD			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	25	10	16.2	17
DD16.800			YC	YD			3.4	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 33.0 gms. Approx			
DD26.100				YD			3.8	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YD			
DD26.125				YD	XE		4.2	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	32.5	13.2	21.2	22
DD26.160				YD	XE		4.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	XE			
DD26.200				YD	XE		5.4	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	42	15	32	27
DD26.225					XE	XF	5.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	Weight (Metals) = 57.0 gms. Approx			
DD26.250						XF	6.0	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	XF			
DD26.320						XF	6.8	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	56	17	40	36
DD26.360						XF	7.0	11.25	18.00	25.46	36.00	44.09	56.52	67.35	80.50				

MODEL NO.	CONNECTION END						ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE				
	YA	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2	
120° SPRAY ANGLE	1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																			
								H	H1	D	A/F								
DD18.100	YA						1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA			
DD18.150	YA						1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	18	6.5	10.2	11
DD18.175	YA						1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91				
DD18.200	YA						1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
DD18.250	YA	YB					1.6	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59	YB			
DD18.350		YB	YC				2.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	22	10	13.2	14
DD18.400		YB	YC				2.4	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
DD18.475		YB	YC				2.6	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC			
DD18.650		YB	YC	YD			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	25	10	16.2	17
DD18.800			YC	YD			3.4	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89				
DD28.100				YD			3.8	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YD			
DD28.125				YD	XE		4.2	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	32.5	13.2	21.2	22
DD28.160				YD	XE		4.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	XE			
DD28.200				YD	XE		5.4	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	42	15	32	27
DD28.225					XE	XF	5.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31				
DD28.250						XF	6.0	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	XF			
DD28.320						XF	6.8	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	56	17	40	36
DD28.360						XF	7.0	11.25	18.00	25.46	36.00	44.09	56.52	67.35	80.50				
DD28.420						XF	7.1	13.13	21.00	29.70	42.00	51.44	66.41	78.57	93.91				

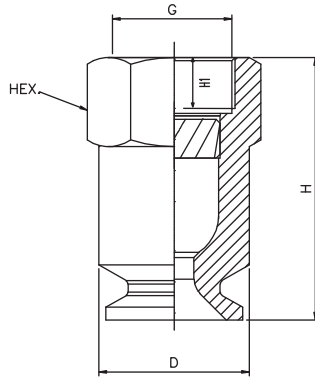
* Flow rate in US GPM @40 psi Pressure

• Special Material on Request

DD Series Full Cone Spray Nozzles - Square Pattern

DD

DE*



Typical Applications:

- Cooling and quenching
- Product washing
- Air and gas washers
- Scrubbers
- Liquor washers
- Dust control
- Fire protection

Full cone spray nozzle square spray pattern with a square impact area and uniform spray of medium to large drops across their entire spray area over a wide range of spraying pressure and flow rates. This uniform spray distribution is the result of unique vane design. Well suited for installation complete coverage of rectangular areas or spray zones

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	XG	XH	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
90° SPRAY ANGLE	1 1/4" BSP	1 1/2" BSP	2" BSP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
														G/A DIMENSION. MM			
														H	H1	D	HEX
DD26.650	XG			9.0	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	87.5	20	50	51	
DD26.800	XG			10.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	Weight (Metals) = 566 gms. Approx				
DD36.100	XG			11.2	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	103	20	59	60	
DD36.118		XH		12.2	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	Weight (Metals) = 793 gms. Approx				
DD36.130		XH		12.8	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	Weight (Metals) = 793 gms. Approx				
DD36.160		XH		14.2	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	Weight (Metals) = 793 gms. Approx				
DD36.200			XK	15.8	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	138	22	75	76	
DD36.227			XK	16.9	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	Weight (Metals) = 1370 gms. Approx				
DD36.250			XK	17.7	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02	Weight (Metals) = 1370 gms. Approx				

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	XG	XH	XK		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
120° SPRAY ANGLE	1 1/4" BSP	1 1/2" BSP	2" BSP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
														G/A DIMENSION. MM			
														H	H1	D	HEX
DD28.650	XG			9.9	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	87.5	20	50	51	
DD28.800	XG			11.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	Weight (Metals) = 566 gms. Approx				
DD38.100	XG			12.3	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	103	20	59	60	
DD38.118		XH		13.3	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	Weight (Metals) = 793 gms. Approx				
DD38.130		XH		14.0	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	Weight (Metals) = 793 gms. Approx				
DD38.160		XH		15.5	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	Weight (Metals) = 793 gms. Approx				
DD38.200			XK	17.4	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	138	22	75	76	
DD38.227			XK	18.5	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	Weight (Metals) = 1370 gms. Approx				
DD38.250			XK	19.4	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02	Weight (Metals) = 1370 gms. Approx				
DD38.337			XK	22.5	103	168.5	238.29	337.0	412.74	532.84	630.47	753.55	Weight (Metals) = 1370 gms. Approx				

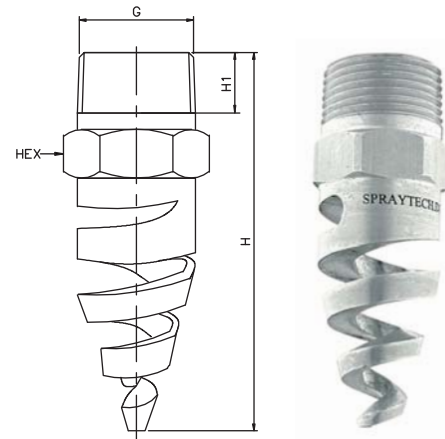
- X - BSPP, Y - BSPT, Z - NPT, As Required
- DE Series Stands For Female Connection

- Flow rate in US GPM @40 psi Pressure
- Special Material on Request
- Female / Flanged Connections on Request

DF Series Spiral Full Cone Spray Nozzles

DF

- Characteristic** : The absence of any internal parts make these nozzles non-clogging.
- Design** : One piece construction, non clogging type.
- Application** : Gas Washing, Cooling Towers , Fire Fighting Systems.
- Flow Rate** : 5 LPM TO 3410 LPM
- Pressure** : 2.0 Kg/cm² or Specified
- Spray Angle** : 60° To 180°
- End Connection** : 1/4" TO 4" BSP/ BSPT / NPT
- M.O.C.** : SS. 316, 304, BRASS, PVDF, PVC, PP, Teflon®



The helix spiral full cone nozzles combine small nozzle sizes with wide flow openings.

MODEL NO.	CONNECTION END					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
60° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
															H	H1	HEX
DF14.475	YB					2.4	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YB		
DF14.650	YB					2.8	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	39	8.5	14
DF14.800	YB					3.1	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	YB		
DF24.100	YB	YC				3.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	48	10	14
DF24.125	YB	YC				3.9	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	Weight (Metals) = 27.0 gms. Approx		
DF24.160		YC				4.4	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	YC		
DF24.200		YC				4.9	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	58	10	17
DF24.225		YC				5.2	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	Weight (Metals) = 53.7 gms. Approx		
DF24.250		YC				5.5	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
DF24.320		YC				6.2	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
DF24.400		YC				7.0	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
DF24.520		YC				7.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
DF24.650			YD			8.9	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	YD		
DF24.800			YD			9.8	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	76	13.2	22
DF34.100			YD			11.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	Weight (Metals) = 80.0 gms. Approx		
DF34.118			YD			12.0	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86			
DF34.130				YE		12.6	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	YE		
DF34.160				YE		13.9	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	86	14.5	27
DF34.200					YF	15.6	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21	Weight (Metals) = 170.0 gms. Approx		
DF34.227					YF	16.6	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	YF		
DF34.250					YF	17.4	76.63	125.0	176.78	250.0	306.19	395.19	467.71	559.02	108	16.8	36
DF34.337					YF	20.2	103.0	168.5	238.29	337.0	412.74	532.84	630.47	753.55	Weight (Metals) = 323.0 gms. Approx		

• X - BSPP, Y - BSPT, Z - NPT, As Required

• *Flow rate in US GPM @40 psi Pressure

• Special Material on Request

• Female / Flanged Connections on Request

MODEL NO.	CONNECTION END										ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE		
	YB	YC	YD	YE	YF	YH	YK	YM	YO	Flow Capacity in GPM		Pressure [bar]							M1/M2	M3	P1/P2
90° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT	1 1/2" BSPT	2" BSPT	3" BSPT	4" BSPT		40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																					
H																					
H1																					
HEX																					
DF16.475	YB									2.4	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YB		
DF16.650	YB									2.8	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	48	10	14
DF16.800	YB									3.1	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 27.0 gms. Approx		
DF26.100	YB	YC								3.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YC		
DF26.125	YB	YC								3.9	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	58	10	17
DF26.160		YC								4.4	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 53.7 gms. Approx		
DF26.200		YC								4.9	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
DF26.225		YC								5.2	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
DF26.250		YC								5.5	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
DF26.320		YC								6.2	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
DF26.400		YC								7.0	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
DF26.520		YC								7.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
DF26.650			YD							8.9	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	YD		
DF26.800			YD							9.8	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	76	13.2	22
DF36.100			YD							11.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	Weight (Metals) = 80.0 gms. Approx		
DF36.118			YD							12.0	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86			
DF36.130				YE						12.6	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	YE		
DF36.160				YE						13.9	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	86	14.5	27
DF36.200					YF					15.6	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	Weight (Metals) = 170.0 gms. Approx		
DF36.227					YF					16.6	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59			
DF36.250					YF					17.4	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02	YF		
DF36.337					YF					20.2	103.00	168.5	238.29	337.0	412.74	532.84	630.47	753.55	108	16.8	36
DF36.400						YH				22.0	122.61	200	282.84	400.0	489.90	632.46	748.33	894.43	Weight (Metals) = 323.0 gms. Approx		
DF36.500						YH				24.6	153.27	250	353.55	500.0	612.37	790.57	935.41	1118.03	YH		
DF36.625						YH				27.5	191.58	312.5	441.94	625.0	765.47	988.21	1169.27	1397.54	138	19.1	51
DF36.710							YK			29.3	217.64	355	502.05	710.0	869.57	1122.61	1328.29	1587.61	Weight (Metals) = 634.0 gms. Approx		
DF36.800							YK			31.1	245.23	400	565.69	800.0	979.80	1264.91	1496.66	1788.85	YK		
DF46.1000							YK			34.8	306.54	500	707.11	1000	1224.74	1581.14	1870.83	2236.07	148	23.4	64
DF46.1250							YK			38.9	383.17	625	883.88	1250	1530.93	1976.42	2338.54	2795.08			
DF46.1600								YM		44.0	490.46	800	1131	1600	1959.59	2529.82	2993.33	3577.71			
DF46.2000								YM		49.2	613.07	1000	1414	2000	2449.49	3162.28	3741.66	4472.14	YM		
DF46.2500								YM		55.1	766.34	1250	1767	2500	3061.86	3952.85	4677.07	5590.17	216	29.8	89
DF46.3125								YO		61.6	957.92	1562.5	2209	3125	3827.33	4941.06	5846.34	6987.71			

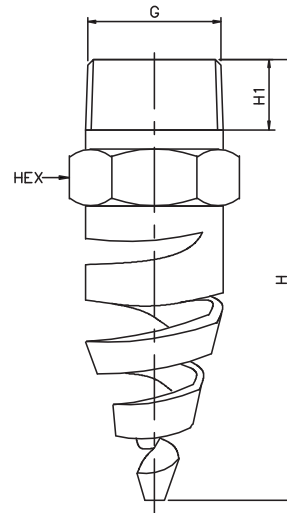
MODEL NO.	CONNECTION END										ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE		
	YB	YC	YD	YE	YF	YH	YK	YM	YO	Flow Capacity in GPM		Pressure [bar]							M1/M2	M3	P1/P2
120° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT	1 1/2" BSPT	2" BSPT	3" BSPT	4" BSPT		40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																					
H																					
H1																					
HEX																					
DF18.475	YB									2.4	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YB		
DF18.650	YB									2.8	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	39	8.5	14
DF18.800	YB									3.1	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
DF28.100	YB	YC								3.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YB		
DF28.125	YB	YC								3.9	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	45	10	14
DF28.160		YC								4.4	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
DF28.200		YC								4.9	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
DF28.225		YC								5.2	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YC		
DF28.250		YC								5.5	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	58	10	17
DF28.320		YC								6.2	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
DF28.400		YC								7.0	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
DF28.520		YC								7.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
DF28.650			YD							8.9	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	YD		
DF28.800			YD							9.8	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	76	13.2	22
DF38.100			YD							11.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	Weight (Metals) = 80.0 gms. Approx		
DF38.118			YD							12.0	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86			
DF38.130				YE						12.6	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	YE		
DF38.160				YE						13.9	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	86	14.5	27
DF38.200					YF					15.6	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	Weight (Metals) = 170.0 gms. Approx		
DF38.227					YF					16.6	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	YF		
DF38.250					YF					17.4	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02	108	16.8	36
DF38.337					YF					20.2	103.00	168.5	238.29	337.0	412.74	532.84	630.47	753.55			
DF38.400						YH				22.0	122.61	200	282.84	400.0	489.90	632.46	748.33	894.43	YH		
DF38.500						YH				24.6	153.27	250	353.55	500.0	612.37	790.57	935.41	1118.03	138	19.1	51
DF38.625						YH				27.5	191.58	312.5	441.94	625.0	765.47	988.21	1169.27	1397.54			
DF38.710							YK			29.3	217.64	355	502.05	710.0	869.57	1122.61	1328.29	1587.61	YK		
DF38.800							YK			31.1	245.23	400	565.69	800.0	979.80	1264.91	1496.66	1788.85	148	23.4	64
DF48.1000							YK			34.8	306.54	500	707.11	1000	1224.74	1581.14	1870.83	2236.07			
DF48.1250							YK			38.9	383.17	625	883.88	1250	1530.93	1976.42	2338.54	2795.08			
DF48.1600								YM		44.0	490.46	800	1131	1600	1959.59	2529.82	2993.33	3577.71			
DF48.2000								YM		49.2	613.07	1000	1414	2000	2449.49	3162.28	3741.66	4472.14	YM		
DF48.2500								YM		55.1	766.34	1250	1767	2500	3061.86	3952.85	4677.07	5590.17			
DF48.3125								YO		61.6	957.92	1562.5	2209	3125	3827.33	4941.06	5846.34	6987.71	232	35.8	114

- X - BSPP, Y - BSPT, Z - NPT, As Required
- Special Material on Request
- *Flow rate in US GPM @40 psi Pressure
- Female / Flanged Connections on Request

DF Series Spiral Full Cone Spray Nozzles

DF

- Characteristic** : Absence of any internal parts make these nozzles non-clogging.
- Design** : One piece construction, non clogging type.
- Application** : Gas Scrubbing, Washing, Cooling Towers , Fire Fighting Systems.
- Flow Rate** : 5 LPM TO 3410 LPM
- Pressure** : 2.0 Kg/cm² or Specified
- Spray Angle** : 60° To 180°
- End Connection** : 1/4" TO 4" BSP/ BSPT / NPT
- M.O.C.** : SS. 316, 304, BRASS, PVDF, PVC, PP, Teflon®

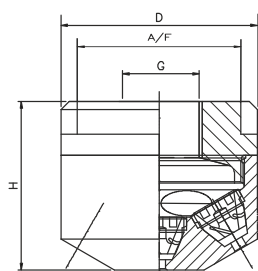
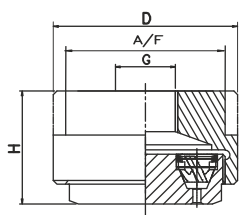


MODEL NO.	CONNECTION END							ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES							MATERIAL CODE			
	YB	YC	YD	YE	YF	YH	YK		Flow Capacity in GPM	Pressure [bar]						M1/M2	M3	P1/P2	
	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT	1 1/2" BSPT	2" BSPT			0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																			
180° SPRAY ANGLE									40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	H	H1	HEX
DF19.475	YB							2.4	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YB		
DF19.650	YB							2.8	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	39	8.5	14
DF19.800	YB							3.1	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
DF29.100	YB	YC						3.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	YB		
DF29.125	YB	YC						3.9	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	45	10	14
DF29.160		YC						4.4	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
DF29.200		YC						4.9	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
DF29.225		YC						5.2	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YC		
DF29.250		YC						5.5	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	58	10	17
DF29.320		YC						6.2	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
DF29.400		YC						7.0	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
DF29.520		YC						7.9	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
DF29.650			YD					8.9	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	YD		
DF29.800			YD					9.8	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	76	13.2	22
DF39.100			YD					11.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61			
DF39.118			YD					12.0	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86			
DF39.130				YE				12.6	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	YE		
DF39.160				YE				13.9	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	86	14.5	27
DF39.200					YF			15.6	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21			
DF39.227					YF			16.6	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59			
DF39.250					YF			17.4	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02			
DF39.337					YF			20.2	103.00	168.5	238.29	337.0	412.74	532.84	630.47	753.55			
DF39.400						YH		22.0	122.61	200	282.84	400.0	489.90	632.46	748.33	894.43	YH		
DF39.500						YH		24.6	153.27	250	353.55	500.0	612.37	790.57	935.41	1118.03	138	19.1	51
DF39.625						YH		27.5	191.58	312.5	441.94	625.0	765.47	988.21	1169.27	1397.54			
DF39.710							YK	29.3	217.64	355	502.05	710.0	869.57	1122.61	1328.29	1587.61	YK		
DF39.800							YK	31.1	245.23	400	565.69	800.0	979.80	1264.91	1496.66	1788.85	148	23.4	64
DF49.1000							YK	34.8	306.54	500	707.11	1000	1224.74	1581.14	1870.83	2236.07			
DF49.1250							YK	38.9	383.17	625	883.88	1250	1530.93	1976.42	2338.54	2795.08			

*Flow rate in US GPM @40 psi Pressure

DG Series Multiple Full Cone Spray Nozzles

DG



Multiple spray nozzles, consisting of seven fine atomizing hollow cone nozzles, provide a fog-like full cone pattern with relatively high flow volumes. The overlapping hollow cone nozzles produce a 130° full cone spray pattern of very fine droplets that cannot be achieved by a single orifice spray nozzle of the same flow rate size. The resulting increased droplet surface area of the atomized liquid provides greater efficiency in gas treatment and cooling application ideal for reaction towers which do not use packing.

Characteristic :

This type of nozzle gives fine atomization with the aid of several hollow cones spraying into one another.

Applications :

- Cooling Of Gaseous And Solid Material
- In Desuperheaters
- Chlorine Precipitation
- For Improving The Chemical Reaction By Means Of Enlarging the Contact Surface

MODEL NO.	CONNECTION END		ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XD	XE		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
75° SPRAY ANGLE	1/2" BSP	3/4" BSP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
				H	D	A/F								
DG15.800	XD		2.2	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	XD		
DG25.100	XD		2.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	30	50	46
DG25.125	XD		2.8	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	Weight (Metals) = 216.0 gms. Approx		
DG25.160		XE	3.2	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
DG25.200		XE	3.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	XE		
DG25.225		XE	3.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	46	75	65
DG25.250		XE	4.0	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	Weight (Metals) = 716.0 gms. Approx		
DG25.320		XE	4.5	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
DG25.400		XE	5.0	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
DG25.520		XE	5.7	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			

MODEL NO.	CONNECTION END		ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XD	XE		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
130° SPRAY ANGLE	1/2" BSP	3/4" BSP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
				H	D	A/F								
DG19.800	XD		2.0	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
DG29.100	XD		2.2	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	38	40	30
DG29.125	XD		2.5	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
DG29.160		XE	2.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
DG29.200		XE	3.2	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
DG29.225		XE	3.4	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	51.5	60	50
DG29.250		XE	3.5	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
DG29.320		XE	4.0	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
DG29.400		XE	4.5	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
DG29.520		XE	5.1	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
DG29.650		XE	5.7	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34			

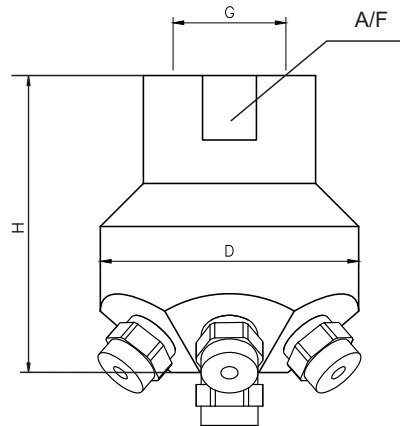
- X - BSPP, Y - BSPT, Z - NPT, As Required
- *Flow rate in US GPM @40 psi Pressure
- Special Material on Request

DH Series Multiple Full Cone Spray Nozzles

DH

Application :

- Gas Scrubbing
- Gas Cooling
- Dust Control
- Tank Rinsing
- Humidifying Applications



Multiple Full Cone Nozzles

The nozzle assembly consists of a nozzle body and seven removable atomizing spray caps. Each cap has an internal core which is easily removed for cleaning or replacement. The nozzle provides large flow capacities with relatively small drops.

Characteristic :

With the aid of multiple fine full cone nozzles it gives large full cone with small droplets.

MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	XE	XF	XH		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
130° SPRAY ANGLE	3/4" BSPP	1" BSPP	1 1/2" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
						G/A DIMENSION. MM								H	D	A/F
DH29.125	XE			2.5	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
DH29.160	XE			2.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	XE			
DH29.200	XE			3.2	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	44	60	55	
DH29.225	XE			3.4	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31				
DH29.250	XE			3.5	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90				
DH29.320	XE			4.0	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55				
DH29.400	XE			4.5	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44				
DH29.520	XE			5.1	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28				
DH29.650	XE			5.7	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34				
DH29.800		XF		6.3	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	XF			
DH39.100		XF		7.1	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	50	60	55	
DH39.118		XF		7.7	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	Weight (Metals) = 922.0 gms. Approx			
DH39.130		XF	XH	8.1	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69				
DH39.160			XH	8.9	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	XH			
DH39.200			XH	10.0	61.31	100.0	141.42	200.0	244.95	316.23	374.17	447.21	65	90	85	
DH39.227			XH	10.7	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59				

• X - BSPP, Y - BSPT, Z - NPT, As Required

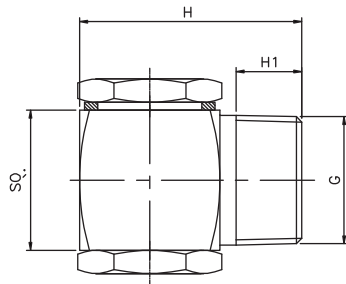
• *Flow rate in US GPM @40 psi Pressure

• Special Material on Request

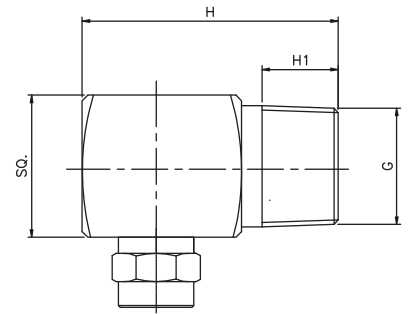
DI Series Tangential Entry Vaneless Full Cone Spray Nozzles



ONE PIECE BODY
VANE LESS FULL CONE (TANGENTIAL ENTRY)



TWO PIECE BODY
TANGENTIAL ENTRY FULL CONE



Typical Applications :

Washing and cleaning cooling of gas or solid product surface spraying Improvement of chemical reactions.

MODEL NO.	CONNECTION END					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
60° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
G/A DIMENSION. MM																	
	H	H1	SQ														
DI14.350	YB	YC				2.6	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB		
DI14.400	YB	YC				2.9	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	35	10	16
DI14.475		YC				3.2	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	Weight (Metals) = 72.0 gms. Approx		
DI14.650		YC				3.5	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
90° SPRAY NOZZLE																	
DI16.350	YB					2.6	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB	10	20
DI16.400	YB					2.9	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
DI16.475		YC				3.2	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
DI16.650		YC				3.5	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
DI16.800		YC				3.6	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	YC	10	20
DI26.100		YC				4.3	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
DI26.125		YC				5.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	35	10	20
DI26.160		YC				5.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	Weight (Metals) = 108.0 gms. Approx		
DI26.200			YD			6.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	YD		
DI26.225			YD			7.3	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	45	13.2	25
DI26.250			YD			9.6	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	Weight (Metals) = 135.0 gms. Approx		
DI26.320				XE		11.5	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	XE		
DI26.400					XF	8.5	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	57	16	30
DI26.520					XF	10.5	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	Weight (Metals) = 630.0 gms. Approx		
120° SPRAY NOZZLE																	
DI18.350	YB					2.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
DI18.400	YB					2.2	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
DI18.475		YC				2.9	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			
DI18.650		YC				3.5	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53			
DI18.800		YC				3.6	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			
DI28.100		YC				4.3	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
DI28.125		YC				5.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
DI28.160		YC	YD			5.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
DI28.200			YD			6.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72			
DI28.225			YD			7.3	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			
DI28.250			YD			9.6	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90			
DI28.320				XE		11.5	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
DI28.400					XF	8.5	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
DI28.520					XF	10.5	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	XF		
DI28.650					XF	11.7	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34	57	18	36
DI28.720					XF	12.4	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.0			
DI28.800					XF	13.0	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			

- X - BSPP, Y - BSPT, Z - NPT, As Required
- DJ Series Stands For Female Connection

- *Flow rate in US GPM @40 psi Pressure
- Special Material on Request

DK Series Narrow Angle Full Cone Spray Nozzles



ONE PIECE BODY
3/4" TO 3" BSPT / NPT



TWO PIECE BODY (F)
1/8" TO 3/4" BSPT / NPT



TWO PIECE BODY (M)
1/8" TO 3/4" BSPT / NPT

These nozzles produce a solid cone spray with round spray pattern where coarse water drops are concentrated within a narrow spray angle to maximise their impact force per square surface unit spray angle values of 15° or 30° are available with a choice of male or female thread connection.

MODEL NO.		CONNECTION END										ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
		YA	YB	YC	YD	XE	XF	XG	XH	XK	Flow Capacity in GPM		Pressure [bar]							M1/M2	M3	P1/P2		
SPRAY ANGLE		1/8" BSPT	1/4" BSPT	3/8" BSPT	1/2" BSPP	3/4" BSPP	1" BSPP	1 1/4" BSPP	1 1/2" BSPP	2" BSPP		40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP		
15°	30°											G/A DIMENSION. MM												
												H	H1	D	HEX									
DK11.100	DK12.100	YA									1.2	0.31	0.50	0.71	1.00	1.22	1.58	1.87	2.24	YA				
DK11.150	DK12.150	YA									1.5	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35					
DK11.175	DK12.175	YA									1.6	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91	32.5	6.5	11.2	12/14	
DK11.200	DK12.200	YA									1.7	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47					
DK11.250	DK12.250	YA									1.9	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59					
DK11.350	DK12.350	YA									2.3	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83	YB				
DK11.400	DK12.400	YA									2.5	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94	39	10	16.2	17	
DK11.475	DK12.475	YA	YB								2.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC				
DK11.650	DK12.650	YB	YB								3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	47	10	21.2	22	
DK11.800	DK12.800	YB	YB								3.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89					
DK21.100	DK22.100	YB	YC								3.9	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36					
DK21.125	DK22.125		YC								4.3	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95	YD				
DK21.160	DK22.160		YC	YD							4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	70	13.2	26.2	27	
DK21.200	DK22.200			YD							5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72					
DK21.225	DK22.225			YD							5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XE				
DK21.250	DK22.250			YD	XE						6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	66	16	28	24	
DK21.320	DK22.320				XE						6.9	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55					
DK21.400	DK22.400				XE						7.7	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	XF				
DK21.520	DK22.520				XE	XF					8.8	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	92	18	34	30	
DK21.650	DK22.650					XF					9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34					
DK21.720	DK22.720					XF					10.4	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.00					
DK21.800	DK22.800					XF	XG				11.5	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	XG				
DK31.100	DK32.100						XG				12.9	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	120	20	44	38	
DK31.118	DK32.118						XG				14.0	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86					
DK31.130	DK32.130						XG	XH			14.7	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	XH				
DK31.160	DK32.160							XH			16.3	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77	85	22	59	50	
DK31.200	DK32.200							XH	XK		18.2	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	XK				
DK31.227	DK32.227								XK		19.4	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59					
DK31.250	DK32.250								XK		20.4	76.63	125	176.78	250.0	306.19	395.19	467.71	559.02					
DK31.337	DK32.337								XK		23.7	103.0	168.5	238.29	337.0	412.74	532.84	630.47	753.55					

- X - BSPP, Y - BSPT, Z - NPT, As Required
- DL Series Stands For Female Connection

- *Flow rate in US GPM @40 psi Pressure
- Special Material on Request

Full Cone Spray Nozzles *



Applications : Very uniform spray pattern.

Surface spraying, spraying over packings, cleaning and washing process, chemical process engineering, cooling of gaseous fluids and solids, water treatment.

*** Customized Spray Nozzle**

MODEL NO.	END CONNECTION			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	YD	XE	XF		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
45° SPRAY ANGLE	1/2" BSPT	3/4" BSPP	1" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
						G/A DIMENSION. MM								H	H1	D	HEX
DM13.650	YD			3.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	32	13	21	22	
DM13.800	YD			3.4	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	XE				
DM23.100	YD			3.8	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	42	15	32	27	
DM23.125	YD	XE		4.2	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95					
DM23.160	YD	XE		4.8	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78					
DM23.200		XE		5.4	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72					
DM23.225			XF	5.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XF				
DM23.250			XF	6.0	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	56	18	39	36	
DM23.320			XF	6.8	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55					
60° SPRAY ANGLE																	
DM24.125	YD			4.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95					
DM24.160	YD			4.6	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	YD				
DM24.200	YD	XE		5.1	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72	32	13	21	22	
DM24.225		XE		5.5	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XE				
DM24.250		XE		5.8	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	42	15	32	27	
DM24.320		XE	XF	6.5	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55	XF				
DM24.400			XF	7.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	56	18	39	36	
DM24.520			XF	8.3	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28					
90° SPRAY ANGLE																	
DM26.225	YD			5.5	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31					
DM26.250	YD			5.8	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	42	15	32	27	
DM26.320	YD			6.5	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55					
DM26.400	YD	XE		7.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	XF				
DM26.520	YD	XE	XF	8.3	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	56	18	39	36	
DM26.650		XE	XF	9.3	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34					
DM26.720			XF	9.8	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.0					
120° SPRAY ANGLE																	
DM28.160	YD			4.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	32	13	21	22	
DM28.200	YD			5.5	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72					
DM28.225	YD			5.8	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	XE				
DM28.250	YD	XE		6.1	7.66	12.50	17.68	25.00	30.62	39.53	46.77	55.90	42	15	32	27	
DM28.320	YD	XE		6.9	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55					
DM28.400	YD	XE		7.7	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44	XF				
DM28.520			XF	8.8	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	56	18	39	36	
DM28.650			XF	9.9	19.92	32.50	45.96	65.00	79.61	102.77	121.60	145.34					
DM28.720			XF	10.4	22.07	36.00	50.91	72.00	88.18	113.8	134.7	161.0					

• X - BSPP, Y - BSPT, Z - NPT, As Required

• *Flow rate in US GPM @40 psi Pressure

• DN Series For Female Connection



Hollow Cone Spray Nozzles Series

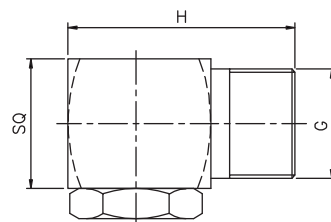
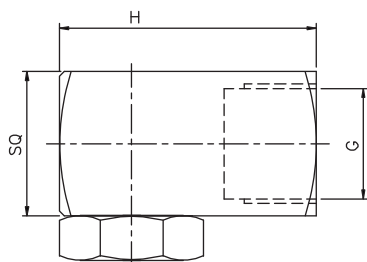


HOLLOW CONE

APPLICATION

- Absorption
- Chemical process engineering
- Cooling
- Disinfection
- Desuperheating
- Dust control
- Fire protection
- Foam destruction
- Gas treatment
- Humidification of air
- Humidification of goods
- Humidification of textiles
- Oil spraying
- Protection of storage tanks
- Spraying onto filters
- Spraying over germinating boxes
- Water recooling
- and many others...

BA Series Hollow Cone Spray Nozzles



Tangential Entry Hollow Cone Standard Angle Spray Nozzles (Non-Clogging) :

Hollow cone spray nozzles work on the tangential flow principle and are manufactured by machine tool operation from metal bar stock. This offers versatile construction of small sized nozzles. In addition nozzles can be made on request from any special material and alloys that are available as a bar stock. This flow pattern is essentially a circular ring of liquid. Hollow cone nozzles are best for application requiring good atomization of liquids at lower pressures or where quick heat transfer is needed. These nozzles also feature large and unobstructed flow passage which provide a relatively high resistance to clogging.

There are Following types of hollow cone nozzles.

- 1) Tangential Entry
- 2) Inline (Axial) Entry
- 3) Spiral Hollow cone.

Characteristic : High resistance to clogging

Design : Vaneless (Two Piece Construction) Non clogging

Application : Cooling & Washing of gas

MODEL NO.	END CONNECTION (G)					Inlet Dia. Nom. (mm)	orifice Dia. nom. (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YA	YB	YC	YD	YE			Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
60° SPRAY ANGLE	1/8"BSPT	1/4"BSPT	3/8"BSPT	1/2"BSPT	3/4"BSPT				40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
BA14.050	YA					1.1	1.2	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12	H	SQ	
BA14.075	YA	YB				1.3	1.4	0.23	0.375	0.53	0.75	0.92	1.19	1.40	1.68	YA		
BA14.100	YA	YB				1.6	1.7	0.31	0.5	0.71	1.00	1.22	1.58	1.87	2.24	25.5	16	
BA14.150	YA	YB				1.9	2.1	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	YB		
BA14.175	YA	YB				2.0	2.3	0.54	0.875	1.24	1.75	2.14	2.77	3.27	3.91	35	20	
BA14.200	YA	YB				2.2	2.4	0.61	1.0	1.41	2.00	2.45	3.16	3.74	4.47	Weight (Metals) = 62.0 gms. Approx		
BA14.250	YA	YB				2.5	2.7	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59			
BA14.350	YA	YB	YC			2.9	3.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83			
BA14.400	YA	YB	YC			3.1	3.5	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			
BA14.475	YA	YB	YC			3.4	3.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62	YC		
BA14.650	YA	YB	YC			4.0	4.4	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	35	20	
BA14.800		YB	YC			4.4	4.9	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	Weight (Metals) = 77.0 gms. Approx		
BA24.100		YB	YC			4.9	5.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
BA24.125			YC			5.5	6.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
BA24.160			YC	YD		6.2	6.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
BA24.200			YC	YD		6.9	7.7	6.13	10.0	14.14	20.00	24.49	31.62	37.42	44.72	YD		
BA24.225				YD		7.4	8.2	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	45	25	
BA24.250				YD	YE	7.8	8.6	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90			
BA24.320				YD	YE	8.8	9.8	9.81	16.0	22.63	32.00	39.19	50.60	59.87	71.55			
BA24.400				YD	YE	9.8	10.9	12.26	20.0	28.28	40.00	48.99	63.25	74.83	89.44			
BA24.520					YE	11.2	12.4	15.94	26.0	36.77	52.00	63.69	82.22	97.28	116.0	YE		
BA24.650					YE	12.5	13.9	19.92	32.5	45.96	65.00	79.61	102.0	121.0	145.0	57	32	
BA24.800					YE	13.9	15.4	24.52	40.0	56.57	80.00	97.98	126.0	149.0	178.0	Weight (Metals) = 151.0 gms. Approx		

- X - BSPP, Y - BSPT, Z - NPT, As Required
- **BB*** Series Stands For Female Connection

- *Flow rate in US GPM @40 psi Pressure
- Special Material on Request

BA Series Hollow Cone Spray Nozzles

BA

BB*

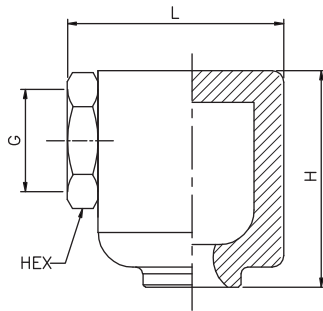
MODEL NO.	END CONNECTION (G)					Inlet Dia. Nom. (mm)	orifice Dia. nom. (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	YA	YB	YC	YD	YE			Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
90° SPRAY ANGLE	1/8"BSPT	1/4"BSPT	3/8"BSPT	1/2"BSPT	3/4"BSPT														SS304/SS316	Brass
								40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0			G/A DIMENSION. MM		
									H	SQ										
BA16.050	YA					1.1	1.2	0.15	0.25	0.35	0.5	0.61	0.79	0.94	1.12			YA		
BA16.075	YA	YB				1.3	1.4	0.23	0.375	0.53	0.7	0.92	1.19	1.40	1.68			25.5	16	
BA16.100	YA	YB				1.6	1.7	0.31	0.5	0.71	1.00	1.22	1.58	1.87	2.24			Weight (Metals) = 35.0 gms. Approx		
BA16.150	YA	YB				1.9	2.1	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			YB		
BA16.175	YA	YB				2.0	2.3	0.54	0.875	1.24	1.75	2.14	2.77	3.27	3.91			35	20	
BA16.200	YA	YB				2.2	2.4	0.61	1.0	1.41	2.00	2.45	3.16	3.74	4.47			Weight (Metals) = 62.0 gms. Approx		
BA16.250	YA	YB				2.5	2.7	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59					
BA16.350	YA	YB	YC			2.9	3.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83					
BA16.400	YA	YB	YC			3.1	3.5	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			YC		
BA16.475	YA	YB	YC			3.4	3.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			35	20	
BA16.650	YA	YB	YC			4.0	4.4	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53					
BA16.800		YB	YC			4.4	4.9	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			Weight (Metals) = 77.0 gms. Approx		
BA26.100		YB	YC			4.9	5.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36					
BA26.125			YC			5.5	6.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95					
BA26.160			YC	YD		6.2	6.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78					
BA26.200			YC	YD		6.9	7.7	6.13	10.0	14.14	20.00	24.49	31.62	37.42	44.72			YD		
BA26.225				YD		7.4	8.2	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			45	25	
BA26.250				YD	YE	7.8	8.6	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90			Weight (Metals) = 110.0 gms. Approx		
BA26.320				YD	YE	8.8	9.8	9.81	16.0	22.63	32.00	39.19	50.60	59.87	71.55					
BA26.400				YD	YE	9.8	10.9	12.26	20.0	28.28	40.00	48.99	63.25	74.83	89.44					
BA26.520					YE	11.2	12.4	15.94	26.0	36.77	52.00	63.69	82.22	97.28	116			YE		
BA26.650					YE	12.5	13.9	19.92	32.5	45.96	65.00	79.61	102.77	121	145			57	32	
BA26.800					YE	13.9	15.4	24.52	40.0	56.57	80.00	97.98	126.49	149	178			Weight (Metals) = 151.0 gms. Approx		

MODEL NO.	END CONNECTION (G)					Inlet Dia. Nom. (mm)	orifice Dia. nom. (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
	YA	YB	YC	YD	YE			Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
120° SPRAY ANGLE	1/8"BSPT	1/4"BSPT	3/8"BSPT	1/2"BSPT	3/4"BSPT														SS304/SS316	Brass
								40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0			G/A DIMENSION. MM		
									H	SQ										
BA18.050	YA					1.1	1.2	0.15	0.25	0.35	0.5	0.61	0.79	0.94	1.12			YA		
BA18.075	YA	YB				1.3	1.4	0.23	0.375	0.53	0.7	0.92	1.19	1.40	1.68			25.5	16	
BA18.100	YA	YB				1.6	1.7	0.31	0.5	0.71	1.00	1.22	1.58	1.87	2.24			Weight (Metals) = 35.0 gms. Approx		
BA18.150	YA	YB				1.9	2.1	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35			YB		
BA18.175	YA	YB				2.0	2.3	0.54	0.875	1.24	1.75	2.14	2.77	3.27	3.91			35	20	
BA18.200	YA	YB				2.2	2.4	0.61	1.0	1.41	2.00	2.45	3.16	3.74	4.47			Weight (Metals) = 62.0 gms. Approx		
BA18.250	YA	YB				2.5	2.7	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59					
BA18.350	YA	YB	YC			2.9	3.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83					
BA18.400	YA	YB	YC			3.1	3.5	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94			YC		
BA18.475	YA	YB	YC			3.4	3.7	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62			35	20	
BA18.650	YA	YB	YC			4.0	4.4	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53					
BA18.800		YB	YC			4.4	4.9	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89			Weight (Metals) = 77.0 gms. Approx		
BA28.100		YB	YC			4.9	5.5	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36					
BA28.125			YC			5.5	6.1	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95					
BA28.160			YC	YD		6.2	6.9	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78					
BA28.200			YC	YD		6.9	7.7	6.13	10.0	14.14	20.00	24.49	31.62	37.42	44.72			YD		
BA28.225				YD		7.4	8.2	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31			45	25	
BA28.250				YD	YE	7.8	8.6	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90			Weight (Metals) = 110.0 gms. Approx		
BA28.320				YD	YE	8.8	9.8	9.81	16.0	22.63	32.00	39.19	50.60	59.87	71.55					
BA28.400				YD	YE	9.8	10.9	12.26	20.0	28.28	40.00	48.99	63.25	74.83	89.44					
BA28.520					YE	11.2	12.4	15.94	26.0	36.77	52.00	63.69	82.22	97.28	116			YE		
BA28.650					YE	12.5	13.9	19.92	32.5	45.96	65.00	79.61	102	121	145			57	32	
BA28.800					YE	13.9	15.4	24.52	40.0	56.57	80.00	97.98	126	149	178			Weight (Metals) = 151.0 gms. Approx		

• BB* Series Stands For Female Connection

BC Series Hollow Cone Spray Nozzles

BC



Fine uniform hollow cone spray also at low pressures.

Application:

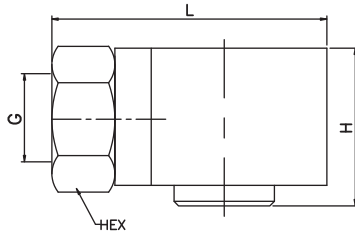
Cooling and cleaning of gas, Water re-cooling, Dust control, Chemical process engineering .

MODEL NO.	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XF	XH	XK	XL		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
75° SPRAY ANGLE	1"BSPP	1 1/2"BSPP	2"BSPP	2 1/2"BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
							H	L	HEX							
BC25.500	XF				10.5	15.33	25.0	35.36	50.00	61.24	79.06	93.54	111.80	XF		
BC25.630	XF				11.8	19.31	31.5	44.55	63.00	77.16	99.61	117.86	140.87	60	75	46
BC25.800	XF				13.3	24.52	40.0	56.57	80.00	97.98	126.49	149.67	178.89			
BC35.100	XF				14.9	30.65	50.0	70.71	100.0	122.47	158.11	187.08	223.61			
BC35.118		XH			16.2	36.17	59.0	83.44	118.0	144.52	186.57	220.76	263.86	XH		
BC35.130		XH			17.0	39.85	65.0	91.92	130.0	159.22	205.55	243.21	290.69	90	92	60
BC35.160		XH			18.8	49.05	80.0	113.14	160.0	195.96	252.98	299.33	357.77			
BC35.200		XH			21.1	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21			
BC35.227		XH			22.4	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	XK		
BC35.337			XK		27.4	103.30	168.5	238.29	337.0	412.74	532.84	630.47	753.55	127	118	80
BC35.469			XK		32.3	143.77	234.5	331.63	469.0	574.41	741.55	877.42	1048.72	XL		
BC35.540				XL	34.6	165.53	270	381.84	540.0	661.36	853.81	1010.25	1207.48	156	140	100

MODEL NO.	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XF	XH	XK	XL		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
90° SPRAY ANGLE	1"BSPP	1 1/2"BSPP	2"BSPP	2 1/2"BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
							H	L	HEX							
BC26.500	XF				10.5	15.33	25.0	35.36	50.0	61.24	79.06	93.54	111.80	XF		
BC26.630	XF				11.8	19.31	31.5	44.55	63.0	77.16	99.61	117.86	140.87	60	75	46
BC26.800	XF				13.3	24.52	40.0	56.57	80.0	97.98	126.49	149.67	178.89			
BC36.100	XF				14.9	30.65	50.0	70.71	100	122	158.11	187.08	223.61			
BC36.118		XH			16.2	36.17	59.0	83.44	118	144	186.57	220.76	263.86	XH		
BC36.130		XH			17.0	39.85	65.0	91.92	130	159	205.55	243.21	290.69	90	92	60
BC36.160		XH			18.8	49.05	80.0	113	160	195	252.98	299.33	357.77			
BC36.200		XH			21.1	61.31	100	141	200	244	316.23	374.17	447.21			
BC36.227		XH			22.4	69.58	113.5	160.51	227	278.02	358.92	424.68	507.59	XK		
BC36.337			XK		27.4	103.30	168.5	238.29	337	412.74	532.84	630.47	753.55	127	118	80
BC36.469			XK		32.3	143.77	234.5	331.63	469	574.41	741.55	877.42	1048.72	XL		
BC36.540				XL	34.6	165.53	270	381.84	540	661.36	853.81	1010	1207	156	140	100

BD Series Hollow Cone Spray Nozzles

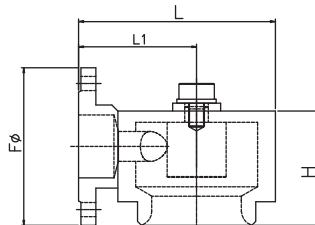
BD



MODEL NO.	CONNECTION END				ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	XF	XH	XK	XL		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3
130° SPRAY ANGLE	1"BSPP	1 1/2"BSPP	2"BSPP	2 1/2"BSPP			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	G/A DIMENSION. MM	
														H	L	HEX
BD29.500	XF				12.6	15.33	25.0	35.36	50.0	61.24	79.06	93.54	111.80	XF		
BD29.630	XF				14.1	19.31	31.5	44.55	63.0	77.16	99.61	117.86	140.87	60	94	46
BD29.800	XF				15.9	24.52	40.0	56.57	80.0	97.98	126.49	149.67	178.89			
BD39.100	XF				17.8	30.65	50.0	70.71	100.0	122.47	158.11	187.08	223.61			
BD39.118		XH			19.3	36.17	59.0	83.44	118.0	144.52	186.57	220.76	263.86	XH		
BD39.130		XH			20.3	39.85	65.0	91.92	130.0	159.22	205.55	243.21	290.69	75	112	60
BD39.160		XH			22.5	49.05	80.0	113.14	160.0	195.96	252.98	299.33	357.77			
BD39.200		XH			25.1	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21			
BD39.227		XH			26.8	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	XK		
BD39.337			XK		32.6	103.30	168.5	238.29	337.0	412.74	532.84	630.47	753.55	90	140	75
BD39.469			XK		38.5	143.77	234.5	331.63	469.0	574.41	741.55	877.42	1048	XL		
BD39.540				XL	41.3	165.53	270	381.84	540.0	661.36	853.81	1010	1207	127	193	90

BE

BE Series For Hollow Cone Spray Nozzles LARGE CAPACITY Flange Connection



MODEL NO.	FLANGED CONNECTION	ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE				
			Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2	
130° SPRAY ANGLE				40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP	
												G/A DIMENSION. MM			
												FØ	L	L1	H
BE39.510	3"	32.0	15.33	255	360.62	510	624.62	806.38	954.12	1140.39		200	250	150	156
BE39.571		33.8	19.31	285.5	403.76	571	699.33	902.83	1068.24	1276.79					
BE39.642		35.9	24.52	321	453.96	642	786.29	1015.09	1201.07	1435.56					
BE39.724		38.1	30.65	362	511.95	724	886.72	1144.74	1354.48	1618.91					
BE39.816		40.4	36.17	408	577.00	816	999.39	1290.21	1526.60	1824.63					
BE39.918		42.9	39.85	459	649.12	918	1124.32	1451.49	1717.42	2052.71					
BE49.1020		45.2	49.05	510	721.25	1020	1249.24	1612.76	1908.25	2280.79					
BE49.1262		50.3	61.31	631	892.37	1262	1545.63	1995.40	2360.99	2821.92					
BE49.1616	4"	56.9	69.58	808	1142.68	1616	1979.19	2555.12	3023.26	3613.49	220	354	200	240	
BE49.2020		63.6	103.30	1010	1428.36	2020	2473.98	3193.90	3779.07	4516.86					
BE49.2525		71.2	143.77	1262.5	1785.44	2525	3092.48	3992.38	4723.84	5646.07					
BE49.3181		79.9	165.53	1590.5	2249.31	3181	3895.91	5029.60	5951.11	7112.93					

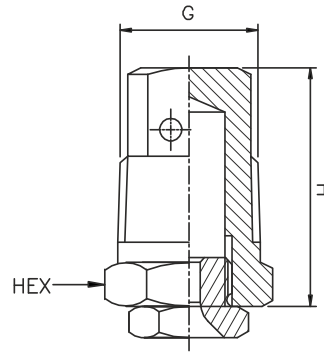
BG Series Inline Entry Hollow Cone Spray Nozzles

BG

Inline Entry Hollow Cone Spray pattern with uniform distribution of finely atomized droplets. Smaller droplets in spray pattern than full cone nozzles of the same capacity at similar pressures.

Design : One piece in-line body with removable orifice tip, two piece construction

Application : Gas Cooling & Cleaning, Spray drying, Desuperheating, Water Cooling, Fugitive Dust suppression.



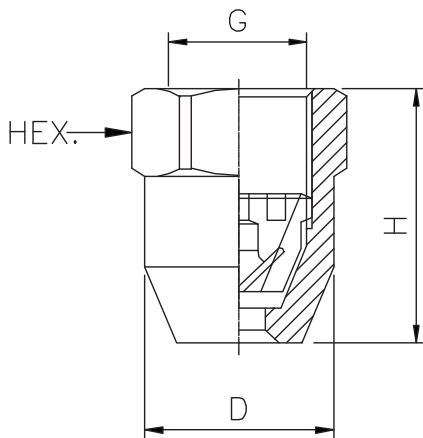
MODEL NO.	END CONNECTION (G)					Inlet Dia. Nom. (mm)	ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE									
	YB	YC	YD	YE	YH			Pressure [bar]								M1/M2	M3	P1/P2							
60° SPRAY ANGLE	1/4"BSPT	3/8"BSPT	1/2"BSPT	3/4"BSPT	1 1/2"BSPT			Flow Capacity in GPM																	
									40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0									
BG14.050						1.2	1.1	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12										
BG14.075	YB					1.4	1.3	0.23	0.37	0.53	0.75	0.92	1.19	1.40	1.68										
BG14.100	YB					1.7	1.6	0.31	0.5	0.71	1.00	1.22	1.58	1.87	2.24										
BG14.150	YB	YC				2.1	2.0	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35										
BG14.175	YB	YC				2.2	2.1	0.54	0.87	1.24	1.75	2.14	2.77	3.27	3.91										
BG14.200	YB	YC				2.4	2.3	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47										
BG14.250	YB	YC				2.7	2.5	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59										
BG14.350		YC				3.2	3.0	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83										
BG14.400		YC				3.4	3.2	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94										
BG14.475		YC				3.7	3.5	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62										
BG14.650		YC	YD			4.3	4.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53										
BG14.800		YC	YD			4.8	4.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89										
BG24.100			YD			5.4	5.1	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36										
BG24.125			YD			6.0	5.7	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95										
BG24.160			YD			6.8	6.4	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78										
75° SPRAY ANGLE																									
BG15.150		YC				2.1	2.0	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35										
BG15.175		YC				2.2	2.1	0.54	0.875	1.24	1.75	2.14	2.77	3.27	3.91										
BG15.200		YC				2.4	2.3	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47										
BG15.250		YC				2.7	2.5	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59										
BG15.350		YC				3.2	3.0	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83										
BG15.400		YC				3.4	3.2	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94										
BG15.475		YC	YD			3.7	3.5	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62										
BG15.650		YC	YD			4.3	4.1	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53										
BG15.800		YC	YD			4.8	4.5	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89										
BG15.100			YD	YE		5.4	5.1	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36										
BG15.120			YD	YE		6.0	5.7	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95										
BG15.160			YD	YE		6.8	6.4	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78										
BG15.200			YE	YE		7.6	7.2	6.13	10.00	14.14	20.00	24.49	31.62	37.42	44.72										
BG15.225			YE	YE		8.1	7.6	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31										
BG15.250			YE	YE		8.5	8.0	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90										
BG15.320			YE	YE		9.6	9.1	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55										
90° SPRAY ANGLE																									
BG26.320				YH		9.6	9.1	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55										
BG26.400				YH		10.8	10.1	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44										
BG26.520				YH		12.3	11.5	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28										
BG26.650				YH		13.7	12.9	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34										
BG26.800				YH		15.2	14.3	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89										



Axial hollow cone spray nozzles in two piece body and swirl insert spiral grooves conduct liquid along a straight through axial flow line, producing an especially fine atomized spray.

Application :

- Cooling and cleaning of air / gas
- Dust Suppression
- Spray drying
- Filter cleaning
- Desuperheating



MODEL NO.	CONNECTION END			ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE			
	XB	XC	XD		Flow Capacity in GPM	Pressure [bar]								M1/M2	M3	P1/P2
60° SPRAY ANGLE	1/4" BSPP	3/8" BSPP	1/2" BSPP			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass	PVC/PP
G/A DIMENSION. MM																
						H	D	HEX								
BH14.050	XB			1.1	0.15	0.25	0.35	0.50	0.61	0.79	0.94	1.12				
BH14.075	XB			1.1	0.23	0.375	0.53	0.75	0.92	1.19	1.40	1.68				
BH14.100	XB			1.4	0.31	0.5	0.71	1.00	1.22	1.58	1.87	2.24				
BH14.150	XB			1.4	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	XB			
BH14.200	XB			1.4	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47	22	16.5	17	
BH14.250	XB			1.4	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
75 ° SPRAY ANGLE																
BH15.100		XC		2.2	0.31	0.5	0.71	1.00	1.22	1.58	1.87	2.24	XC			
BH15.150		XC		2.2	0.46	0.75	1.06	1.50	1.84	2.37	2.81	3.35	29	21.5	22	
BH15.200		XC		2.2	0.61	1.00	1.41	2.00	2.45	3.16	3.74	4.47				
BH15.250		XC		2.2	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
90 ° SPRAY ANGLE																
BH16.250		XC		2.2	0.77	1.25	1.77	2.50	3.06	3.95	4.68	5.59				
BH16.350		XC		2.2	1.07	1.75	2.47	3.50	4.29	5.53	6.55	7.83				
BH16.400		XC		2.2	1.23	2.00	2.83	4.00	4.90	6.32	7.48	8.94				
BH16.475		XC		2.2	1.46	2.37	3.36	4.75	5.82	7.51	8.89	10.62				
BH16.650		XC	XD	2.2	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53				
BH16.800		XC	XD	2.2	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	XD			
BH26.100			XD	2.2	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36	36	26.7	27	
BH26.125			XD	2.2	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95				
BH26.160			XD	2.4	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78				

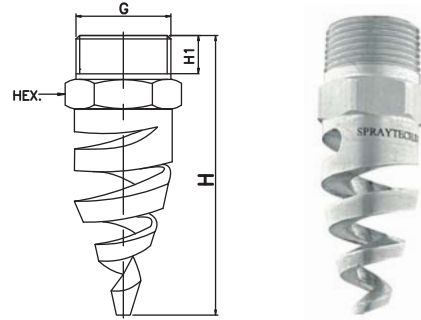
BI Series Hollow Cone Spray Nozzles

BI

Spiral Hollow cone Spray Nozzle have no internal parts and features large free passage for minimized clogging & fine droplets at a higher velocity. Compact Nozzle design provide higher flow rates though smaller connection sizes.

Application :

Gas Scrubbers, Cooling Towers, Chemical processing.



MODEL NO.	CONNECTION END					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2
60° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
	G/A DIMENSION. MM																
							H	H1	HEX								
BI14.650	YB					2.5	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	YB		
BI14.800	YB					2.8	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	48	10	14
BI24.100	YB	YC				3.1	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
BI24.125	YB	YC				3.5	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
BI24.160		YC				4.0	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
BI24.225		YC				4.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YC		
BI24.250		YC				5.0	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90	58	10	17
BI24.320		YC				5.6	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
BI24.400		YC				6.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
BI24.520		YC	YD			7.2	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
BI24.650			YD			8.0	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	YD		
BI24.800			YD			8.9	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	76	13.2	22
BI34.100			YD	YE		10.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61			
BI34.118				YE		10.8	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	YE		
BI34.130				YE		11.4	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	86	14.5	27
BI34.160				YE		12.6	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77			
BI34.200					YF	14.1	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21			
BI34.227					YF	15.0	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	YF		
BI34.337					YF	18.3	103.0	168.5	238.29	337.0	412.74	532.84	630.47	753.55	108	16.8	36

MODEL NO.	CONNECTION END					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2
90° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT			40°psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
	G/A DIMENSION. MM																
							H	H1	HEX								
BI16.650	YB					2.5	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	YB		
BI16.800	YB					2.8	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	48	10	14
BI26.100	YB	YC				3.1	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
BI26.125	YB	YC				3.5	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
BI26.160		YC				4.0	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
BI26.225		YC				4.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YC		
BI26.250		YC				5.0	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90	58	10	17
BI26.320		YC				5.6	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
BI26.400		YC				6.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
BI26.520		YC	YD			7.2	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
BI26.650			YD			8.0	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	YD		
BI26.800			YD			8.9	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	76	13.2	22
BI36.100			YD	YE		10.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61			
BI36.118				YE		10.8	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	YE		
BI36.130				YE		11.4	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	86	14.5	27
BI36.160				YE		12.6	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77			
BI36.200					YF	14.1	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21			
BI36.227					YF	15.0	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	YF		
BI36.337					YF	18.3	103.30	168.5	238.29	337.0	412.74	532.84	630.47	753.55	108	16.8	36

BI Series Hollow Cone Spray Nozzles

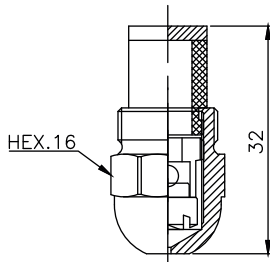
BI

MODEL NO.	CONNECTION END					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2
120° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
															G/A DIMENSION. MM		
															H	H1	HEX
BI18.650	YB					2.5	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	YB		
BI18.800	YB					2.8	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	48	10	14
BI28.100	YB	YC				3.1	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
BI28.125	YB	YC				3.5	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
BI28.160		YC				4.0	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78			
BI28.225		YC				4.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	YC		
BI28.250		YC				5.0	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90	58	10	17
BI28.320		YC				5.6	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
BI28.400		YC				6.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
BI28.520		YC	YD			7.2	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28			
BI28.650			YD			8.0	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	YD		
BI28.800			YD			8.9	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89	76	13.2	22
BI38.100			YD	YE		10.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61			
BI38.118				YE		10.8	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	YE		
BI38.130				YE		11.4	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69	86	14.5	27
BI38.160				YE		12.6	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77			
BI38.200					YF	14.1	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21			
BI38.227					YF	15.0	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	YF		
BI38.337					YF	18.3	103.30	168.5	238.29	337.0	412.74	532.84	630.47	753.55	108	16.8	36

MODEL NO.	CONNECTION END					ORIFICE SIZE (mm)	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								MATERIAL CODE		
	YB	YC	YD	YE	YF		Flow Capacity in GPM	Pressure [bar]							M1/M2	M3	P1/P2
180° SPRAY ANGLE	1/4" BSPT	3/8" BSPT	1/2" BSPT	3/4" BSPT	1" BSPT			40*psi	0.5	1.0	2.0	3.0	5.0	7.0	10.0	SS304/SS316	Brass
															G/A DIMENSION. MM		
															H	H1	HEX
BI19.650	YB					2.5	1.99	3.25	4.60	6.50	7.96	10.28	12.16	14.53	YB		
BI19.800	YB					2.8	2.45	4.00	5.66	8.00	9.80	12.65	14.97	17.89	48	10	14
BI29.100	YB	YC				3.1	3.07	5.00	7.07	10.00	12.25	15.81	18.71	22.36			
BI29.125	YB	YC				3.5	3.83	6.25	8.84	12.50	15.31	19.76	23.39	27.95			
BI29.160		YC				4.0	4.90	8.00	11.31	16.00	19.60	25.30	29.93	35.78	YC		
BI29.225		YC				4.7	6.90	11.25	15.91	22.50	27.56	35.58	42.09	50.31	58	10	17
BI29.250		YC				5.0	7.66	12.5	17.68	25.00	30.62	39.53	46.77	55.90			
BI29.320		YC				5.6	9.81	16.00	22.63	32.00	39.19	50.60	59.87	71.55			
BI29.400		YC				6.3	12.26	20.00	28.28	40.00	48.99	63.25	74.83	89.44			
BI29.520		YC	YD			7.2	15.94	26.00	36.77	52.00	63.69	82.22	97.28	116.28	YD		
BI29.650			YD			8.0	19.92	32.5	45.96	65.00	79.61	102.77	121.60	145.34	76	13.2	22
BI29.800			YD			8.9	24.52	40.00	56.57	80.00	97.98	126.49	149.67	178.89			
BI39.100			YD	YE		10.0	30.65	50.00	70.71	100.0	122.47	158.11	187.08	223.61	YE		
BI39.118				YE		10.8	36.17	59.00	83.44	118.0	144.52	186.57	220.76	263.86	86	14.5	27
BI39.130				YE		11.4	39.85	65.00	91.92	130.0	159.22	205.55	243.21	290.69			
BI39.160				YE		12.6	49.05	80.00	113.14	160.0	195.96	252.98	299.33	357.77			
BI39.200					YF	14.1	61.31	100	141.42	200.0	244.95	316.23	374.17	447.21	YF		
BI39.227					YF	15.0	69.58	113.5	160.51	227.0	278.02	358.92	424.68	507.59	108	16.8	36
BI39.337					YF	18.3	103.30	168.5	238.29	337.0	412.74	532.84	630.47	753.55			

BK Series Hollow Cone Spray Nozzles

BK



Oil Burner Spray Nozzles

Oil burner nozzles are available in semi hollow cone spray pattern. Micro-finish of tip & disc seats permitting flow only through the slots of the disc, plus extremely close manufacturing tolerances, ensure accurate capacity control. These nozzles are fitted with filter in order to provide highly efficient in depth filtration with one piece construction extra fine filter microns are supplied as standard on all small capacity nozzles.

Application :-

LDO firing in kilns of cement, sponge, Iron plants & Dust suppression.

G	L1	L2	HEX
9/16	7 mm	20.5 mm	16 mm
With Filter	7 mm	32 mm	16 mm

Nozzle Series	45	60	70	80	90
SEMI HOLLOW	2.50 to 9.50	2.50 to 30.00	2.50 to 60.00	2.50 to 100.00	2.50 to 50.00
HOLLOW	2.50 to 9.50	2.50 to 30.00	2.50 to 50.00	2.50 to 50.00	2.50 to 9.50

Range :-

Spray Angle : 45°, 60°, 70°, 80°, 90°
 Connection : UNEF 9/16"
 M. O. C. : SS303

Capacity in US GPH @ 100 psi	Flow Rate (GPH) @ Various Pressure (psi)					
	75	100	125	150	175	200
2.50	2.16	2.50	2.80	3.06	3.30	3.54
3.00	2.59	3.00	3.35	3.68	3.97	4.25
3.50	3.03	3.50	3.91	4.29	4.63	4.95
4.00	3.46	4.00	4.47	4.90	5.30	5.66
4.50	3.90	4.50	5.04	5.51	5.95	6.36
5.00	4.33	5.00	5.59	6.13	6.61	7.07
5.50	4.76	5.50	6.15	6.74	7.27	7.78
6.00	5.19	6.00	6.71	7.33	7.94	8.48
6.50	5.63	6.50	7.26	7.96	8.60	9.20
7.00	6.05	7.00	7.82	8.58	9.25	9.90
7.50	6.49	7.50	8.38	9.19	9.91	10.60
8.00	6.93	8.00	8.94	9.80	10.58	11.31
8.50	7.36	8.50	9.50	10.45	11.27	12.08
9.00	7.79	9.00	10.06	11.02	11.91	12.73
9.50	8.22	9.50	10.60	11.70	12.60	13.50
10.50	9.10	10.50	11.70	12.90	13.90	14.90
12.00	10.40	12.00	13.40	14.70	15.90	17.00
13.50	11.65	13.50	15.07	16.53	17.90	19.17
15.50	13.37	15.50	17.33	18.95	20.56	21.89
17.50	15.10	17.50	19.60	21.40	23.20	24.80
19.50	16.90	19.50	21.80	23.90	25.80	27.60
21.50	18.60	21.50	24.00	26.40	28.40	30.40
24.00	20.80	24.00	26.80	29.40	31.80	34.00
28.00	24.20	28.00	31.30	34.30	37.00	39.60
30.00	26.00	30.00	33.60	36.80	39.70	42.50
35.00	30.30	35.00	39.10	42.90	46.30	49.50
40.00	34.60	40.00	44.70	49.00	53.00	56.50
45.00	39.00	45.00	50.40	55.20	59.50	63.70
50.00	43.30	50.00	55.90	61.30	66.10	70.70
55.00	47.60	55.00	61.50	67.40	72.70	77.70
60.00	52.00	60.00	67.00	73.50	79.40	84.00
70.00	60.60	70.00	78.20	85.70	92.50	99.00
80.00	69.20	80.00	89.40	98.00	106.00	113.50
90.00	77.90	90.00	100.90	110.50	119.20	127.50
100.00	86.50	100.00	111.90	122.50	132.30	141.40

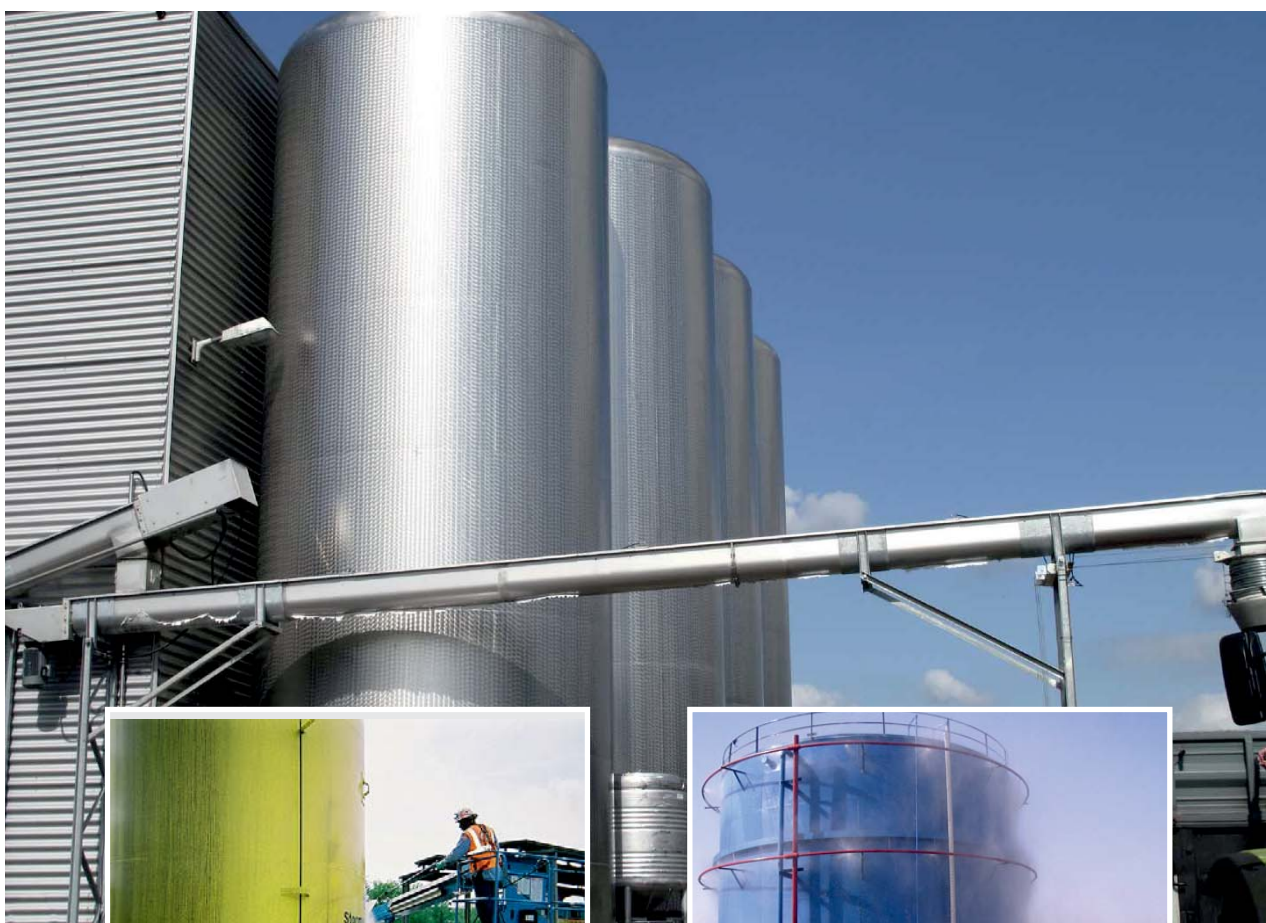
• Special Material on Request



Spraytech[®]
Systems (India) Pvt. Ltd.
The Flow Technologists



Cleaning-In-Place (CIP) Spray Nozzles



CLEANING-IN-PLACE (CIP)

APPLICATION

- Beverage industry
- Bioengineering
- Chemical industry
- Cosmetic industry
- Food industry
- Pharmaceutical industry
- Tank building and many others...

Tank Washing Spray Nozzles Selection

Overview

In this section a brief elaboration will clear the concept of spray nozzles selection for requirement and there various factors which affects and plays vital role in extent of cleaning required.

Following some factors should well studied when selecting CIP spray nozzles.

1) Extent of Cleaning

The nature of substance to be cleaned from tank should be considered like, solubility, viscosity, nature of powder / pigment material.

Based on all this factors we can decide which type of impact is necessary to flush substance from all internals of equipment.

- a) Rinsing : By virtue mass removal of substance and thick layers get dissolved by water or solvent
- b) Cleaning : After rinsing cleaning could be done with high pressure to remove rest of the residue from internal.
- c) High Impact Cleaning : Those substances which could not be satisfactory cleaned by means of cleaning cycle, should be treated with high pressure of cleaning fluid.
- d) Sanitizing : Sanitize chemical is applied after cleaning to kill microorganisms and bacteria.
- e) Disinfecting : Same procedure is applied for disinfectant
- f) Sterilizing : It kills all kinds of bacteria.

Heat energy's role

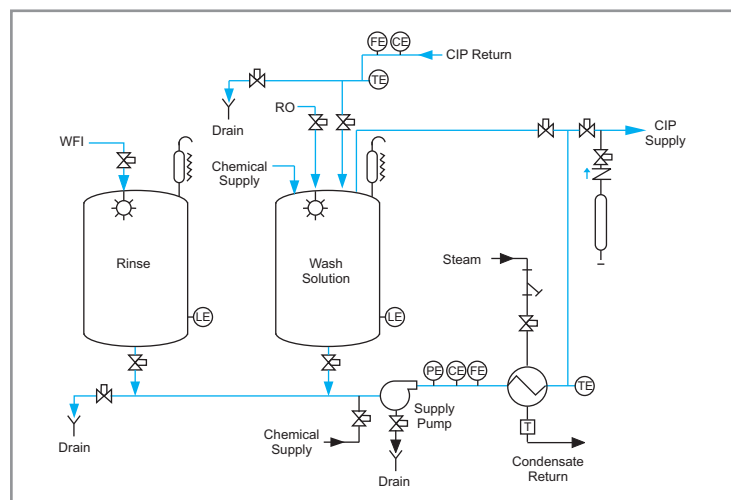
Viscosity of fluids decreases with increasing temperature so, effective cleaning can be achieved by using hot cleaning fluids or by increasing temperature of vessel tank by means of steam jackets. By virtue of this viscosity of substances to be cleaned decrease and effective cleanliness increases.

Spray Pattern

If cleaning is done manually then stationery spray nozzles are recommended to use. Ex. Flat spray nozzle, Straight jet spray nozzle, Full cone spray nozzle. For CIP self rotating spray nozzles gives droplets spray to clean the substances. For higher tank sizes tank cleaning machine is recommended as it gives cyclic control speed of rotation which provide the high impact jet cleaning with long impact distances.

Obstructions due to internals

If tank is having any central agitation / mixing arrangement then multiple spray nozzle should be utilized.



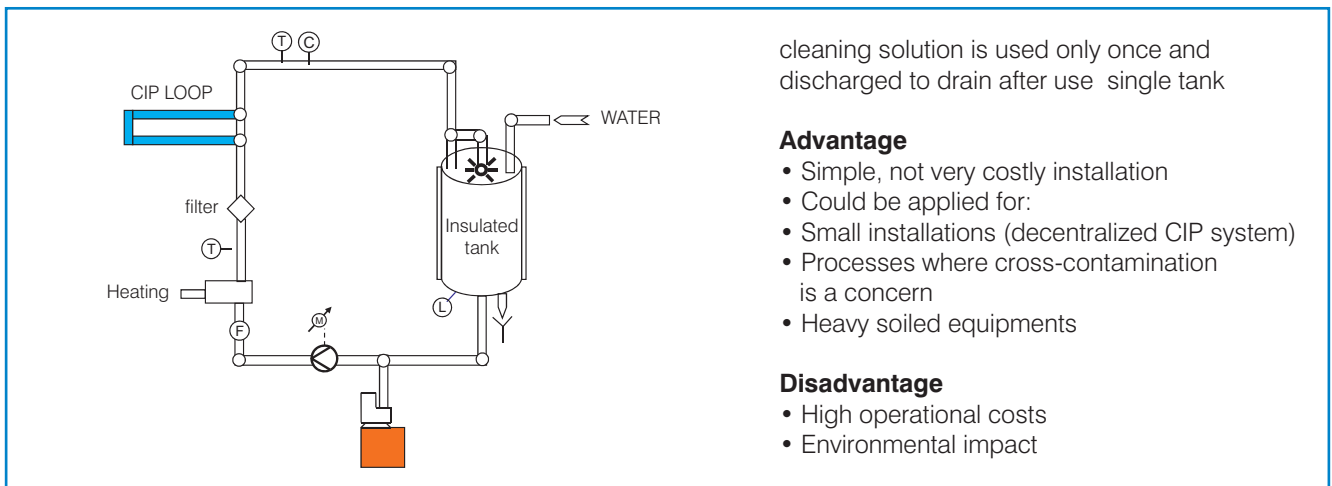
Cleaning-In-Place (CIP)

Fully or semi-automated, integrated cleaning technique that allows to clean closed or open circuits without dismantling equipments

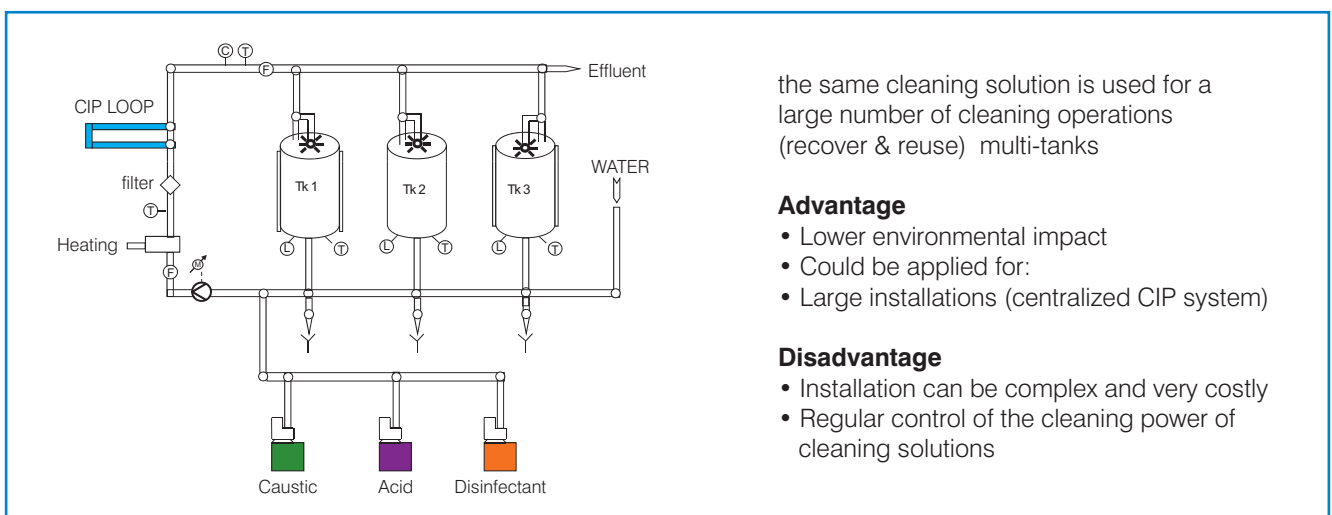
Standard CIP sequence

Alkaline cleaning	To eliminate organic trace elements
Rinsing	To push out caustic
Acid cleaning	To eliminate mineral deposits
Rinsing	To push out acid
Disinfection	To kill / inactivate micro-organisms
Rinsing	To eliminate CIP chemicals and prepare the line for production

Single-use system



Re-use system

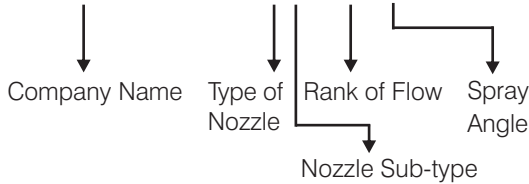


Spraytech Product Coding System

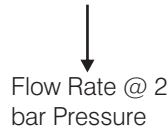
The following description will help to explain our Part Number/ Code in relation to the "SPRAYTECH" Spray Nozzle.

EXAMPLE ORDERING.

SPRAYTECH EA 1 A



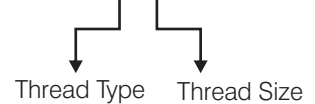
096



M2



Y B



Codes	Spray Nozzles Type
A	Air Atomizing /Fine Atomizing Spray Nozzle
B	Hollow Cone Spray Nozzle
C	Flat Spray Nozzle
D	Full Cone Spray Nozzle
E	Tank Washing Spray Nozzle
F	Steel Mill Spray Nozzles
G	General Engineering & Accessories
H	Special Project

Codes	Thread Size
A	1/8"
B	1/4"
C	3/8"
D	1/2"
E	3/4"
F	1"
G	1 1/4"
H	1 1/2"
K	2"
L	2 1/2"
M	3"
N	3 1/2"
O	4"

Nozzle Sub-type (see table overleaf)

Spray Angle Code	Spray Angle	Coverage Type
A	180°	
B	180°	
C	270°	
D	270°	
E	360°	

Note : special size on request












Code	Material
M0	M.S.
M1	SS303/SS304/ M1L = SS304L
M2	SS316/ M 2L = SS316L
M3	Brass
M4	SS410
M4-3	SS310
M5	Cast Iron
M6	Aluminum
M7	Hastelloy C/B /2000
M8	Titanium
M9	Monel
P1	PVC(Polyvinylchloride)
P2	PP (Polypropylene)
P3	Teflon®/ PTFE (Polyterafluoroethylene)
P4	Nylon(Polyamide)
P5	Delrin® POM (Polyacetate)
P6	PVDF(Polyvinylidene fluoride)
P7	Polyethylene

Note : Special material on request

Codes	Thread Type
X	BSPP
Y	BSPT
Z	NPT

Note : special Connection on request

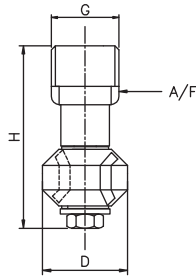
Self-rotating / Stationery Tank Cleaning Nozzles

Self-rotating / Stationery Tank cleaning nozzles	Series	Flow rate (Lpm) @ 2 bar	End Connection	Application / Design
	EA	10-30	1/4" 3/8" 1/2" Tri-Clover End	Cleaning of small tanks up to 1.5 m in diameter. Self - rotating. Stainless steel & Plastic versions.
	EB	18-38	1/2" Tri-Clover End	Cleaning of small tanks up to 1.5 m in diameter. Self - rotating. Stainless steel & Plastic versions.
	EC	32-250	1/2" 3/4" 1" Pin connection Tri-Clover End	Cleaning of tanks up to 3 m in diameter. Teflon Version. Self - rotating. Special version for CIP applications.
	ED	32-140	3/4" Pin connection Tri-Clover End	Cleaning of tanks up to 3 m in diameter. Self - rotating. Double bearings.
	EE	140-1100	1" 2" 3" Tri-Clover End	Efficient inside cleaning of medium size tanks (max. 5m to 9m in diameter)
	EF	40-100	3/4" 1" Tri-Clover End	Turbo cleaning spray Nozzle washing of industrial storage tanks, small barrels used in Dairy, Food & Beverage, Pharmaceutical and other process industries. (max. upto 3m in diameter)
	EG	15-200	3/8" 1/2" 3/4" 1" 1 1/4" Pin connection Tri-Clover End	For small and medium sized tanks, chemical processing, food and beverages manufacturing (maximum tank diameter 2 m to 6 m)
	EH	18-100	3/8" 1/2" Tri-Clover End Pin connection	Cleaning of tanks up to 3 m in diameter. Static spray ball with sharp straight jets.
	EI	100-450	1/4" to 2" Pin connection Tri-Clover End	Cleaning of tanks up to 5 m in diameter. Static spray ball for higher flow rates.
	EJ	100-190	3/4" 1" 1 1/2" Tri-Clover End	Tank Washing nozzle assembly features a large flow capacity for cleaning tanks up to 10' (3.5m) in diameter. Flow rates ranges from 40 LPM to 240 LPM. Assembly uses 1/4" or 3/8" full cone nozzles.
	EK	18-40	Tri-Clover End	EK series Pop out nozzle retracts its spray ball when pressure is applied and shut itself to complete flush position when operation is stopped.

* Note: All Connections are available in BSP, BSPT, NPT.

EA Self-Rotating Spray Nozzles Stainless Steel & Plastic Versions

EA



EA series nozzles are designed for cleaning process in small bore or small size of containers and available in all grade of stainless steel material and also available in plastics like PTFE along with several spray angles.

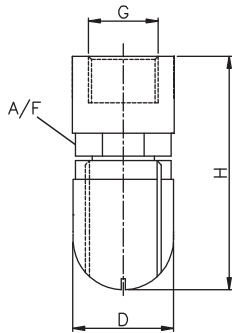
Female Connection On Request

Coverage Type	Spray Angle
A	180°
B	180°
C	270°
D	270°
E	360°

MODEL NO.	CONNECTION	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								M1/M2	P3/P4						
		SPRAY ANGLE	XB	XC	XD	Pressure [bar]					SS304/SS316	TEFLON/NYLON					
40° psi	1.5					2	3	5	7	G/A DIMENSION. MM							
					H	D	A/F										
EA2.100.M2	A/B/C/D/E	1/4"				3.09	8.66	10.00	12.25	15.81	18.71	45	16	12.8			
EA2.120.M2	A/B/C/D/E	1/4"	3/8"			3.71	10.39	12.00	14.70	18.97	22.45	45	22.2	12.8			
EA2.150.M2	A/B/C/D/E		3/8"			4.64	12.99	15.00	18.37	23.72	28.06	Weight (Metals) = 30.0 gms. Approx					
EA2.180.M2	A/B/C/D/E		3/8"			5.57	15.59	18.00	22.05	28.46	33.67	79	30	22			
EA2.220.M2	A/B/C/D/E		3/8"	1/2"		6.81	19.05	22.00	26.94	34.79	41.16						
EA2.300.M2	A/B/C/D/E			1/2"		9.29	25.98	30.00	36.74	47.43	56.12						

EB Self-Rotating Spray Nozzles Stainless Steel Versions

EB



EB series self rotating nozzles are designed as a small dimensions and opening and perform inside cleaning which is required. Typically used for cleaning like kegs, small container where the requirement is for cleaning. Diameter of nozzle is (25mm) These nozzles are available in all grade of stainless steel.

Male Connection On Request

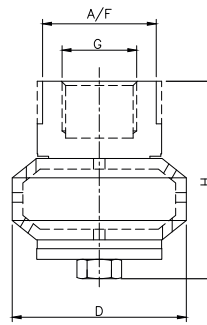
Coverage Type	Spray Angle
B	180°
D	270°

MODEL NO.	CONNECTION	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES								M1/M2	P3/P4				
		SPRAY ANGLE	XD	Flow Capacity in GPM	Pressure [bar]					SS304/SS316	TEFLON/NYLON				
40° psi	1.5				2	3	5	7	G/A DIMENSION. MM						
				H	D	A/F									
EB2.180.M2.XD	B/D	1/2"		5.59	15.59	18.00	22.05	28.46	33.67	55	24.2	21			
EB2.220.M2.XD	B/D	1/2"		6.82	19.05	22.00	26.94	34.79	41.16	Weight (Metals) = 95.0 gms. Approx					
EB2.280.M2.XD	B/D	1/2"		8.58	24.25	28.00	34.29	44.27	52.38						
EB2.320.M2.XD	B/D	1/2"		9.81	27.71	32.00	39.19	50.60	59.87						
EB2.380.M2.XD	B/D	1/2"		11.65	32.91	38.00	46.54	60.08	71.09	55	24.2	21			

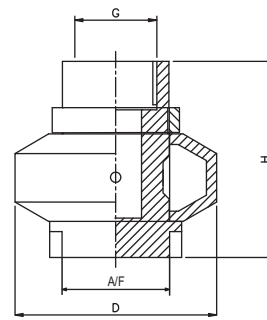
EC Self-Rotating Spray Nozzles Stainless Steel & Plastic Versions



Specially designed self rotating nozzle, rotates because of reaction principle of spraying water jets. For rinsing small and medium sized vessels for example dairy, chemical, pharmaceutical and food industries. Material of construction- corrosion – resistance PTFE.
(Range available from 1/2" to 2")



Metal Versions



Plastic Versions



Male Connection On Request

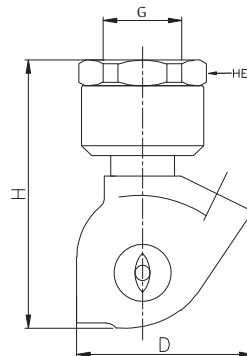
Coverage Type	Spray Angle
C	270°
D	270°
E	360°

MODEL No.	CONNECTION	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES					M1/M2	P3/P4									
		Flow Capacity in GPM	Pressure [bar]					SS304/SS316	TEFLON/NYLON								
			40* psi	1.5	2	3	5	7	G/A DIMENSION. MM								
	SPRAY ANGLE																
		XD	XE	XF	XH	XK											
EC2.320.M2	C/D/E	1/2"					9.91	27.71	32.00	39.19	50.60	59.87	60	50	28.6		
EC2.400.M2	C/D/E	1/2"	3/4"				12.38	34.64	40.00	48.99	63.25	74.83	68	58.5	32		
EC2.520.M2	C/D/E	1/2"	3/4"				16.10	45.03	52.00	63.69	82.22	97.28	Weight (Metals) = 103.0 gms. Approx				
EC2.950.M2	C/D/E		3/4"	1"			29.42	82.27	95.00	116.35	150.21	177.73					
EC3.140.M2	C/D/E		3/4"	1"	1 1/2"	2"	43.36	121.24	140.0	171.46	221.36	261.92	76.2	78.5	42		
EC3.150.M2	C/D/E			1"	1 1/2"	2"	46.46	129.90	150.0	183.71	237.17	280.62	92	92	55		
EC3.190.M2	C/D/E			1"	1 1/2"	2"	58.85	164.54	190.0	232.70	300.42	355.46	Weight (Metals) = 1015.0 gms. Approx				
EC3.225.M2	C/D/E			1"	1 1/2"	2"	69.69	194.86	225.0	275.57	355.76	420.94					
EC3.225.M2	C/D/E				1 1/2"	2"	77.44	216.51	250.0	306.19	395.28	467.71	111	124	66		

ED Barrel Tank Washing Spray Nozzles Stainless Steel Versions



Suited for CIP systems. No motor source is needed due to the reaction force of the cleaning liquid to rotate spray head. Low pressure for cleaning and rinsing application. For rinsing small and medium sized vessels for example dairy, chemical, pharmaceutical and food industries.



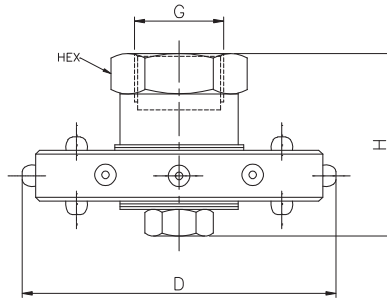
Male Connection On Request

Coverage Type	Spray Angle
C	270°
D	270°
E	360°

MODEL NO.	CONNECTION	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES					M1/M2	P3/P4									
		Flow Capacity in GPM	Pressure [bar]					SS304/SS316	TEFLON/NYLON								
			40* psi	1.5	2	3	5	7	G/A DIMENSION. MM								
	SPRAY ANGLE																
		XE															
ED2.320.M2.XE	C/D/E	3/4"	9.81	27.71	32.00	39.19	50.60	59.87	100	70							
ED2.520.M2.XE	C/D/E	3/4"	15.94	45.03	52.00	63.69	82.22	97.28									
ED2.720.M2.XE	C/D/E	3/4"	22.30	62.35	72.00	88.18	113.84	134.70	Weight (Metals) 562.0 gms. Approx								
ED2.950.M2.XE	C/D/E	3/4"	29.12	82.27	95.00	116.35	150.21	177.73									
ED3.140.M2.XE	C/D/E	3/4"	42.91	121.24	140.0	171.46	221.36	261.92									

EE Gyro Jet Tank Washing Spray Nozzles Stainless Steel Versions

EE



Self powered rotating tank cleaning nozzle used for cleaning large and medium size diameter tanks. Efficient cleaning action for medium and large size tanks. Recommended operating pressure 2 to 3 kg/cm² and also available coverage 180° (up and down), 270° (up and down) and 360°.

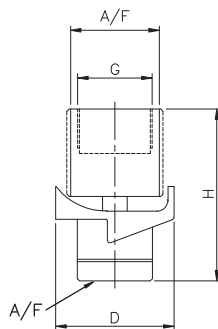
Male Connection On Request

Coverage Type	Spray Angle
	180°
	180°
	270°
	270°
	360°

MODEL NO.	SPRAY ANGLE	XF CONNECTION	XK CONNECTION	XM CONNECTION	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1	M2		
					Flow Capacity in GPM	Pressure [bar]					SS304/SS316	SS316		
						40* psi	1.5	2	3	5			7	
												G/A DIMENSION. MM		
												H	D	HEX
EE3.140.M2.XF	A/B/C/D/E	1"			42.91	121.24	140	171.46	221.36	261.92	62.5	117	41	
EE3.250.M2.XF	A/B/C/D/E	1"			76.63	216.51	250	306.19	395.28	467.71	Weight (Metals) = 771.0 gms. Approx			
EE3.275.M2.XF	A/B/C/D/E	1"			84.30	238.16	275	336.80	434.81	514.48				
EE3.325.M2.XK	A/B/C/D/E		2"		99.62	281.46	325	398.04	513.87	608.02	97	131	71	
EE3.375.M2.XK	A/B/C/D/E		2"		114.95	324.76	375	459.28	592.93	701.56	Weight (Metals) = 1930gms. Approx			
EE3.625.M2.XK	A/B/C/D/E		2"		191.58	541.27	625	765.47	988.21	1169.27				
EE3.800.M2.XM	A/B/C/D/E			3"	245.23	692.82	800	979.80	1264.91	1496.66	116.5	194	100	
EE3.950.M2.XM	A/B/C/D/E			3"	291.21	822.72	950	1163.51	1502.08	1777.29	Weight (Metals) = 3630gms. Approx			
EE4.1100.M2.XM	A/B/C/D/E			3"	337.19	952.63	1100	1347.22	1739.25	2057.91				

EF Turbo Cleaning Spray Nozzles Stainless Steel Versions

EF



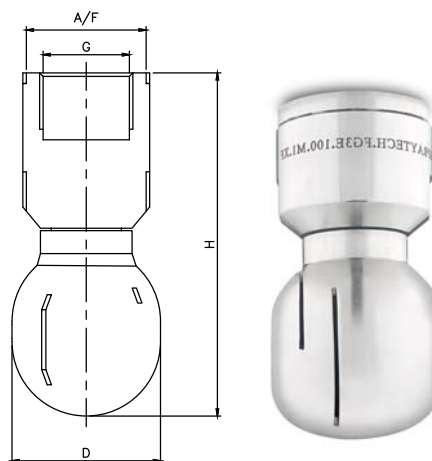
The turbo nozzles are generally used for washing of industrial storage tanks small barrels and used in the dairy, chemical, pharmaceutical, food industries and process industries. The rotating Disc dispense an instant powerful dense spray to all the interior surface of the vessels. Spray coverage 180° up and down 360°.

Male Connection On Request

Coverage Type	Spray Angle
	180°
	180°
	360°

MODEL No.	SPRAY ANGLE	XE CONNECTION	XF CONNECTION	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2	P3/P4			
				Flow Capacity in GPM	Pressure [bar]					SS304/SS316	TEFLON/NYLON			
					40* psi	1.5	2	3	5			7		
												G/A DIMENSION. MM		
											H	D	A/F	
EF2.400.M2.XE	A/B/E	3/4"		12.26	34.64	40.00	48.99	63.25	74.83	74	51	38		
EF2.520.M2.XE	A/B/E	3/4"		15.95	45.03	52.00	63.69	82.22	97.28	Weight (Metals) = 460 gms. Approx				
EF2.800.M2.XF	A/B/E		1"	24.52	69.28	80.00	97.98	126.49	149.67	74	51	38		
EF3.100.M2.XF	A/B/E		1"	30.65	86.60	100.0	122.47	158.11	187.08	Weight (Metals) = 460 gms. Approx				

EG Series Slotted spray ball series are available with different connection design that it is a female thread and clip-on connection as standard. Weld-on or tri-clamp connection on request. The simple design high quality construction and having a good efficiency and applicable for general purpose application and it is available in coverage of 270° up and down and 360°.



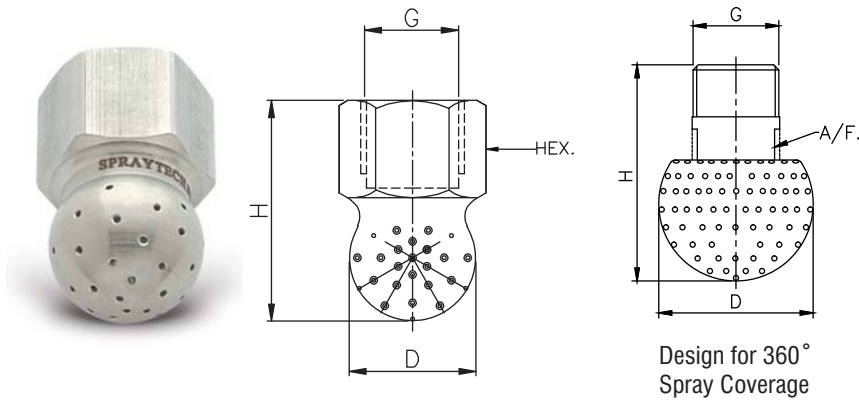
Male Connection On Request

Coverage Type	Spray Angle
	270°
	270°
	360°

MODEL No.		FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES										M1	M2	
		CONNECTION					Flow Capacity in GPM	Pressure [bar]					SS304/	SS316
	SPRAY ANGLE	XC	XD	XE	XF	XG	40* psi	1.5	2	3	5	7	G/A DIMENSION. MM	
													H	D
EG2.150.M2	C/D/E	3/8"					4.64	12.99	15.00	18.37	23.72	28.06	60	27
EG2.200.M2	C/D/E	3/8"					6.19	17.32	20.00	24.49	31.62	37.42		
EG2.250.M2	C/D/E	3/8"	1/2"				7.74	21.65	25.00	30.62	39.53	46.77	77	33
EG2.300.M2	C/D/E	3/8"	1/2"				9.29	25.98	30.00	36.74	47.43	56.12		
EG2.350.M2	C/D/E	3/8"	1/2"				10.84	30.31	35.00	42.87	55.34	65.48		
EG2.400.M2	C/D/E	3/8"	1/2"	3/4"			12.38	34.64	40.00	48.99	63.25	74.83	98	41
EG2.520.M2	C/D/E		1/2"	3/4"			15.94	45.03	52.00	63.69	82.22	97.28		
EG2.600.M2	C/D/E			3/4"			18.58	51.96	60.00	73.48	94.87	112.25		
EG2.700.M2	C/D/E			3/4"			21.68	60.62	70.00	85.73	110.68	130.96		
EG2.800.M2	C/D/E			3/4"	1"		24.52	69.28	80.00	97.98	126.49	149.67	104	47.5
EG2.900.M2	C/D/E			3/4"	1"		27.87	77.94	90.00	110.23	142.30	168.37	Weight (Metals) = 361.0 gms. Approx	
EG3.100.M2	C/D/E				1"	1 1/4"	30.65	86.60	100.0	122.11	158.11	187.08	119	58
EG3.110.M2	C/D/E				1"	1 1/4"	34.07	95.26	110.0	134.72	173.93	205.79		
EG3.120.M2	C/D/E				1"	1 1/4"	37.17	103.92	120.0	149.97	189.74	224.50		
EG3.130.M2	C/D/E				1"	1 1/4"	40.27	112.98	130.0	159.22	205.55	243.21		
EG3.140.M2	C/D/E				1"	1 1/4"	43.36	121.24	140.0	171.46	221.36	261.92		
EG3.150.M2	C/D/E				1"	1 1/4"	46.46	129.90	150.0	183.71	237.17	280.62		
EG3.160.M2	C/D/E					1 1/4"	49.56	138.56	160.0	195.96	252.98	299.33		
EG3.170.M2	C/D/E					1 1/4"	52.66	147.22	170.0	208.21	268.79	318.04		
EG3.180.M2	C/D/E					1 1/4"	55.75	155.88	180.0	220.45	284.60	336.75		
EG3.190.M2	C/D/E					1 1/4"	58.85	164.54	190.0	232.70	300.42	355.46		
EG3.200.M2	C/D/E					1 1/4"	61.95	173.21	200.0	244.95	316.23	374.17		

EH Static Spray Ball Stainless Steel & Plastic Versions

EH



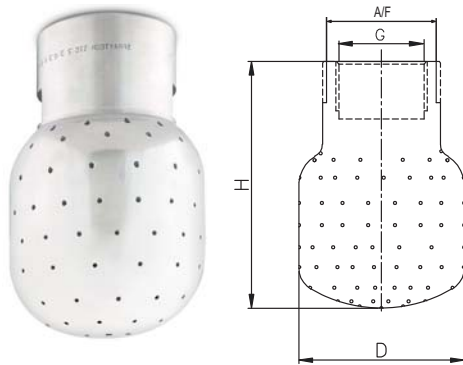
EH Series Static Spray Ball has very compact design that provides straight jets for high impact rinsing of small drums or container up to \varnothing 1.5m. Also it can be used with saturated steam. Spray coverage is available in 180°, 270° & 360°.

Male Connection On Request

SPRAY ANGLE		MODEL NO.	CONNECTION				FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2	P3/P4
Coverage Type	Spray Angle		SPRAY ANGLE	XC	XD	Flow Capacity in GPM	Pressure [bar]						SS304/SS316	TEFLON/NYLON
B	180°	EH2.180.M2					B/D/E	3/8"	1/2"	5.5	15.59	18.00	22.05	28.46
			40° psi	1.5	2	3								
D	270°	EH2.280.M2	B/D/E	3/8"	1/2"	8.58	24.25	28.00	34.29	44.27	52.38	42	30	15
		EH2.520.M2	B/D/E	3/8"	1/2"	15.94	45.03	52.00	63.69	82.22	97.28			
E	360°	EH2.800.M2.XD	B/D/E		1/2"	24.52	69.28	80.00	97.98	126.49	149.67	45.3	26	27
		EH3.100.M2.XD	B/D/E		1/2"	30.65	86.60	100.0	122.47	158.11	187.08			

EI Series Static Spray Ball Stainless Steel & Plastic Versions

EI



Static Spray ball are simple and efficient device for cleaning and rinsing small size tanks. Usually operated low pressure and can achieve limited impact act on the tank wall. It is a stationary design with self cleaning retaining pin inlet connection as well as tube inlet connection. It's widely used in food processing tank cleaning, pharmaceutical tank cleaning and chemical tanks.

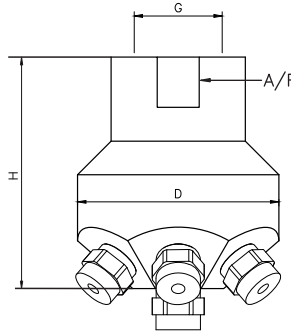
Male Connection On Request

Coverage Type		MODEL NO.	SPRAY ANGLE	CONNECTION					FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2	P3/P4
Type	Angle			XE	XF	XG	XH	XK	Flow Capacity in GPM	Pressure [bar]						SS304/SS316
A	180°	EI3.100.M2.XE	A/B/D/E	3/4"				40° psi		1.5	2	3	5	7	78	40.5
									H							
B	180°	EI3.140.M2.XF	A/B/D/E	1"				42.91	121.24	140.0	171.46	221.36	261.92	90	60	40
		EI3.190.M2.XF	A/B/D/E	1"	1 1/4"			58.24	164.54	190.0	232.70	300.42	355.46			
D	270°	EI3.250.M2.XG	A/B/D/E		1 1/4"	1 1/2"		76.63	216.51	250.0	306.19	395.28	467.71	116	70	50
		EI3.325.M2.XH	A/B/D/E			1 1/2"		99.62	281.46	325.0	398.04	513.87	608.02			
E	360°	EI3.450.M2.XK	A/B/D/E			2"		137.94	389.71	450.0	551.14	711.51	841.87	152	100	62

EJ Fixed Tank Washing Spray Nozzles Stainless Steel & Plastic Versions

EJ

Suitable for washing of thick kind of materials. Having multiple spray tips on peripheri which can provides upto 360° of spray coverage. Rigid construction. M.O.C SS316, SS304.



Male Connection On Request

Coverage Type	Spray Angle
A	180°
B	180°
E	360°

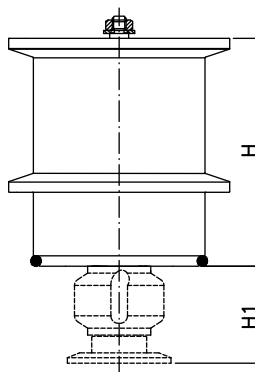
MODELNO.			FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2	P3/P4
			Flow Capacity in GPM	Pressure [bar]					SS304/SS316	TEFLON/NYLON
SPRAY ANGLE	XH							G/A DAIMENTION		
		40° PSI	1.5	2	3	5	7	H	D	
EJ3.100.M2.XH	A/B/E	1 1/2"	30.65	86.60	100.0	122.47	158.11	187.08	121	127
EJ3.140.M2.XH	A/B/E	1 1/2"	42.91	121.24	140.0	171.46	221.36	261.92	Weight (Metals)= 1.7kg. Approx	
EJ3.190.M2.XH	A/B/E	1 1/2"	58.24	164.54	190.0	232.70	300.42	355.46		

EK Series Self Rotating Pop-Out Nozzle

EK

EK series Self-retractable (Pop out) nozzles are best suitable for applications where the complete flush position is required. It is generally used the areas where the nozzle can get blocked or when the environment is contaminated or explosive.

EK series Pop out nozzle retracts its spray ball when pressure is applied and shut itself to complete flush position when operation is stopped.



2" TC (DIN32676-A DN50)

Coverage Type	Spray Angle
D	270°

MODELNO.			FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2	P3/P4
			Flow Capacity in GPM	Pressure [bar]					SS304/SS316	TEFLON/NYLON
SPRAY ANGLE	Tri-Clamp							G/A DAIMENTION		
		40° PSI	1.5	2	3	5	7	H	H1	
EK2.180.M2	D	2" TC	5.57	15.59	18.0	22.05	28.46	33.67	66	28
EK2.220.M2	D	2" TC	6.81	19.05	22.0	26.94	34.79	41.16		
EK2.300.M2	D	2" TC	9.29	25.98	30.0	36.74	47.43	56.12		
EK2.400.M2	D	2" TC	12.38	34.64	40.0	48.99	63.25	74.83		

* Note: Connections are available in threaded and TC end.

Tank Washing Nozzle / CIP Nozzle / CIP Lance

Customer Details

Company Name _____ Contact No. _____
Contact Person _____ E-mail _____

Background On Current Tank Washing System

Number of Tanks _____ Horizontal Vertical Material of Construction _____
Diameter _____ Length _____
Tank Opening Size _____ Drain Hole Size _____
Current Status of Tank Washing ? New Installation Manual Cleaning Existing Spray System

If Having Existing Spray System, Please Provide The Following Details :

Manufacturer Name _____ Model No. _____
Operating Pressure _____ Operating Flow Rate _____
Cleaning Time _____

Product Residue :

Name/Description of Residue on Tank _____
Residue Classification Easily Rinsed off Easily Dissolved by Cleaning Liquid
 Sticky/Stubborn Residue Hard/Dried - Crusted to Surface

Cleaning Liquid Properties :

Name of Cleaning Liquid _____ pH Level _____
Viscosity _____ Density/Specific Gravity _____
 Flammable Corrosive Abrasive
How Much Liquid is Available for Cleaning (Lpm) _____ How Much Pump Pressure is Available at Tank ? _____
Is The Cleaning Liquid Re-Circulated ? Yes No
Is The Cleaning Liquid Filtered ? Yes No If Yes, What Strainer and Mesh Size is Used ? _____

Type of Cleaning Required :

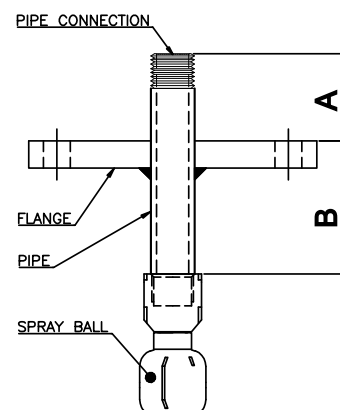
Rinsing Cleaning High Impact Cleaning
Type of Tank Cleaning Nozzle Preferred : Stationary Self Rotating

Spray Coverage :

360° 270° Up 270° Down 180° Up 180° Down Other _____

For Tank Cleaning Lance :

- Nozzle (if Known) _____
- Flange Details _____
- Pipe Connection _____
- Pipe / Tube Size _____
- Lance Length A _____
- Lance Length B _____
- Material _____





Air Atomizing Spray Nozzles



APPLICATION

- Tablet Coating
- Pallet Coating
- Atomization of viscous liquids
- Agglomeration
- Granulation
- Humidification of air

Air Atomizing Design, Features & Introduction

Air atomizing spray nozzles produces fine mist spray with the help of compressed air, liquid breaks into small droplets as air provides shearing effects on liquid droplets. Various spray patterns are available, they are categorized into Flat and Round spray patterns. The droplet size can be adjusted by flow adjustment of compressed air. Air atomizing nozzles are divided into two types Internal and External mix air atomizing nozzles. Those are available in various metals.

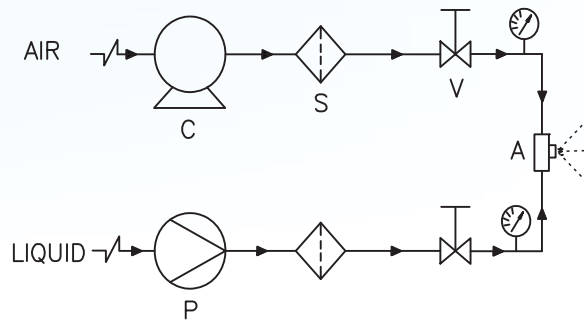
An air atomizing spray nozzle can work on three principles as below :

- 1) Pressure Principle
- 2) SIPHON Principle
- 3) Gravity Head Principle



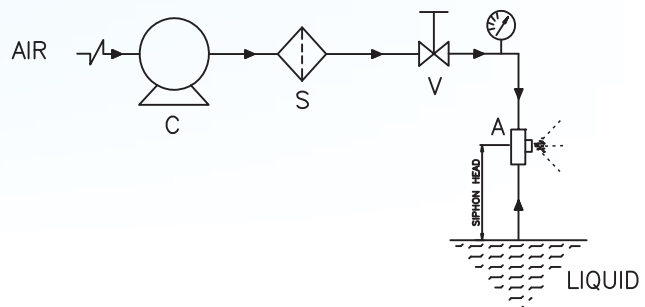
1) Pressure Principle

Liquid is supplied in pressurised form with the help of pump or pressurised container, separate compressed air is needed



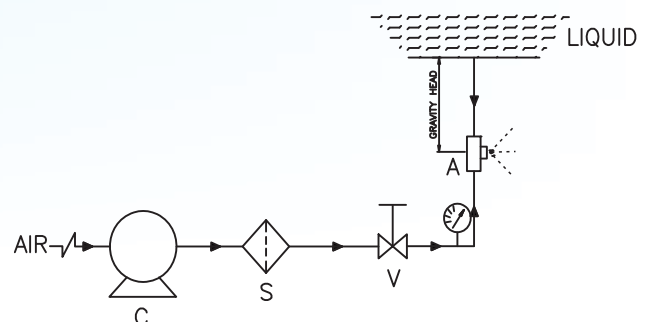
2) Siphon Principle

Siphon principle is utilised to lift liquid from certain height from spray nozzle, suitable where pump or pressurised container of liquid is not available.



3) Gravity head Principle

Gravitational head of liquid is utilised to feed liquid to the spray nozzle, suitable where pump or pressurized container of liquid is not available.



Choice of spray Nozzles

Each spray set-ups consists of an air cap and liquid cap which provide a specific spray pattern capacity and coverage performance

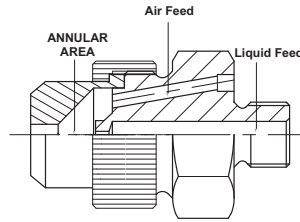
Inside Body Mixing

Liquid and air streams meet within nozzle and are mixed together and expelled through the same orifice. This internal mixing means the streams are not independent; a change in air flow will affect the liquid flow. This makes precise metering of the liquid more difficult than with an External Mix Set-up. Internal Mix set-up are able to produce the finest atomization of any of the XA set-ups, but they are generally not suitable for use with liquids which have a viscosity that is above 200 centipoise.

Out Side Body Mixing

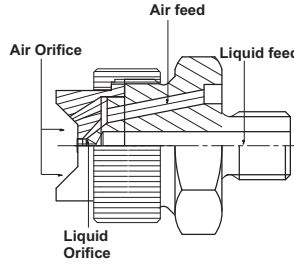
The air and liquid streams exit the nozzle independently and are combined and mixed outside of the nozzles. Because there is no connection between the air and liquid lines within the nozzles, the air and liquid flow rates can be controlled independently, allowing precise metering of the liquid. The atomization can be controlled by adjusting the air flow rate more air produces finer atomization. In most cases these set-up do not atomize as finely as Internal Mix Set-ups.

External Mix Set-up may be used with liquid having a viscosity above 200 centipoise and for abrasive suspensions. Spraytech provides Engineering guidance for spraying high viscosity liquids.



Internal Mix Set-Ups

Air & Liquid mix inside the nozzle



External Mix Set-Ups

Air & Liquid exit independently and combine outside the nozzle

Applications

1. Tablet Coating
2. Thin Film Coating
3. Humidification
4. Paper Moisturising
5. Dust Suppression

Optional Features

1. Manual Shut-off / Cleaning Needle
2. Automatic self Cleaning Needle
3. Auto shut-off Arrangement

Material Code

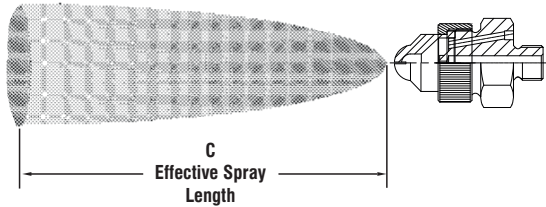
- M1 = SS303/SS304
- M2 = SS316/M2L=SS316L
- M3 = Brass (Nickel Plating on Request)
- M4 = SS410/ M4-3=SS310



CAIA Series Flat Internal Air Atomizing Spray Nozzles

DESIGN / SPRAY CHARACTERISTICS

- Internal mix
- Very fine atomization
- Flat fan, wide angle spray patterns (range 45° and 120°)



Flow Rates and Dimensions

Pressure-fed, Internal Mix, Flat Spray Pattern, 1/8" and 1/4" Pipe Sizes, BSP or NPT

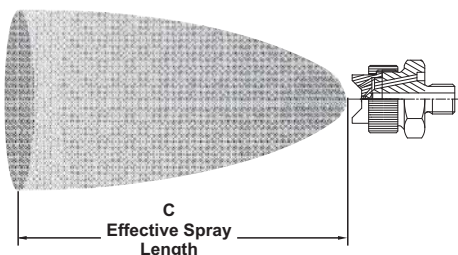
Pipe Size	Model No.	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions		
		Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	"C" Effective Spray Length (mm)	Max. Spray Length (m)	
1/8 or 1/4	CAIA 050	0.7	5.5	1.44	1.3	9.1	1.86	2.0	8.6	2.52	2.7	11.2	3.12	3.9	12.0	4.14	460 660 760 860 940	2.6 3.0 3.2 3.4 4.0	
		0.9	4.7	1.62	1.5	7.7	2.16	2.2	7.5	2.82	3.0	10.1	3.36	4.6	9.7	4.86			
		1.0	4.1	1.86	1.8	6.5	2.52	2.5	6.2	3.12	3.2	9.1	3.72	5.3	7.5	5.58			
		1.1	3.5	2.04	2.1	5.4	2.82	2.8	5.2	3.42	3.5	8.1	3.96	6.0	5.3	6.24			
		1.3	3.0	2.22	2.4	4.3	3.12	3.1	4.2	3.78	4.2	5.4	4.74	6.3	4.3	6.60			
		1.4	2.5	2.40	2.7	3.3	3.42	3.2	3.7	3.90	4.6	4.2	5.10	6.7	3.3	6.96			
1.5	2.0	2.64	2.8	2.8	3.60	3.4	3.2	4.08	4.9	3.1	5.46	7.0	2.4	7.32					
1/8 or 1/4	CAIA 100	1.3	3.9	1.80	2.1	7.4	2.40	3.0	6.1	3.12	3.9	9.4	3.60	5.3	10.2	4.68	460 690 740 940 970	1.8 2.0 2.0 2.1 2.3	
		1.4	3.0	1.98	2.4	5.3	2.70	3.1	5.3	3.24	4.2	7.2	4.02	5.6	8.3	5.04			
		1.5	2.3	2.10	2.5	4.4	2.82	3.2	4.5	3.42	4.6	5.3	4.38	6.0	6.6	5.34			
		1.7	1.8	2.28	2.7	3.7	3.00	3.4	3.8	3.54	4.9	3.8	4.80	6.3	5.1	5.88			
		1.8	1.3	2.46	2.8	3.1	3.12	3.5	3.2	3.72	3.7	3.2	3.72	4.8	4.3	5.88			
		2.0	1.0	2.64	3.0	2.6	3.30	3.9	1.8	4.08	4.9	3.1	5.46	7.0	2.4	7.32			
3.1			3.1	2.1	3.42														
1/8 or 1/4	CAIA 150	0.9	8.2	1.20	1.4	14.4	1.62	2.1	13.5	2.16	2.7	19.1	2.52	4.6	16.1	4.14	710 810 890 970 970	2.1 2.4 2.6 2.7 3.2	
		1.0	6.8	1.38	1.7	11.9	1.92	2.4	11.4	2.52	3.0	17.1	2.76	4.9	13.8	4.56			
		1.1	5.5	1.62	2.0	9.5	2.22	2.7	9.2	2.82	3.2	15.1	3.12	5.3	11.5	4.98			
		1.3	4.1	1.80	2.1	8.3	2.40	3.0	7.1	3.18	3.5	13.1	3.42	5.6	9.3	5.40			
		1.4	2.9	2.04	2.2	7.1	2.58	3.2	5.0	3.54	4.2	8.1	4.32	6.0	7.3	5.82			
		2.4	6.1	2.76	3.4	4.0	2.76	3.4	4.0	3.78	4.6	5.9	4.74	6.3	5.6	6.24			
2.5	5.1	2.94	3.5	3.3	3.96	4.9	4.0	5.16	4.9	4.0	5.16	6.7	4.3	6.72					
1/8 or 1/4	CAIA 200	1.0	9.0	1.50	2.0	10.4	2.46	2.4	11.6	2.88	3.1	15.6	3.36	4.2	17.1	4.38	170 200 220 280 330	3.0 3.7 4.0 4.2 4.8	
		1.1	7.8	1.80	2.1	9.3	2.70	2.5	10.4	3.06	3.2	14.6	3.54	4.6	15.0	4.80			
		1.3	6.6	1.92	2.2	8.2	2.88	2.7	9.4	3.24	3.4	13.7	3.72	4.9	12.8	5.22			
		1.4	5.2	2.16	2.5	6.1	3.30	3.0	7.3	3.66	3.8	10.8	4.26	5.3	11.0	5.64			
		1.7	3.1	2.64	2.8	4.3	3.72	3.2	5.5	4.08	4.2	8.5	4.92	5.6	9.4	6.18			
		2.0	2.0	3.00	3.1	3.0	4.14	3.5	4.1	4.50	4.9	5.2	5.88	6.3	7.2	7.14			
2.2	1.1	3.36	3.4	2.0	4.50	3.8	2.9	4.86	6.0	2.3	7.20	7.0	6.1	8.04					
1/8 or 1/4	CAIA 250	1.1	11.2	3.24	2.1	18.0	4.47	2.7	19.6	5.58	3.5	27.0	6.72	4.6	33.0	8.22	200 330 400 460 480	3.0 3.2 3.4 3.5 4.0	
		1.3	8.5	3.60	2.2	15.8	5.04	2.8	17.3	5.88	3.7	25.0	6.96	4.9	28.0	8.94			
		1.4	6.5	3.90	2.4	13.6	5.34	3.0	15.2	6.18	3.8	23.0	7.26	5.3	24.0	9.66			
		1.5	5.0	4.26	2.5	11.6	5.70	3.1	13.2	6.54	3.9	21.0	7.56	5.6	19.7	10.4			
		1.7	3.8	4.62	2.5	11.6	5.70	3.2	11.4	6.84	4.1	18.9	7.92	6.0	15.7	11.2			
1/8 or 1/4	CAIA 300	0.9	27.0	1.98	1.8	38.0	3.30	2.4	39.0	4.02	3.2	58.0	4.56	4.6	59.0	6.36	300 410 430 480 510	3.4 3.5 3.7 3.8 4.4	
		1.0	20.0	2.28	2.1	28.0	3.96	2.7	30.0	4.62	3.5	47.0	5.22	5.3	40.0	7.92			
		1.1	15.9	2.70	2.2	24.0	4.26	3.0	24.0	5.22	3.8	38.0	5.82	5.6	32.0	8.70			
		1.3	12.5	2.88	2.4	21.0	4.56	3.2	17.8	5.88	3.9	34.0	6.18	6.0	26.0	9.48			
		1.4	10.2	3.36	2.5	17.8	4.92	3.4	15.1	6.18	4.2	27.0	6.78	6.3	20.0	10.3			
		1.5	7.6	3.72	2.7	15.1	5.22	3.5	12.9	6.54	4.6	20.0	7.56	6.7	15.9	11.1			
1/8 or 1/4	CAIA 350	1.0	17.0	1.38	2.0	24.0	2.64	2.4	28.0	3.06	3.4	38.0	4.32	3.9	65.0	4.50	150 170 220 280 350	2.4 3.0 3.4 3.6 4.0	
		1.1	11.0	1.62	2.1	18.9	3.00	2.5	23.0	3.54	3.5	33.0	4.80	4.2	53.0	5.34			
		1.3	7.6	1.98	2.2	14.4	3.36	2.7	18.9	3.96	3.7	28.0	5.34	4.6	40.0	6.48			
		1.4	3.2	2.40	2.4	10.6	3.78	2.8	15.1	4.44	3.8	23.0	5.82	4.9	30.0	7.62			
					2.5	7.2	4.26	3.0	11.7	4.74	3.8	19.7	6.30	5.3	21.0	8.94			
1/8 or 1/4	CAIA 400	1.0	29.0	5.40	1.8	56.0	7.02	2.1	100	7.14	3.0	126	8.40	4.1	140	10.9	250 430 460 530 580	3.4 3.8 4.3 4.6 5.2	
		1.1	18.9	6.48	2.0	40.0	7.98	2.2	79.0	7.98	3.1	110	9.06	4.2	125	11.6			

Standard Materials: Nickel-plated Brass, 303 Stainless Steel and 316 Stainless Steel.

CAEA Series Flat External Air Atomizing Spray Nozzles

DESIGN / SPRAY CHARACTERISTICS

- External mix: allows spraying of viscous materials
- Variable atomization
- Moderate spray angle (range 60°- 90°)
- Precise metering of the liquid flow rate



Flow Rates and Dimensions

Siphon-fed, External Mix, Flat Spray Pattern, 1/8" and 1/4" Pipe Sizes, BSP or NPT

Pipe Size	Model No.	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions					
		Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	"C" Effective Spray Length(mm)	Max. Spray Length (m)				
1/8 or 1/4	CAEA 050	0.4	3	1.32	4	1.32	5	0.4	8	1.50	11	0.6	17	0.7	2.70	2.04	330	1.2				
		0.4		1.50		1.50		0.6		1.68		0.7		2.04		2.04			400			
		0.5		1.62		0.6		1.68		0.7		2.04		0.9		2.40			1.1	3.24	1.8	460
		0.6		1.68		0.7		2.04		0.9		2.40		1.4		3.24			2.5	4.74	1.8	430
1/8 or 1/4	CAEA 100	0.2	3	1.51	4	1.58	5	0.7	8	1.87	11	1.4	17	2.8	4.38	230	0.9					
		0.4		1.58		0.7		1.87		1.1		2.38		1.8		3.23		3.5	5.10	230		
		0.7		1.87		1.1		2.38		1.4		2.72		2.1		3.57		4.2	6.12	230		
		1.1		2.38		1.4		2.72		1.8		3.23		2.8		4.42		4.9	7.14	250		
		1.4		2.72		1.8		3.23		2.1		3.56		3.5		5.10		5.3	7.65	240		
		1.8		3.23		2.1		3.56		2.8		4.42		4.2		6.12		5.6	8.34	280		
1/8 or 1/4	CAEA 150	0.4	5	1.32	6	1.32	8	0.6	12	1.68	17	0.7	2.70	1.1	4.26	2.70	400	1.5				
		0.6		1.68		0.7		1.68		0.7		2.04		1.4		3.24			1.4	3.24	480	
		0.7		2.04		1.1		2.70		1.4		3.24		2.1		4.26			2.1	4.74	580	
		1.1		2.70		1.4		3.24		2.1		4.26		2.5		4.74			2.5	4.74	560	
1/8 or 1/4	CAEA 200	0.4	5	1.58	6	1.87	8	1.1	12	2.38	17	1.8	4.92	3.2	9.84	220	1.0					
		0.7		1.87		1.1		2.38		1.4		2.72		2.1		3.56		3.5	5.10	220		
		1.1		2.38		1.4		2.72		1.8		3.23		2.8		4.42		4.2	6.12	230		
		1.4		2.72		1.8		3.23		2.1		3.56		3.5		5.10		4.9	7.14	290		
		1.8		3.23		2.1		3.56		2.8		4.42		4.2		6.12		5.3	7.62	250		
		2.1		3.56		2.8		4.42		3.5		5.10		4.9		7.14		6.3	9.54	300		
		2.8		4.42		3.5		5.10		4.2		6.12		6.3		9.54		6.7	9.84	250		
		3.5		5.10		4.2		6.12		4.9		7.14		6.3		9.54		7.0	10.56	300		
1/8 or 1/4	CAEA 250	0.4	9	1.50	10	1.50	16	0.4	23	1.50	33	0.7	3.24	1.4	4.26	610	1.8					
		0.5		1.65		0.6		1.68		0.6		1.68		0.9		2.40		1.8	3.72	630		
		0.6		1.68		0.7		1.86		0.7		2.04		0.9		2.70		2.1	4.26	630		
		0.7		2.04		0.7		2.04		0.9		2.04		1.4		3.24		2.5	4.74	660		
1/8 or 1/4	CAEA 300	0.7	9	1.87	10	2.38	16	1.4	23	2.72	33	2.5	5.10	3.5	10.56	250	1.2					
		1.1		2.38		1.4		2.72		1.8		3.23		2.8		4.42		4.2	6.12	250		
		1.4		2.72		1.8		3.23		2.1		3.56		3.5		5.10		4.9	7.14	240		
		1.8		3.23		2.1		3.56		2.8		4.42		4.2		6.12		5.3	7.62	320		
		2.1		3.56		2.8		4.42		3.5		5.10		4.9		7.14		5.6	8.34	300		
		2.8		4.42		3.5		5.10		4.2		6.12		5.6		8.34		6.3	9.54	360		
		3.5		5.10		4.2		6.12		4.9		7.14		6.3		9.54		7.0	10.56	300		

Standard Materials: Nickel-plated Brass, 303 Stainless Steel and 316 Stainless Steel.

CAEA Series Flat External Air Atomizing Spray Nozzles



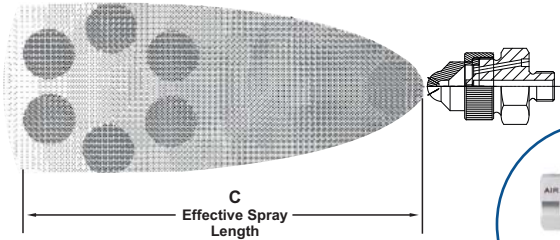
Pipe Size	Model No.	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions									
		Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	"C" Effective Spray Length(mm)	Max. Spray Length (m)								
1/8 or 1/4	CAEA 350	0.6	13	5.46	16	6.12	1.4	25	9.36	2.1	12.6	37	12.6	3.2	52	17.1	480	3.8								
		0.7		6.12															1.1	7.80	2.1	9.36	2.8	15.6	4.2	21.6
		1.1		7.80															1.8	11.0	2.5	14.1	3.5	18.6	5.3	25.8
		1.4		9.36		12.6		15.6		2.8		21.6		5.6		27.3		4.6								
1/8 or 1/4	CAEA 400	0.7	13	5.10	16	6.12	1.4	25	6.96	1.8	8.34	37	10.7	3.2	52	12.7	250	1.7								
		1.0		6.12															1.4	8.34	2.1	9.36	2.8	13.6		
		1.4		6.96															1.8	8.34	2.5	10.7	3.5	13.6		
		1.8		8.34		9.36		10.7		2.5		10.7		4.2		16.5		3.0								
		2.1		9.36		11.7		11.7		2.8		11.7		4.9		18.8		3.5								
		2.8		11.7		13.6		13.6		3.5		13.6		5.6		21.6		3.7								
		3.5		13.6		16.0		16.0		4.2		16.0		6.3		24.7		4.3								
																24.7		4.9								
																	320									
1/8 or 1/4	CAEA 450	0.6	18	5.46	22	6.12	1.1	33	7.80	1.8	11.0	48	14.1	3.5	68	18.6	510	3.5								
		1.1		7.80															1.4	9.36	2.5	14.1	3.9	19.8		
		1.4		9.36															1.8	11.0	2.8	15.6	4.2	21.6		
		1.8		11.0		12.6		15.6		3.2		19.8		6.7		28.5		4.3								
																31.5		4.9								
																600		4.0								
1/8 or 1/4	CAEA 500	0.7	18	5.10	22	6.96	1.8	33	8.34	2.1	9.36	48	11.7	3.5	68	13.9	270	2.1								
		1.0		6.12															1.8	8.34	2.5	10.7	3.5	13.6		
		1.4		6.96															2.1	9.36	2.8	11.7	4.2	14.8		
		1.8		8.34		10.7		11.7		2.8		11.7		5.3		18.8		3.4								
		2.1		9.36		11.7		11.7		3.5		11.7		5.6		20.4		3.8								
		2.8		11.7		13.6		13.6		4.2		13.6		6.3		21.6		4.0								
		3.5		13.6		16.0		16.0		4.9		16.0		6.6		24.7		4.9								
																25.7		5.8								
																	360									
1/8 or 1/4	CAEA 550	0.7	36	6.12	45	7.80	1.8	68	11.0	2.1	12.6	100	17.1	5.3	141	25.8	760	3.0								
		1.1		7.80															1.4	9.36	2.8	12.6	3.5	18.6		
		1.4		9.36															2.1	12.6	3.2	15.6	4.9	24.3		
		1.8		11.0		14.1		17.1		3.2		17.1		7.0		27.3		4.3								
																31.5		4.9								
																33.0		5.8								
																790		4.3								
																790		5.8								
1/8 or 1/4	CAEA 600	1.0	36	6.12	45	8.34	2.5	68	10.7	3.2	12.6	100	12.7	3.9	141	15.3	250	2.7								
		1.4		6.96															2.1	9.36	2.8	11.7	3.5	13.6		
		1.8		8.34															2.5	10.7	3.2	12.7	3.9	14.8		
		2.1		9.36		11.7		11.7		3.5		11.7		4.6		16.5		3.0								
		2.5		10.7		12.7		12.7		4.2		12.7		4.9		17.8		3.5								
		2.8		11.7		13.6		13.6		4.9		13.6		5.6		18.8		3.7								
		3.5		13.6		16.0		16.0		5.6		16.0		6.3		21.6		4.0								
																24.7		4.3								
																27.2		5.9								
																	380									
1/8 or 1/4	CAEA 650	1.8	36	14.1	45	14.1	2.5	68	18.0	3.9	21.3	100	24.6	5.6	141	290	3.0									
		2.1		15.6														2.1	15.6	2.8	18.0	3.2	21.3			
		2.5		18.0														2.5	18.0	3.2	21.3	3.9	24.6			
		2.8		18.0		19.8		19.8		3.5		19.8		4.6		26.7		3.4								
		3.2		21.3		21.3		21.3		3.9		21.3		5.3		300		4.0								
		3.5		22.8		22.8		22.8		4.2		22.8		5.6		320		4.3								
		4.2		26.7		26.7		26.7		4.9		26.7		6.3		340		4.6								
																360		4.7								
																340		5.5								
1/8 or 1/4	CAEA 700	2.1	64	15.6	78	19.8	3.9	119	24.6	4.9	26.7	175	31.2	6.0	141	340	3.5									
		2.5		18.0														3.2	21.3	4.2	26.7	5.3	33.9			
		2.8		19.8														3.5	22.8	4.6	28.8	5.6	36.0			
		3.2		21.3		24.8		24.8		4.9		24.8		6.0		360		4.3								
		3.5		22.8		26.7		26.7		5.3		26.7		6.3		360		4.9								
		4.2		26.7		31.2		31.2		5.6		31.2		6.3		360		5.5								
		4.9		31.2		36.0		36.0		6.3		36.0		6.3		380		5.5								
																380		5.8								
																380		6.1								
1/8 or 1/4	CAEA 750	2.8	102	19.8	125	22.8	4.6	192	28.8	5.6	31.2	280	34.0	6.3	141	360	4.6									
		3.2		21.3														3.8	24.6	4.9	31.2	6.0	38.4			
		3.5		22.8														4.2	26.7	5.3	33.9	6.3	41.1			
		3.9		24.6		28.8		28.8		5.6		28.8		6.3		370		4.9								
		4.2		26.7		31.2		31.2		6.0		31.2		6.3		370		5.2								
		4.6		28.8		33.9		33.9		6.3		33.9		6.3		380		5.5								
		4.9		31.2		36.0		36.0		6.3		36.0		6.3		410		5.5								
																410		5.8								
																410		6.1								

Standard Materials: Nickel-plated Brass, 303 Stainless Steel and 316 Stainless Steel.

DAIA Series Full Cone Internal Air Atomizing Spray Nozzles

DESIGN / SPRAY CHARACTERISTICS

- Internal Mix
- Full Cone spray pattern (range 45° to 120°)
- Very fine atomization
- Moderate forward spray projection



Full Cone spray pattern
(range 15° to 30°)

Flow Rates and Dimensions

Pressure-fed, Internal Mix, Wide Angle Round Spray Pattern, 1/8" and 1/4" Pipe Sizes, BSP or NPT

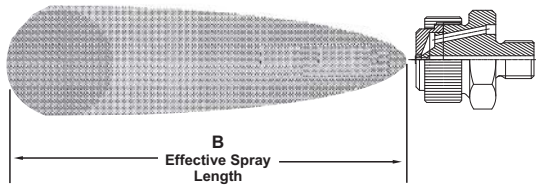
Pipe Size	Model No.	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions	
		Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	"C" Effective Spray Length(mm)	Max. Spray Length (m)
1/8 or 1/4	DAIA 050	0.6	5.3	0.60	1.1	8.1	0.79	1.5	8.1	0.92	2.4	8.9	1.24	3.1	10.5	1.44	230 240 250 260 300	1.5 1.8 2.1 2.7 4.0
		0.7	4.3	0.72	1.3	7.0	0.88	1.8	6.6	1.09	2.7	8.1	1.40	3.4	9.7	1.68		
		0.9	3.0	0.84	1.4	6.4	0.94	2.1	4.9	1.32	3.0	6.4	1.66	3.9	7.8	2.16		
		1.0	1.7	1.02	1.5	5.5	1.01	2.4	3.2	1.68	3.2	4.9	1.92	4.2	6.1	2.52		
					1.7	4.5	1.16				3.4	4.2	2.13	4.6	4.4	2.82		
			1.8	3.5	1.30				3.5	3.4	2.33	4.9	2.8	3.24				
1/8 or 1/4	DAIA 100	0.9	7.0	3.00	1.7	13.2	4.08	2.0	18.5	4.08	2.8	25.0	5.04	3.7	31.0	5.76	310 330 330 340 370	1.8 2.4 3.2 4.1 5.9
		1.0	2.1	3.72	1.8	9.8	4.74	2.1	15.1	4.56	3.0	22.0	5.52	3.8	28.0	6.30		
								2.2	11.7	5.10	3.1	18.5	6.06	3.9	26.0	6.78		
											3.2	15.1	6.54	4.1	23.0	7.32		
											3.4	12.1	7.14	4.2	20.0	7.80		
									3.5	9.1	7.80	4.6	13.6	9.18				
									3.7	6.1	8.52	4.9	6.8	11.0				
1/8 or 1/4	DAIA 150	1.1	12.3	2.40	2.2	16.3	3.72	2.7	21.0	4.14	4.2	19.3	6.00	5.6	22.0	7.80	230 240 240 250 280	2.7 4.6 5.5 7.3 9.4
		1.3	9.9	2.70	2.5	12.1	4.26	3.0	16.3	4.68	4.6	14.6	6.78	6.0	17.6	8.52		
		1.4	7.9	3.00	2.8	8.9	4.74	3.2	12.3	5.16	4.9	10.8	7.44	6.3	14.0	9.12		
		1.5	6.1	3.24	3.0	7.6	4.98	3.4	10.7	5.46	5.3	8.1	8.10	6.7	11.4	9.78		
		1.7	4.9	3.48	3.1	6.4	5.22	3.5	9.3	5.64	5.6	6.2	8.76	7.0	9.1	10.4		
			3.2	5.5	5.46	3.9	6.4	6.30	6.0	4.9	9.42							
			3.4	4.7	5.70	4.2	4.7	6.90	6.3	4.0	10.00							
1/8 or 1/4	DAIA 200	0.7	24.0	1.92	1.4	43.0	2.22	2.1	33.0	3.96	2.8	52.0	3.90	3.7	63.0	4.08	360 370 370 380 390	2.1 3.2 4.1 5.0 6.8
		0.9	13.6	2.64	1.5	35.0	2.94	2.2	26.0	4.68	3.0	46.0	4.56	3.8	58.0	4.74		
		1.0	7.6	3.42	1.7	28.0	3.66	2.4	18.9	5.34	3.1	39.0	5.22	4.0	52.0	6.06		
					1.8	21.0	4.26	2.5	11.7	6.00	3.2	33.0	5.94	4.2	41.0	6.66		
											3.4	26.0	6.60	4.6	27.0	8.28		
									3.5	19.5	7.32	4.9	15.9	9.96				
									3.7	13.2	7.98							
1/8 or 1/4	DAIA 250	1.3	36.0	5.10	2.1	57.0	6.96	3.1	53.0	9.36	4.2	64.0	11.8	5.6	74.0	14.7	330 340 370 380 400	5.5 6.4 8.2 9.1 10.4
		1.5	29.0	6.12	2.4	51.0	7.80	3.2	50.0	9.78	4.9	51.0	13.8	6.0	68.0	15.6		
		1.8	23.0	7.02	2.7	45.0	8.58	3.4	47.0	10.2	5.6	40.0	15.9	6.3	62.0	16.8		
		2.0	19.7	7.50	3.0	39.0	9.42	3.5	45.0	10.6	6.0	34.0	17.1	6.7	56.0	17.7		
		2.1	16.7	7.98	3.2	33.0	10.2	3.9	38.0	11.6	6.3	28.0	18.0	7.0	51.0	18.9		
			3.5	28.0	11.1	4.6	25.5	13.8	6.7	22.0	19.2							
			4.2	13.6	13.2	4.9	18.5	14.7	7.0	17.8	20.1							
1/8 or 1/4	DAIA 300	1.7	27.0	9.36	3.0	39.0	13.8	3.4	50.0	15.0	4.6	62.0	19.2	6.0	93.0	23.7	460 470 510 530 580	5.5 6.4 7.3 7.9 9.8
		1.8	20.0	10.0	3.1	33.0	14.4	3.5	43.0	15.6	4.9	47.0	20.7	6.3	77.0	25.5		
		2.0	15.9	10.7	3.2	27.0	15.3	3.7	41.0	16.5	5.3	36.0	22.5	6.7	62.0	27.6		
		2.1	12.5	11.6	3.4	23.0	15.9	3.9	27.0	18.0	5.6	26.0	24.3	7.0	52.0	29.7		
		2.3	10.2	12.3	3.5	18.5	16.8	4.1	23.0	18.6	6.0	18.9	26.1					
			3.7	14.8	17.4	4.2	18.9	19.2	6.3	13.6	27.6							

Standard Materials: Nickel-plated Brass, 303 Stainless Steel and 316 Stainless Steel.

DASA Series Full Cone Siphon Air Atomizing Spray Nozzles

DESIGN / SPRAY CHARACTERISTICS

- Lowest flow available
- Very fine atomization
- Narrow spray angle (12°- 25°)
- Full cone pattern
- Short to moderate forward spray projection



Flow Rates and Dimensions

Siphon-fed, External Mix, Round Spray Pattern, 1/8" and 1/4" Pipe Sizes, BSP or NPT

Pipe Size	Spray Set-up Number	ATOMIZING AIR		Liquid Capacity in l/h (Liters Per Hour)								Spray Dimensions at 200 mm. Siphon Height	
				Gravity Head				Siphon Height					
		Air (bar)	Nm ³ /h	450 mm	300 mm	150 mm	100 mm	200 mm	300 mm	600 mm	900 mm	"B" Effective Spray Length(mm)	Max. Spray Length (m)
1/8 or 1/4	DASA 050	0.7	0.66	1.5	1.3	1.1	0.9	0.7	0.5			280	1.8
		1.5	1.02	1.8	1.7	1.5	1.3	1.2	1.1	0.6		280	1.9
		3.0	1.68	2.1	1.9	1.7	1.5	1.4	1.3	1.1	0.8	300	2.3
		4.0	2.16	2.2	2.0	1.8	1.6	1.5	1.4	1.2	0.9	360	2.6
1/8 or 1/4	DASA 150	0.7	0.78	24	2.1	1.7	1.5	1.2	0.8			300	2.1
		1.5	1.20	2.8	2.6	2.4	2.1	1.9	1.6	0.9		330	2.3
		3.0	1.92	3.4	3.1	2.9	2.8	2.6	2.4	1.7	1.1	380	2.6
		4.0	2.46	3.7	3.4	3.3	3.1	2.9	2.7	2.1	1.5	430	3.0
1/8 or 1/4	DASA 200	0.7	1.38	2.5	2.3	2.0	1.6	1.4	1.1			300	2.4
		1.5	2.16	2.9	2.8	2.5	2.2	2.0	1.7	0.9		330	2.7
		3.0	3.48	3.4	3.3	3.2	2.9	2.8	2.5	1.9	1.2	380	3.4
		4.0	4.44	3.7	3.6	3.5	3.4	3.3	3.0	2.5	2.0	430	4.0
1/8 or 1/4	DASA 250	0.7	1.14	4.5	4.0	3.4	2.1	1.8	1.4			380	3.0
		1.5	1.86	5.3	4.9	4.4	3.5	2.9	2.7	1.8		410	3.4
		3.0	3.00	6.0	5.6	5.0	4.4	4.0	3.4	2.4	1.2	460	4.0
		4.0	3.90	5.7	5.4	5.0	4.2	3.9	3.5	2.8	1.9	510	4.6
1/8 or 1/4	DASA 400	1.5	3.48	22	19.9	16.3	12.3	10.5	8.3	2.8		460	3.7
		3.0	5.28	25	23	19.5	16.7	14.2	11.5	6.4	2.8	510	4.3
		4.0	6.66	26	24	21	18.4	15.7	12.9	7.9	4.5	530	4.9
		5.6	8.82	26	24	22	19.7	17	14.6	9.8	6.1	580	5.5
1/8 or 1/4	DASA 450	2.0	8.64				27	22	16.8			510	6.7
		3.0	11.4				30	26	21			530	7.0
		4.0	14.4		43	40	31	28	23	11.0		580	7.6
		5.6	18.9	44	42	39	31	28	24	16.7	8.3	630	8.2

Standard Materials: Nickel-plated Brass, 303 Stainless Steel and 316 Stainless Steel.

Tablet Coating Process

It is the process to apply coating material on external surface of tablets to enhance its efficiency and properties.

Today many solid pharmaceutical dosage mediums are produced with coatings, either on the external surface of tablets, or on materials dispensed within gelatine capsules.

Coating serves a number of purposes right from protecting stomach lining from aggressive drugs to protecting the tablet from stomach acids. It also helps in maintaining the shape of the tablet and thus can offer a delayed release of the medication.

But for good results, a better coating medium is required. And the same can be fulfilled by Tablet coating spray nozzles.

General purposes of tablet coating

- Covers unpleasant taste, colour and odour
- Chemical and physical protection from environment
- To control the release of drug with enteric coating
- It protects drug from gastric surrounding of stomach
- Provide way to identify the drug and improves appearance

Results of bad coating

- Sticking or picking
- Roughness
- Twinning
- Peeling
- Cracking



Example of Bad Tablet Coating

Granulation With RMG / HSG

Also known as wet granulation process. material is loaded into bowl having agitator and chopper and mixed rigorously then binder material is sprayed from top and granules are formed.

Good quality granules are foundation for good quality tablet.

Various liquid blenders are used for wet granulation.

Spraying binder over bulk material could reduce wet granulation cycle time and increase productivity.



Fluid bed process consists of following applications :

1. Drying

Process of extracting moisture from solid bulk material by making it fluidized with high flow blow of air, so moisture is removed homogeneously and all over surface of every single particle.

2. Granulation/ Agglomeration

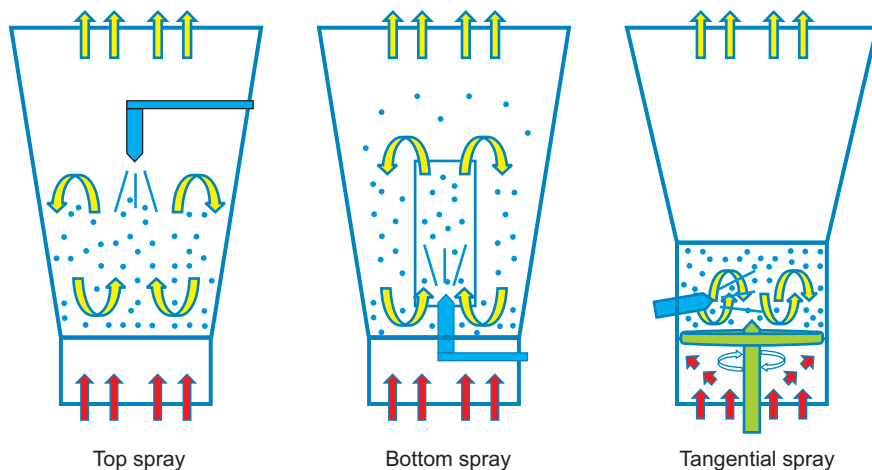
Powder particles of bulk material bonded by liquid fine spray. Liquid could be water or an organic solvent and the powder material will be mixed together. Agglomerate has less strength of particle bond.

3. Coating

Fluidized particles are coated with spray of coating material which enhances. coating film must be very uniform over the particle surface.

4. Tangential Coating

Centrifugal motion is used for making spherical pellets, at the same time particles are bonded by binder liquid. layering also can be done in same way.



Coating Spray Nozzles RC Series



Spraytech's RC Series tablet coating spray nozzle are specially designed to meet GMP requirements where surface texture plays very important role.

The unique Air Cap design makes it Anti Bearding and keeps coating process shutdown free, thus higher production ratio and quality requirements are achieved.

RC series spray nozzle is a compact device incorporating of independent controls for Liquid, Atomizing Air and Fan Air for fine tuning of spray capacity, droplet size and spray patterns. It is available in wide variety of spray setups that give a complete selection of flow rate and flat spray patterns.

R series spray nozzles are externally mix nozzles. This means the liquid and air are mixed outside of air cap to produce complete atomized spray.

The liquid atomization is controlled by varying atomizing air and fan air pressures without changing liquid flow rates. The flat spray pattern is controlled by varying the fan air pressure in conjunction with the atomizing air. This is effective for high viscosity liquids, coatings and suspensions.

Tablet coating spray nozzle features a cylinder for controlled "on-off" operation. The cylinder controls a liquid clean-out/ Shut-off needle which also cleans the liquid orifice.

Spray Nozzle	Type	RC
Spray Type :	Airborne	Air Atomised
Liquid orifice size Range (standard)	mm	0.8 - 1.5, (1.0)
Solution Flow Rate (typical per nozzle)	Liters/hour	6 - 30
Atomizing Air Pressure Range	bar	0.7 - 3
Spray Width Pressure Range	bar	1.0 - 4.0
Maximum Compressed Air Pressure	bar	5.5
Compressed Air Consumption (maximum @ 2.0 bar)	Nm ³ /hour	16
Seal Material (standard) check compatibility for organic use	FDA	Approved

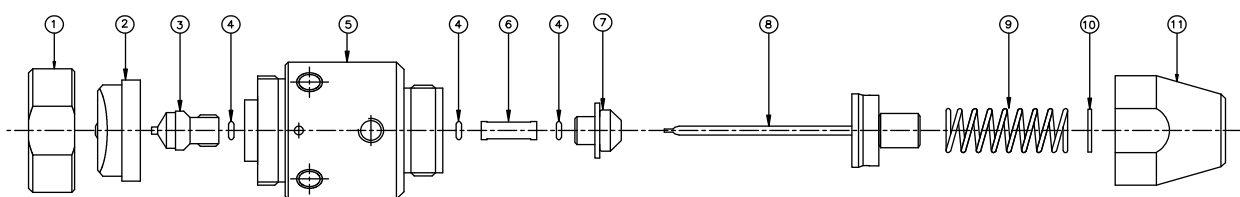
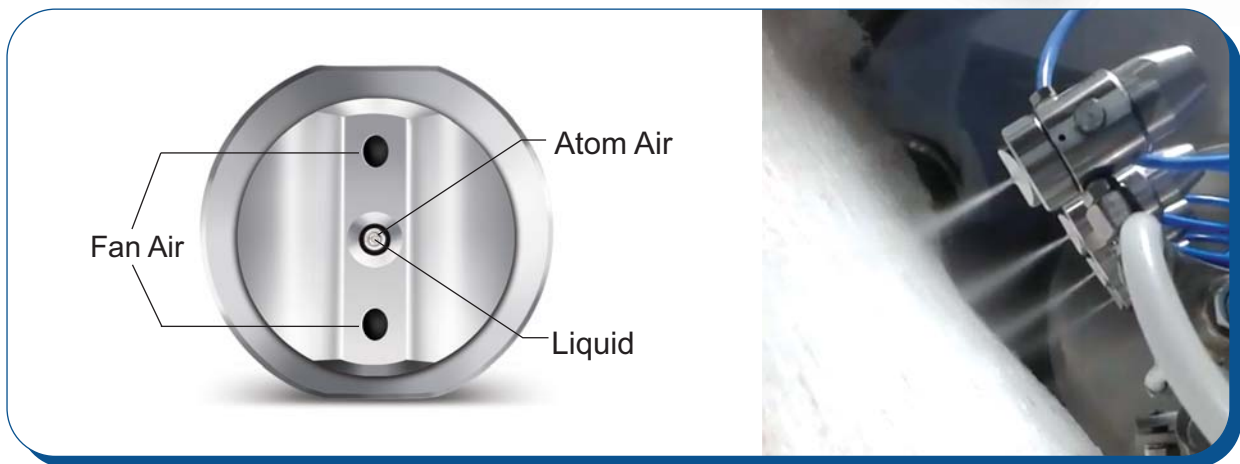
Coating Spray Nozzles RC Series

DESIGN FEATURES

1. Separate atomizing and fan air lines for complete control.
2. Provides variable coverage and fine control of drop size without affecting liquid flow rates.
3. Higher atomizing air pressure yields fine droplet size.
4. Higher fan air pressure yields broader patterns.
5. Non clogging and anti - bearding design



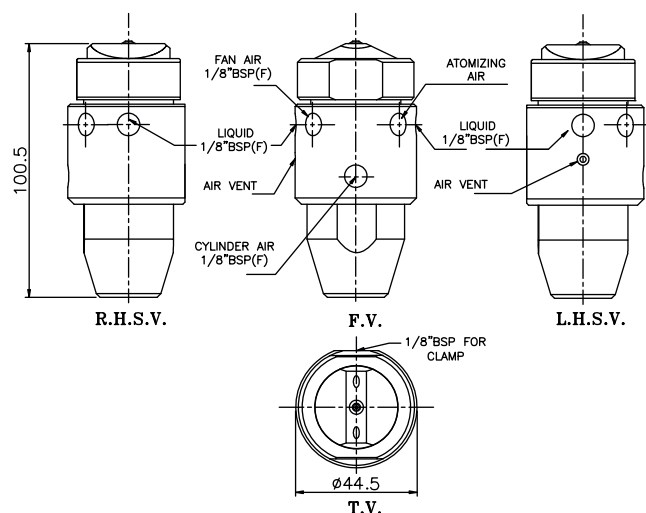
The R Series coating Spray Nozzle are a compact, precision nozzles. Incorporating independent controls of liquid atomizing air and fan air for fine tuning of spray capacity droplet size and spray patterns. It is available in a wide variety of spray Set-ups that give a complete selection of flow rates and flat spray patterns.



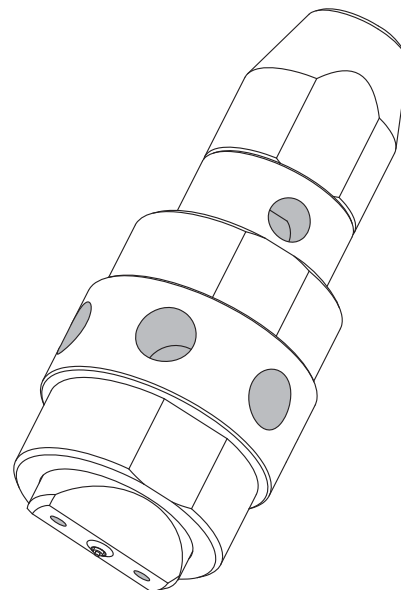
Part Details

- | | |
|-------------|--------------------|
| 1 Lock Nut | 7 Cup Seal Packing |
| 2 Air Cap | 8 Needle Assembly |
| 3 Fluid Cap | 9 Spring |
| 4 Seal | 10 Strainer Disc |
| 5 Body | 11 End Cap |
| 6 Spacer | |

Details of Inlet Connections

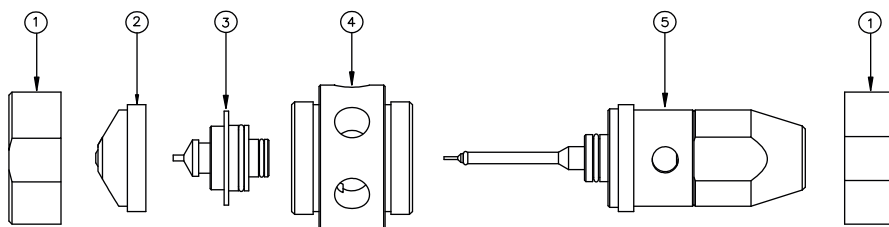


RB Series Flat External Mix Coating Spray Nozzles



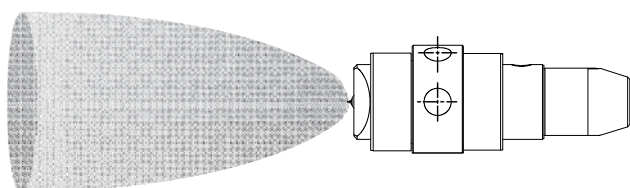
Design Summary :

- RB Series variable spray nozzles provide uniform spray distribution with uniform droplet sizes, even when spraying viscous fluids.
- For finest tuning of liquid flow rate along with spray pattern and droplet sizes independent controls are given in spray nozzles assembly.
- Suitable for large scale production.
- For various settings of spray droplet sizes separate air controller is given in spray nozzle assembly.
- Additional inlet /outlet port allows for liquid re-circulation that effectively maintains the flow of viscous liquids.
- Having removable auto shut off and spring loaded needle cylinder assembly is provided for maintenance.
(Liquid Orifice Range : 1.0 to 2.0 MM)



Part Details

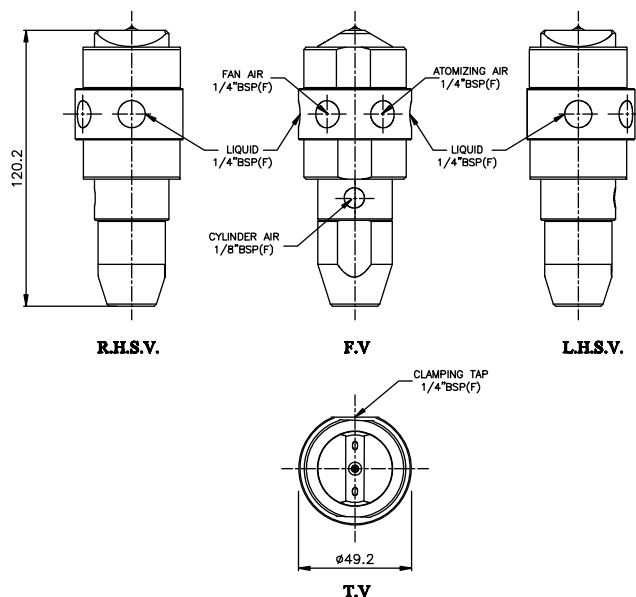
- 1 Lock Nut
- 2 Air Cap
- 3 Fluid Cap
- 4 Body
- 5 Cylinder (Needle) Assembly



With fan air: Flat Spray Pattern.

Without fan air: Round Spray Pattern.

Details of Inlet Connections :



RAS Flat External Mix Coating Spray Nozzles



Liquid Orifice Range : 0.5 to 1.2 MM

RAS type tablet coating spray nozzle is very compact and light weight design and it comes with 4 ports of controls.

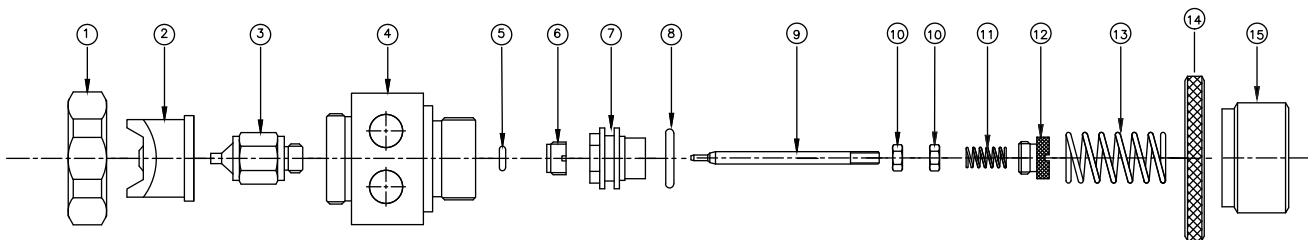
Externally mixed atomized spray properties could be changed as per need with fine tuning of individual pressures of Atomizing air, Fan Air & liquid pressure.

Integrated needle assembly provide the Auto-shut off and Auto Cleaning of liquid orifice.

RAS type spray nozzle is suitable for Lab-coater, Auto Coater and Conventional coater.

Spray setup available with Flat Fan, and Round Pattern.

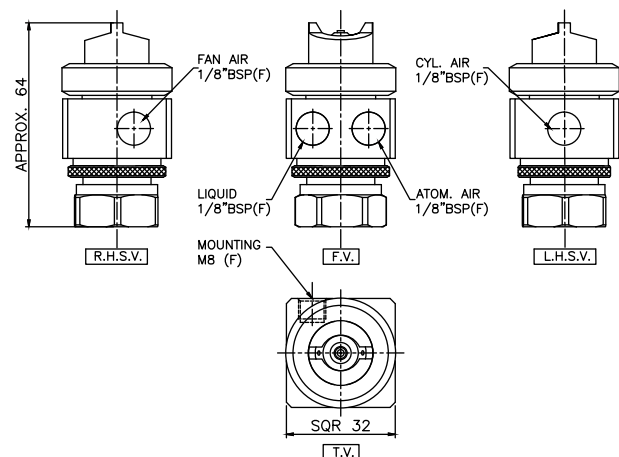
All Sealing materials are FDA Approved.



Part Details

- | | |
|----------------------|------------------|
| 1 Lock Nut | 9 Needle |
| 2 Air Cap | 10 Needle Nut |
| 3 Fluid Cap | 11 Needle Spring |
| 4 Body | 12 Packing Screw |
| 5 Seal | 13 Rear Spring |
| 6 Seal Guide Packing | 14 Retainer Nut |
| 7 Piston | 15 End Cap |
| 8 Seal | |

Details of Inlet Connections



RCS Series Spray Nozzles



Liquid Orifice Range : 0.5 to 1.2 MM

SPRAYTECH'S Latest Development, RCS series coating spray nozzles offers very compact design with innovative flow control feature. This feature offers the user to take the RCS coating nozzle from the lowest 20 ml to its max limit is just a spin.

RCS type coating spray nozzle is very light weight and features anti bearding air cap design which eliminates the deposition of material over the air cap and abolishes bearding over gun.

RCS comes with individual ports for liquid, Atomizing, Fan control and auto shut-off for total control. Also as it is has external mixed design thus, atomized spray properties could be changed as per need with fine tuning of individual pressures of Atomizing air, Fan Air & Liquid pressure.

Innovative needle assembly provides the Auto-shut off and Auto Cleaning of liquid orifice.

RCS type coating spray nozzle is suitable for Lab-coater, Auto Coater and Conventional coater.

Spray setup available with Flat Fan, and Round Pattern.

All Sealing materials are FDA Approved.

Part Details

- 1 Lock Nut
- 2 Air Cap
- 3 Liquid nozzle
- 4 Body
- 5 Needle Assembly
- 6 Needle Spring
- 7 End Cap
- 8 Check Nut
- 9 Flow Adjustment Screw

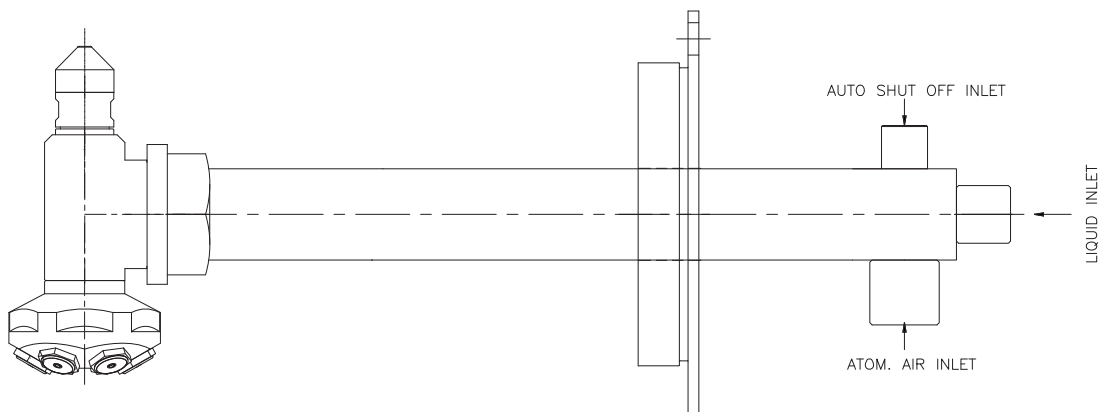
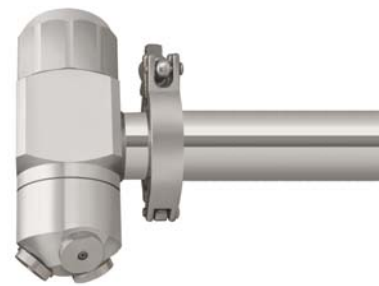
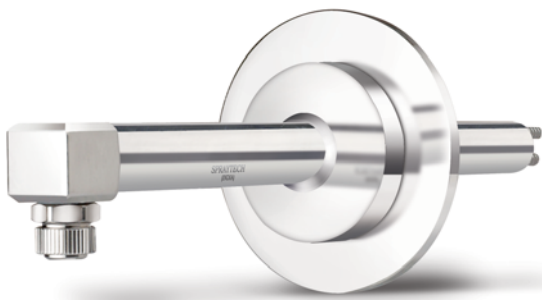
FBP Top Spray Nozzle & Lance

Spraytech's Top Spray Nozzles are design for Large Scale, Medium Scale and Lab Scale Fluid Bed Processors.

Manufactured according to GMP and available in wide range of spray rates. And external mix spray setup enhances the spray quality and distribution in optimum way.

Design Features

- Available in 1, 3, 6, 7 spray heads
- Available in various spray angles (Top down spray)
- Auto-shut off Feature
- Anti-drip spray heads
- Long Life Lance design
- Compact design of spray nozzle
- Homogeneous spray distribution
- Fine droplet size, best for dry granulation, pallet coating, and agglomeration.
- GMP Suitable design
- Anti-clogging lance
- Made from SS316L and All O-rings from FDA Approved material
- Custom made designs available



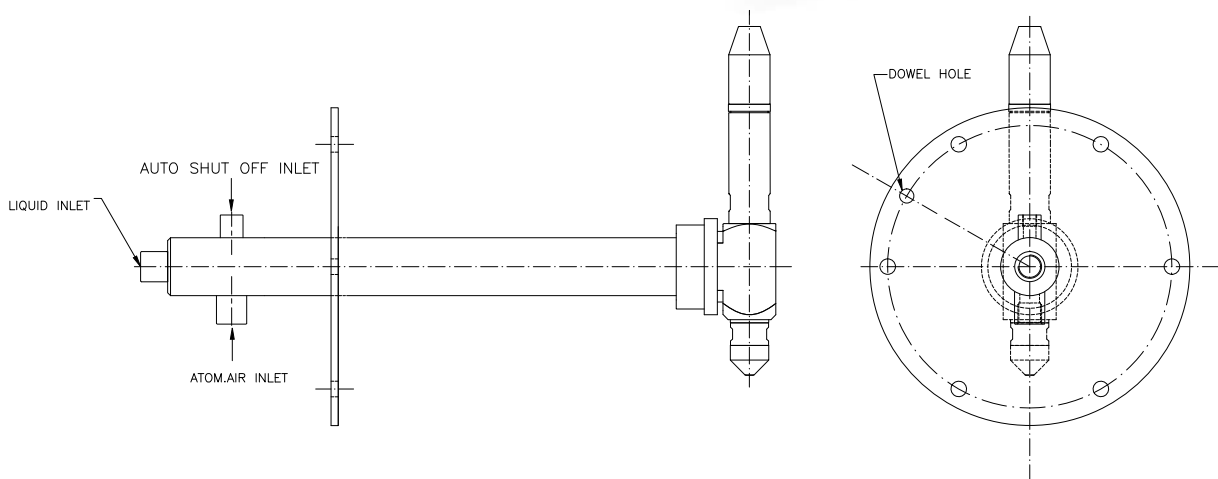
FBP Bottom Spray Nozzle & Lance (Wurster Coating)

Spraytech's specially designed and customizable Fluid bed Bottom spray (Wurster coating) nozzle helps to improve the wurster coating application and also makes it possible to attain high-quality results in coating pellets and particles.

Designed for All type of Bottom Spray Coating, Allegiant spray distribution and fine droplets results in optimum quality of coating. Light weight design and easy to control the spray parameters. Minimum internal parts hence less maintenance,

Design Features

- Optimum spray quality
- Anti-drip spray tip
- Auto-clean needle assembly
- Easy to assemble and dismantle
- Special air cap design to avoid material build-up
- GMP Suitable design
- Anti-clogging lance
- Available with various orifices sizes
- Made from SS316L and All O-rings from FDA Approved material
- Custom made designs available



RMG / HSG Top Spray Nozzle & Lance

Spraytech's RMG / HSG Top Spray Nozzles & Lance are design for Large Scale, Medium Scale and Lab Scale Rapid Mixer Granulator and High - Shear Granulator for Wet Granulation. Superior spray quality produces best in class granules from bulk. Manufactured according to GMP and available in wide range of spray rates. And external mixing spray setup enhances the spray quality and distribution in optimum way.

Spray Nozzles and special purpose lance designs available

Design Features

- Available in 1, 3, 4 spray heads
- Available in various spray angles
- Auto-shut off feature
- Anti-drip spray heads
- Long Life Lance design
- Compact design of spray nozzle
- Homogeneous spray distribution
- Fine droplet size, best for wet granulation,
- GMP Suitable design
- Anti-clogging lance design
- Made from SS316L and All O-rings from FDA Approved material
- Custom made designs available





Spray angle range : 60° - 80°

Flow range : 10 LPM to 50 LPM

Features:

- Anti drip Spray setup
- Auto shut off
- Finest droplet Size

Internal Mix Setup

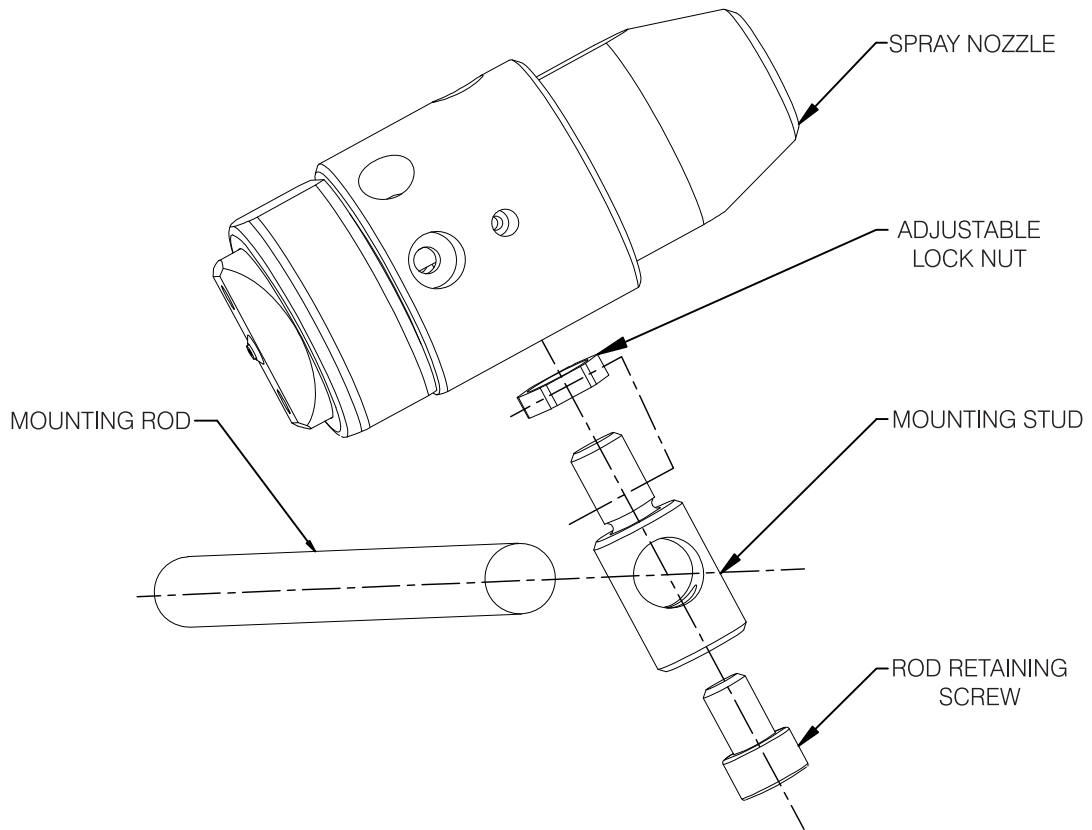


Special Design For R&D & Pilot
RMG / HSG Equipment

Spray angle range: 20° - 90°

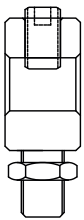
Flow range : 1 LPM to 8 LPM

Mounting Assembly

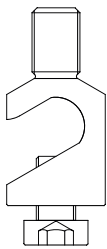


Accessories

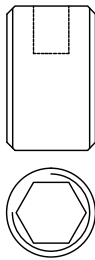
Optional Accessories available for R series coating spray nozzles



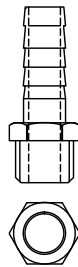
MOUNTING STUD
For round rod
(ACC405)



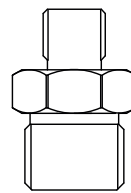
MOUNTING STUD
For Hex rod
(ACC406)



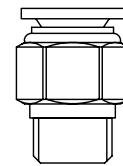
PLUG
(ACC006)



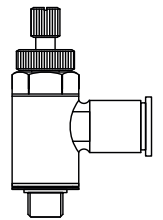
BARB CONNECTOR
(ACC005)



NIPPLE
(ACC303)



PUSH-IN
CONNECTOR
(ACC304)



FLOW REGULATOR
(ACC305)

Steel Mill Spray Nozzles Spray Header, Lance & Engineering Systems



Billet Caster Spray Nozzle

FULL CONE DB SERIES NOZZLE

Application : Continuous Casting Machine for Secondary Cooling

Spray Characteristics

- Produces a full cone pattern
- Sprayed volume is evenly distributed across spray pattern
- Available with a range of spray angle

Materials and Construction

- Standard materials are Brass and Stainless Steel
- Male and female thread available
- 3/8" or 1/4" BSP / NPT threaded connections available
- Specially designed internal core ensures a good resistance to clogging
- Standard spray angle 45°, 65°, 80°, 90°, and other spray angle on request.

Stainless steel

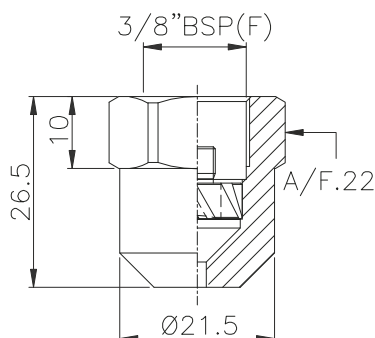


Flow Rate (l/min) @ Different Pressure Value (Bar)									
Sr. No.	Model No.	Angle	1.0 Bar	2.0 Bar	2.8 Bar	4.0 Bar	5.0 Bar	6.0 Bar	7.0 Bar
1	DB 2045	45°	1.20	1.69	2.00	2.39	2.67	2.93	3.16
2	DB 2545	45°	1.99	2.11	2.50	2.98	3.34	3.65	3.95
3	DB 3045	45°	1.80	2.50	3.00	3.60	4.00	4.40	4.75
4	DB 3545	45°	2.10	2.95	3.50	4.20	4.70	5.10	5.55
5	DB 4045	45°	2.40	3.40	4.00	4.80	5.30	5.85	6.30
6	DB 4745	45°	2.80	4.00	4.70	5.60	6.30	6.90	7.40
7	DB 5045	45°	3.00	4.20	5.00	6.00	6.70	7.30	7.90
8	DB 6045	45°	3.60	5.10	6.00	7.20	8.00	8.80	9.50
9	DB 7045	45°	4.50	5.90	7.00	8.35	9.35	10.25	11.05
10	DB 8045	45°	4.80	6.80	8.00	9.60	10.70	11.70	12.65

Brass



Flow Rate (l/min) @ Different Pressure Value (Bar)									
Sr. No.	Model No.	Angle	1.0 Bar	2.0 Bar	2.8 Bar	4.0 Bar	5.0 Bar	6.0 Bar	7.0 Bar
1	DB 1565	65°	0.90	1.25	1.50	1.80	2.00	2.20	2.35
2	DB 2065	65°	1.20	1.70	2.00	2.40	2.70	2.90	3.15
3	DB 2565	65°	1.49	2.11	2.50	2.98	3.34	3.65	3.95
4	DB 3065	65°	1.80	2.50	3.00	3.60	4.00	4.40	4.75
5	DB 3565	65°	2.10	2.95	3.50	4.20	4.70	5.10	5.55
6	DB 4065	65°	2.40	3.40	4.00	4.80	5.30	5.85	6.30
7	DB 5065	65°	3.00	4.20	5.00	6.00	6.70	7.30	7.90
8	DB 6065	65°	3.60	5.10	6.00	7.20	8.00	8.80	9.50
9	DB 7065	65°	4.20	5.90	7.00	8.35	9.35	10.25	11.05
10	DB 7565	65°	4.50	6.35	7.50	8.95	10.00	10.95	11.85
11	DB 8065	65°	4.80	6.80	8.00	9.60	10.70	11.70	12.65
12	DB 9065	65°	5.40	7.60	9.00	10.75	12.00	13.15	14.25
13	DB 10065	65°	6.00	8.45	10.00	11.95	13.40	14.60	15.80
14	DB 12065	65°	7.20	10.10	12.00	14.30	16.00	17.60	18.95
15	DB 13065	65°	7.77	10.99	13.00	15.54	17.37	19.03	20.55
16	DB 15065	65°	8.96	12.68	15.00	17.93	20.04	2.96	23.72
17	DB 16065	65°	9.55	13.50	16.00	19.10	21.40	23.40	25.30



These part numbers are easy to use and identify, example:

Brass or Stainless steel 3/8" Female - DB 2045 / DB2065 = 2.00 litre/min @ 2.8 bar with a 45° & 65° angle

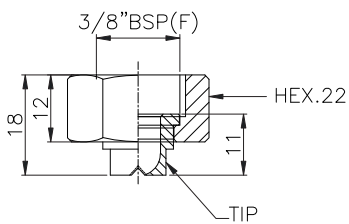
Flow Rate (l/min) @ Different Pressure Value (Bar)									
Sr. No.	Model No.	Angle	1.0 Bar	2.0 Bar	2.8 Bar	4.0 Bar	5.0 Bar	6.0 Bar	7.0 Bar
1	DB 1580	80°	0.90	1.25	1.50	1.80	2.00	2.20	2.35
2	DB 2080	80°	1.20	1.70	2.00	2.40	2.65	2.90	3.15
3	DB 3080	80°	1.80	2.50	3.00	3.60	4.00	4.40	4.75
4	DB 3580	80°	1.80	2.50	3.50	3.60	4.00	4.40	4.75
5	DB 4080	80°	2.40	3.40	4.00	4.80	5.30	5.85	6.30
6	DB 5080	80°	3.00	4.20	5.00	6.00	6.70	7.30	7.90
7	DB 6080	80°	3.60	5.10	6.00	7.20	8.00	8.80	9.50

Flow Rate (l/min) @ Different Pressure Value (Bar)									
Sr. No.	Model No.	Angle	1.0 Bar	2.0 Bar	2.8 Bar	4.0 Bar	5.0 Bar	6.0 Bar	7.0 Bar
1	DB 1590	90°	0.90	1.25	1.50	1.80	2.00	2.20	2.35
2	DB 2090	90°	1.20	1.70	2.00	2.40	2.65	2.90	3.15
3	DB 3090	90°	1.80	2.50	3.00	3.60	4.00	4.40	4.75
4	DB 3590	90°	1.80	2.50	3.50	3.60	4.00	4.40	4.75
5	DB 4090	90°	2.40	3.40	4.00	4.80	5.30	5.85	6.30
6	DB 5090	90°	3.00	4.20	5.00	6.00	6.70	7.30	7.90
7	DB 6090	90°	3.60	5.10	6.00	7.20	8.00	8.80	9.50

These part numbers are easy to use and identify, example:

Brass or Stainless steel 3/8" Female - DB 2080 / DB 2090 = 2.00 litre/min @ 2.8 bar with a 80° & 90° angle

Flat Tip in Billet Caster













Flat nozzle tips are usually mounted onto a pipe using a welded 3/8" nipple or a clamp and secured in place with a retaining nut. The precision machined orifices can be protected against the risk of clogging by using a filter which fits neatly into the nipples and clamps, specifically designed for this purpose.







Flow Rate (l/min) @ Different Pressure Value (Bar)									
Sr. No.	Model No.	Angle	1.0 Bar	2.0 Bar	2.8 Bar	4.0 Bar	5.0 Bar	6.0 Bar	7.0 Bar
1	CC 2065	65°	1.20	1.70	2.00	2.40	2.70	2.90	3.15
2	CC 2565	65°	1.49	2.11	2.50	2.98	3.34	3.65	3.95
3	CC 3065	65°	1.80	2.50	3.00	3.60	4.00	4.40	4.75
4	CC 3565	65°	2.10	2.95	3.50	4.20	4.70	5.10	5.55
5	CC 4065	65°	2.40	3.40	4.00	4.80	5.30	5.85	6.30
6	CC 5065	65°	3.00	4.20	5.00	6.00	6.70	7.30	7.90
7	CC 5765	65°	3.28	4.64	5.70	6.57	7.34	8.05	8.69
8	CC 6065	65°	3.60	5.10	6.00	7.20	8.00	8.80	9.50
9	CC 8065	65°	4.80	6.80	8.00	9.60	10.70	11.70	12.65

These part numbers are easy to use and identify, example:

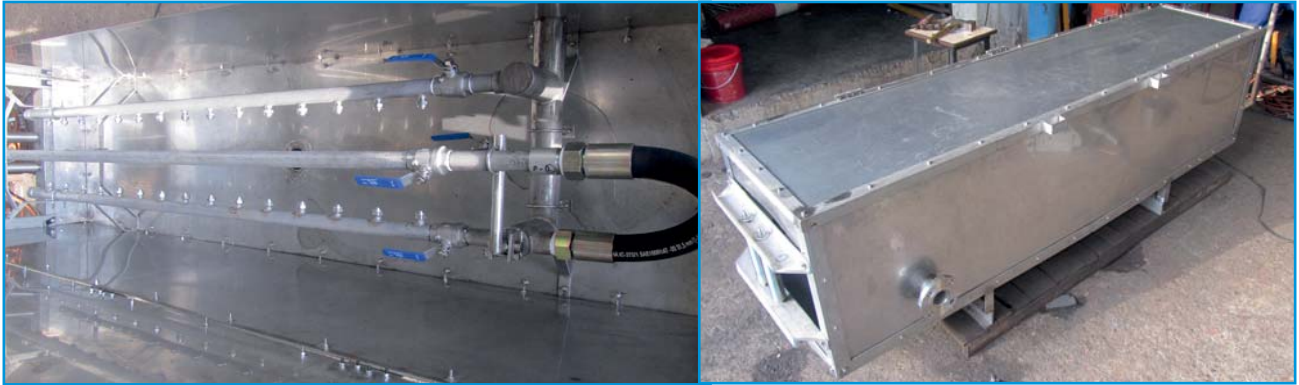
Brass or Stainless steel 3/8" Female - CC 2065 = 2.00 litre/min @ 2.8 bar with a 65° angle

Spray Nozzles for Secondary Cooling in Continuous Casting Machines

Type of Nozzles	Spray pattern	Spray angle	V water [l/min] min/max			Turn down ratio (1 bar/7 bar water)	Material		End Connection	Applications	Features
			at p [bar]				Brass	SS 304 / 316			
			1.0	2.0	7.0						
	Full cone circular pattern		45° 60° 90° 120°	min. 0.76 1.0 1.65 max. 7.58 10.0 16.51	1:2.2 up to 1:2.5	✓	✓	1/8 BSPT/NPT 1/4 BSPT/NPT 3/4 BSPT/NPT	Billet, Bloom (Rounds): as well as Slabcaster for narrow side or footroller area	■ Stable spray angle	
	Full cone circular pattern		45° 60° 90° 120°	min. 0.76 1.0 1.65 max. 7.58 10.0 16.51	1:2.2 up to 1:2.5	✓	✓	Retaining nut 3/8 BSPT/NPT	Billet, Bloom (Rounds): as well as Slabcaster for narrow side or footroller area	■ Stable spray angle	
	Full cone square pattern		60° 75° 85° 115°	min. 0.95 1.25 2.06 max. 7.58 10.0 16.51	1:2.2	✓	✓	1/4 BSPT/NPT 3/8 BSPT/NPT 1/8 BSPT/NPT 1/4 BSPT/NPT	Thin slab, Slab (footroller area)	■ Stable spray angle	
	Oval Full cone		90°	min. 3.37 4.45 7.34 max. 5.1 6.85 11.31	1:2.2	✓	✓	1/4 BSPT/NPT 1/4 BSPT/NPT 1/8 BSPT/NPT	Thin slab, Slab (e.g. footroller area)	■ Stable spray angle	
	Vanless Full cone circular		60° 90° 120°	min. 0.71 1.0 1.87 max. 11.31 16.0 29.9	1:2.6	✓	✓	1/4 BSPT/NPT 3/8 BSPT/NPT	Billet, Bloom (Rounds):	■ Vanless full cone nonclogging type	

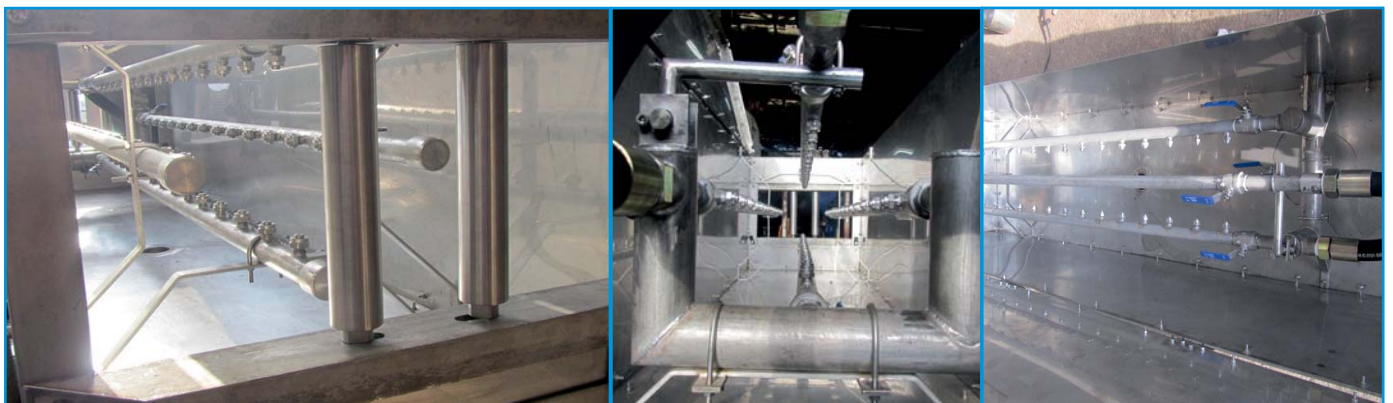
Type of Nozzles	Spray pattern	Spray angle	Nozzles Size from -up to	Vwater [l/min] min/max						Turn down ratio @ 2 bar air	Material		End Connection		Applications	Features
				1 Bar Water		2 Bar Water		7 Bar Water			Brass	SS 304 / 316	Water	Air		
				Water	Air	Water	Air	Water	Air							
	Full cone circular		30° 60° 90°	min. 0.45 14 2.0 10 6.5 4 max. 0.95 25.2 4.2 18 13.6 72	1:15	✓	✓	Console	Console	Billet, Bloom	<ul style="list-style-type: none"> ■ Finest droplet spectrum ■ Wide turn down ratio to flow rate ■ Large, free cross sections ■ Strong flow impulses 					
	Flat parabolic		30° 60° 90° 120° 140°	min. 0.5 19 1.6 18 4 16.5 max. 0.95 70 8.5 50 28 28	1:35	✓	✓	1/4 NPT 1/4 BSPP Console	3/8 NPT 3/8 BSPP Console	Billet, Bloom, Slab	<ul style="list-style-type: none"> ■ Quick and easy cleaning ■ Patented mixing insert ■ Self aligning tip 					
	Flat parabolic		80° 90° 100° 120° 130° or to suit	min. 2.25 9.8 3.6 9.5 8.6 6.8 max. 8 60 18 55 50 23.5	1:5 (1:8*)	✓	✓	3/8 BSPP 1/2 BSPP	3/8 BSPP 1/2 BSPP	Billet, Bloom, Slab, thin slab	<ul style="list-style-type: none"> ■ Uniform water distribution ■ Stable spray angle at all pressures and flows 					

Spray Header & System Fabrication



We are manufacturing “**SPRAY HEADERS**” as per Indian, British, German, & Us Standard for various applications. Spray headers that accommodate different types of nozzles and ensure perfect overlapping spray patterns or non-overlapping spray patterns for applications where uniform coverage is critical.

We design, Engineer & Manufacture complete **Roll Coolant Systems** including Headers, Spray Pipes also laminar spray headers for hot strip mill, Spray pipes for mould & Caster segment of integrated steel plants, Lance with & With out spill back type systems for sponge iron plants.



Spray Headers Fabrication



Spray Lance Fabrication



Special Purpose Spray Nozzle

Max Flow Spray Nozzle



Application example :

Gas Cooling in medium sized and large Gas Cooling Towers, e.g. in the Cement, Lime, Glass and Iron & Steel Industry

Technical data :

Spray Angle: 90°, 60°, 45°
Turn down ratio: ≥ 10 : 1
Typical operating pressure: 35 bar (g)

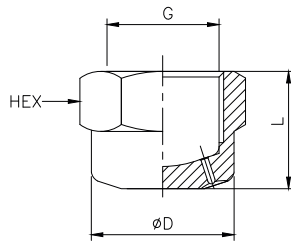
Spillback Spray Nozzle



Atomize liquids as a fine hollow cone Irrespective of the atomized flow rate, the medium is always carried to the nozzles at the same high pressure.

Regulation is performed by opening a control valve in the Reverse Flow Nozzle line which takes a partial flow rate from the atomization and carries it back to the tank. The maximum atomized flow rate is achieved with the control valve closed. Even, fine liquid atomization is achieved across the entire control range.

Fog Spray Nozzle



Nozzle Conn. (G)	D	L	Hex
3/4"	31.5	25.4	32
1"	40.5	29.4	41
1-1/4"	45.5	31	46

M.O.C. : SS304, SS316, Brass, PVC, etc.

Design Features

: This non clogging nozzle gives fine atomization with the aid of several flat spraying into one another.

Applications

: Fire Protection, Dust Control, Aerating, Chemical Processing.

Nozzle Inlet Conn. NPT/BSP T/ BSPP	Hose Size	Nozzle Type		Capacity					
		Spray Angle	Conn. Female	1 bar	2 bar	3 bar	5 bar	7 bar	10 bar
3/4"	1"	70° / 90°	✓	11	16	19.5	25.5	30	36
3/4"	1"	70° / 90°	✓	21.5	30	36.5	47	56	67
3/4"	1"	70° / 90°	✓	28	40	49	63	75	89.5
3/4"	1"	70° / 90°	✓	42.5	60	73.5	95	112	134
1"	1-1/4"	70° / 90°	✓	57	80	98	126.5	150	179
1"	1-1/4"	70° / 90°	✓	79	112	137	177	209	250.5
1-1/4"	1-1/2"	70° / 90°	✓	113	160	196	253	299.5	358
1-1/4"	2"	70° / 90°	✓	159.5	225	275.5	356	421	503

Dry Fog Spray Nozzle

Nozzle For Humidification -
Nozzle Flow Charts at Nominal Settings

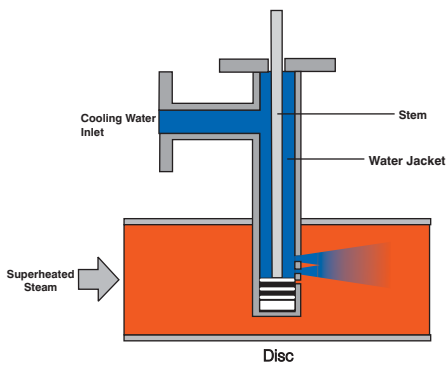


Water Flow Litres / hour	Water Pressure Bar	Air Pressure Bar	Air Rate Litres / sec (cfm)	Droplet Size Range micron
Nozzle size 03 5H	0.4-8 lts/hr			
3	1.0	4.0	0.8 (1.7)	1 to 5
Nozzle size 05 2H	1-20 lts/hr			
8	1.0	5.0	1.84 (3.9)	3 to 8
Nozzle size 08 6H	2-26 lts/hr			
20	1.0	5.0	5.19 (11.0)	5 to 20
Nozzle Size 12 5H	4-55 lts/hr			
40	1.0	5.0	7.08 (15.0)	25 to 65
Nozzle size ST52	1-20 lts/hr			
8	1.0	5.0	1.84 (3.9)	3 to 10
Nozzle size ST47	2-30 lts/hr			
18	1.0	5.0	5.19 (11.0)	5 to 20
Nozzle size ST33	8-55 lts/hr			
40	1.0	5.0	7.08 (15.0)	25 to 65

Desuperheaters

Desuperheating, sometimes called attemperation or steam conditioning, is the reduction of gas temperature. Its most common application is the reduction of temperature in a steam line through the direct contact and vaporation of water. Desuperheaters use uniquely effective methods to inject the water and maximize the surface contact area between the steam and water to increase the rate of water evaporation. Most of our Desuperheaters inject water through several small holes into the path of the high velocity steam where the water is atomized into small water droplets and quickly evaporated into the steam.

The simple spray type Desuperheater is used in applications where the steam load remains relatively constant. Cooling water is injected into the superheated steam through a nozzle. The steam temperature is reduced by evaporative cooling. The maximum turndown ratio of the spray type Desuperheaters is 2:1. Air atomizing type Spray Nozzles & Hollow Cone type Spray Nozzles are a good option for Spray type Desuperheaters.

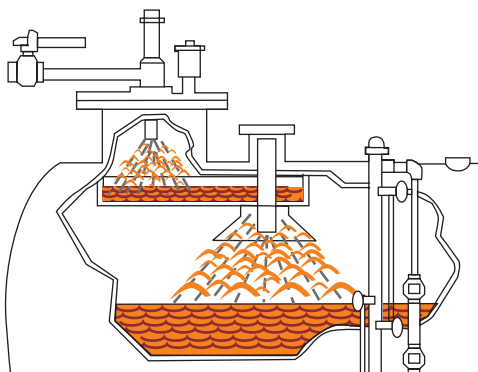


Deaerator

Deaeration is a process by which dissolved gases are removed from water. Since proper deaeration of boiler feed water is essential to minimise oxygen corrosion and carbon dioxide attack, almost every boiler plant uses deaerating systems. Nowadays modern deaerating systems can be designed to obtain a residual oxygen content as low as 0.005 ml/liter.

Spray type Deaerators are simple, cost effective and virtually maintenance free systems that can operate under variable loads without significant impact on heating or deaerating performances. For the above reasons, this kind of Deaerator is widely used for industrial applications. Spray Deaerators do not require corrosion resistant materials because all the water in contact with the shell is sufficiently deaerated and non-corrosive at the operating conditions.

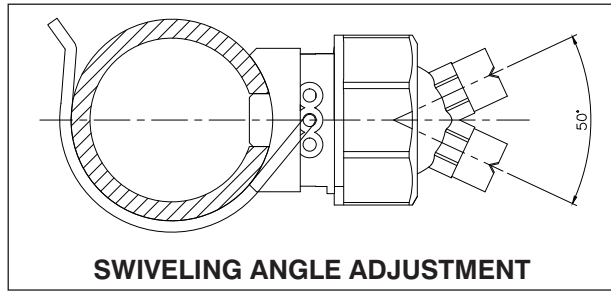
Full Cone and Spiral Full Cone series of Spraytech Nozzles can be used for this purpose.



General Engineering Spray Nozzles & Accessories



Clip On Spray Nozzles



SPRAY CHARACTERISTICS :

These nozzles simply clip over a pre-drilled pipe (9/16" dia. hole) and are available with a variety of easy clip, in various spray patterns, flow rates and spray angles. Retaining cap holds the tip in position, even when the nozzle is jarred or vibrated.

Range :

Flow rate (lpm) at 2 bar Pressure : 1 LPM to 40 LPM.
Connection : 1/4", 3/8" BSP

Construction :

Made of corrosion-resistant plastic and stainless steel. Heavy-duty spring clip good to 100 p.s.i. at 175°F. A 316SS clip is also available, if required. Simple quick assembling, Ball joint, omnidirectional swivelling range of 30° Simple quick assembling.

Applications :

Part Cleaning, phosphating, degreasing, rinsing, surface treatment. Easy adjusting and cleaning.

THE SPRAYTECH "CLIP-ON" ASSEMBLY

The spring clamp is the heaviest and most durable used in the industries. It provides long services at pressures up to 100 p.s.i.

Hundreds of standard nozzle balls and spray tip options are available when using our female threaded ball.

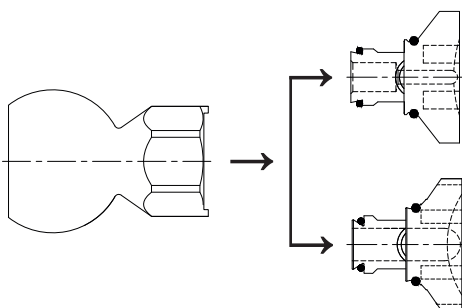
The cap has strong butress threads and is made from glass filled polypropylene.

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

Square fitting glass filled polypropylene bodies are available in various pipe sizes and are good up to 175°F.

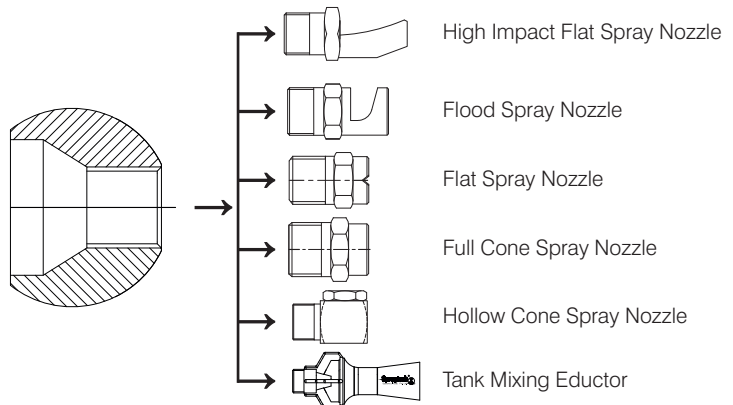
"Clip-on" assembly holds the ball securely in alignment to prevent movement when the cap is tightened. The "clip-on" assembly is optional on all Spraytech adjustable nozzles.

QUICK RELEASE CLIP-ON ADAPTERS



Any quick release type spray nozzle

THREADED BALL



Clip On Type Assembly With Flat Spray Nozzles



Specially purpose dedicated designed clipon type spray nozzle allows to mounting and removal from spray riser / header without efforts and spanners for cleaning purposes. and ball type body of spray nozzle provides swivel type joint to adjust in various directions.

Clipon type spray nozzles are enhanced with different sized clips (made of spring steel) which provides strong clamping on riser/ header. Clips are available in 1", 1-1/4", 1-1/2", 2" ID etc sizes.

- Ball body type spray nozzles allow to set in various spray directions as per requirement for surface to be cleaned.
- Clips used for clamping withstand to the pressure of 4 BARG. (60 psi)
- Made of PP material which is resistant to chemicals, and give a long running life.
- Flat type spray tips give high impact with wide coverage.
- This type of spray nozzles can be used to spray Phospates
- Maximum temperature of 180°F (82°C).

In addition to swivel ball type body, quick release type flat spray tip allow to get dismantled

from clipon assembly without disturbing previous directional settings of assembly.

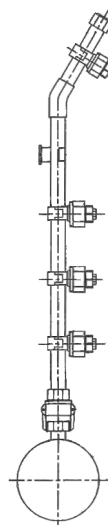
- Easy to mount on clipon assembly without disturbing previous directional settings
- Flat type spray tips give high impact with wide coverage.
- Clips used for clamping with stand to the pressure of 4 BARG. (60 psi)
- Made of PP material which is resistant to chemicals, and give a long running life.
- Maximum temperature of 180°F (82°C).



Quick Fit Risers & Header Manifolds

Our products for surface pretreatment plants is complete inclusive of the riser pipes, header manifolds as per the system manufacturers drawings & designs. As per the requirement of the system & equipment builders, Spraytech has developed all necessary parts for the professional assembly of the header manifolds and riser pipes. These are customized designs, to suit the process and plant layouts. All the header manifolds and riser pipes are also supplied with Spraytech fittings.

The header manifolds are fabricated to customized designed & plant layout. Typical manifold and risers mounted in a pre-treatment tunnel appears in the photo.



Material : PP : Polypropylene ; AISI 304 Stainless Steel

TE Series Tank Mixing Eductor

Design Features

- Effective, economical way to Circulate liquids in closed or open tanks
- No Moving parts
- Inherently clog resistant
- Requires minimal maintenance
- Nozzles operation creates multiplying effect on fluid flow

Spray Characteristics

- Cone -shaped plume Flow rates: 26.7 to 12000 L/min (motive)
- The volume of discharge liquid will be 3-5 times greater than the motive liquid pumped.
- It's unique venturi design ensures proper mixing of tank Solution.

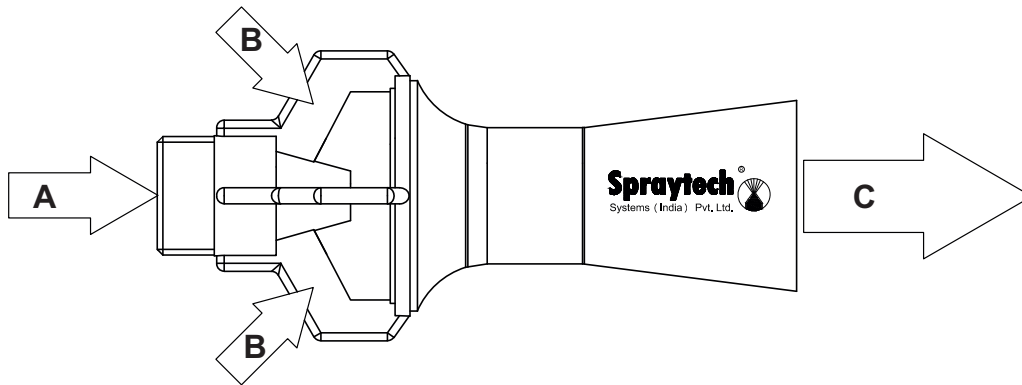


Plastic Versions



Metal Versions

Eductors have a unique venturi design which enables smaller pumps to circulate large volumes of tank solution. The eductor will circulate four to five gallons of solution for each gallon pumped. Eductors are used for mixing chemicals, suspending solids, adjusting pH, "sweeping" debris or sludge toward a filter intake and many other useful applications.



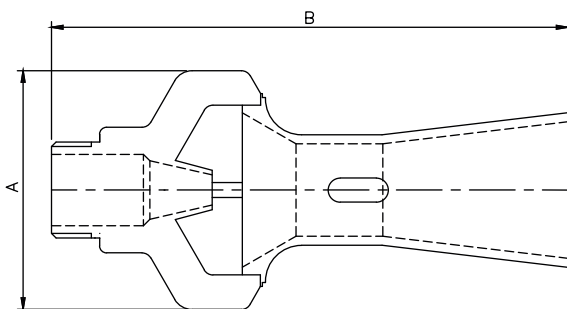
Application

- Plating Tanks
- Phosphating Tanks
- Fertilizer tanks
- Pulp Tanks
- Sludge Tanks
- Paint Booths
- Anodizing Tanks
- Cooling Towers
- Decorative Fountains

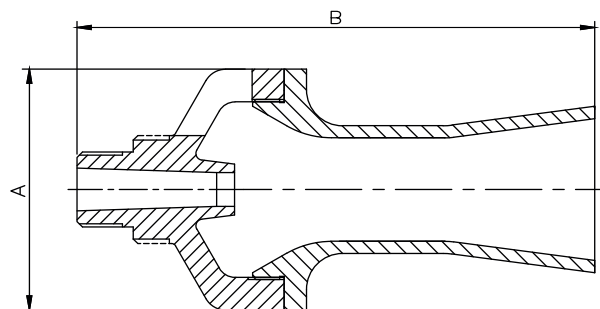
A = Inlet Flow Rate

B = Entrained Flow Rate

C = (A+B) Out Flow



Plastic Versions



Metal Versions

TE Series Tank Mixing Eductor

PLASTIC												
Connection Size BSPT / NPT		Part Number	KFavor	Motive Flow Rate LPM @ BAR							Dimensions (mm)	
				0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	A	B
Male	3/8	TE73	33.2	27.8	33.2	40.7	47	52.5	57.6	62.2	54	114
	1/2	TE120	54.4	45.4	54.3	66.5	76.7	85.8	94	101	64	165
	3/4	TE137	62.4	52.2	62.4	76.4	88.2	98.6	108	117	73	162
	1	TE240	109	90.8	108	133	153	172	188	203	89	241
	1 1/2	TE340	155	130	155	190	219	245	269	290	114	248
Standard Material : Glass-filled Polypropylene											Dimensions are approximate	

METAL												
Connection Size BSPT / NPT		Part Number	KFavor	Motive Flow Rate LPM @ BAR							Dimensions (mm)	
				0.7 bar	1 bar	1.5 bar	2 bar	3 bar	5 bar	7 bar	A	B
Male	3/8	TE70	31.9	26.7	31.9	39.1	45.1	55.3	71.4	84.4	49.5	115
	1/2	TE110	50.1	41.9	50.1	61.3	70.8	87.0	112	132	59.5	150
	3/4	TE150	68.4	57.2	68.4	83.7	96.7	118	153	181	69.5	167
	1	TE230	105	87.7	105	128	148	182	234	277	83	200
Female	1 1/2	TE320	146	122	146	179	206	253	326	386	97	233
	2	TE620	282	236	282	345	399	489	631	746	121	286
	3	TE1500	684	572	684	837	967	1180	1530	1810	165	492
Flanged	4	TE2510	1130	950	1130	1390	1610	1970	2540	3000	213	864
	6	TE6010	2720	2270	2720	3330	3840	4710	6080	7190	321	1320
	8	TE10050	4550	3800	4550	5570	6430	7870	10200	12000	416	1730
Motive Flow Rate (LPM) = K √bar												
Standard Material: Brass, Carbon Steel, S.S.304, 310, 316, PVC, PVDF, P.P. Size from 1/4" to 3" NPT, BSPT, BSPP												

METAL													
Connection Size BSPT / NPT		Part Number		Motive Flow Rate Litters Per Minutes @BAR							Dimensions (mm)		
				0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	4 bar	A	B
Male	1/4	TE60	Intel Flow Rate (l/min) "A"	13.5	16	19.5	23	25	28	30	33	54	114
	3/8	TE73		27.8	33.2	40.7	47	52.5	57.6	62.2	67	49.5	115
	1/2	TE120		45.4	54.3	66.5	76.7	85.8	94	101	109	59.5	150
	3/4	TE137		52.2	62.4	76.4	88.2	98.6	108	117	126	73	162
	1	TE240		90.8	108	133	153	172	188	203	218	89	241
	1 1/2	TE340	130	155	190	219	245	269	290	313	114	248	
	1/4	TE60	Entrained Flow Rate (l/min) "B"	54	64	78	92	100	112	120	132		
	3/8	TE73		111	132	163	188	210	230	249	268		
	1/2	TE120		182	217	307	307	343	376	404	436		
	3/4	TE137		209	250	353	353	394	432	468	504		
	1	TE240		363	432	612	612	688	752	812	872		
	1 1/2	TE340	520	620	876	876	980	1076	1160	1252			
	1/4	TE60	Total Out-Flow Rate (l/min) "A+B"	67.5	80	115	115	125	140	150	165		
	3/8	TE73		138.8	165.2	235	235	262.5	287.6	311.2	335		
	1/2	TE120		227.4	271.3	383.7	383.7	428.8	470	505	545		
3/4	TE137	261.2		312.4	381.4	441.2	492.6	450	585	630			
1	TE240	453.8		540	665	765	860	940	1015	1090			
1 1/2	TE340	650	775	950	1095	1225	1345	1450	1565				

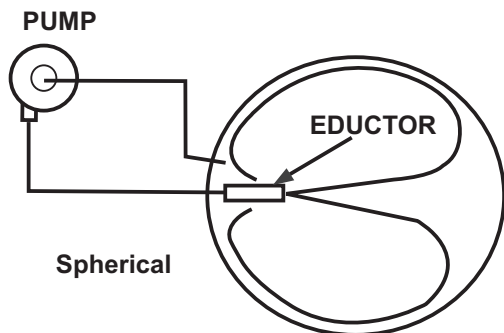


Figure 1
Eductor in a round tank



Figure 2
Eductors in a tank providing mixing.

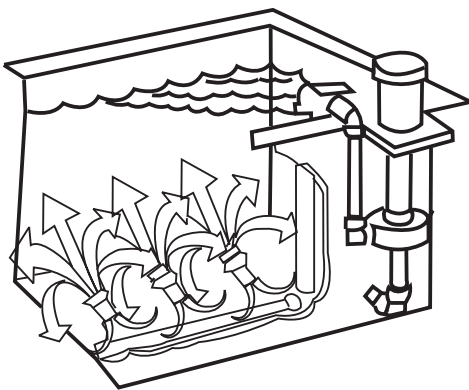


Figure 3
Multiple eductor assembly

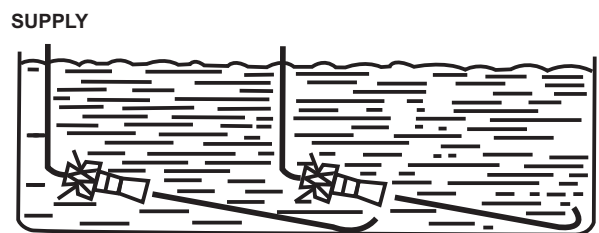


Figure 4
Eductors in a tank maintaining suspension and mixing of solids.

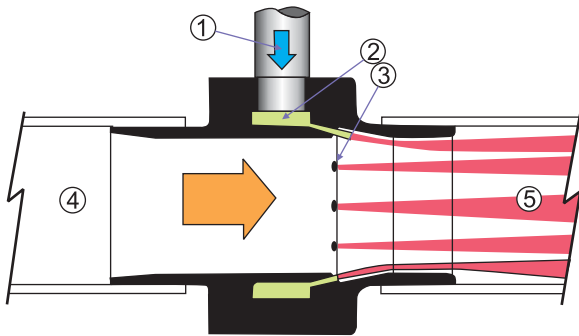
Mounting

An eductor can be mounted in any position. The supply line and manifold piping to multiple eductors must be sized to supply uniform pressure to each eductor. It is important that the eductor be positioned within the tank to insure the free flow of liquid to be mixed into and out of the units. The greatest agitation occurs within the discharge plume; therefore, the discharge end should be aimed towards the most remote part of the tank. On the other hand, the intake end of the unit must be just far enough from the tank corner or wall to allow the free flow of liquid into the suction openings.

Tank shape and size influence the placement and number of eductors required to maintain even agitation. With a spherical tank, a single eductor mounted as shown in the Figure 1 illustration makes the best use of the mixing characteristics of the eductor. With no corners to impede liquid flow, the liquid circulates evenly.

In simple mixing applications in a cylindrical, square or rectangular tank, not a plating tank, the angular intersection of stagnation in these areas. A single eductor mounted as shown in Figure 2 will minimize this. For high agitation, use of multiple eductors are recommended as shown in Figure 3.

A slight downward angle of the eductors can be helpful in maintaining the velocity at the tank bottom which is necessary to keep solids in suspension for easier removal by a filter system. (See Figure 4)



Compressed air flows through the inlet

(1) into an annular plenum chamber (2) It is then injected into the throat through directed nozzles (3) These jets of air create a vacuum at the intake (4) which draws material in and accelerates it through the unit (5) for conveying over long vertical or horizontal distances.

Air Conveyor is available in a number of styles, materials, and sizes. Each has a large, smooth, straight bore that allows as much material to pass through as possible. Infinite control of the flow rate though the Air conveyor can be controlled by a pressure regulator. Kits include a pressure regulator that is sized properly for flow.

The actual conveying rate is affected by the size, mass and geometry of the part to be conveyed along with the length, lift and number of bends in the hose, tube or pipe. These variables make it difficult to determine the exact conveying rate for any product, however, the application engineering can assist you by comparing the material you want to convey with something that has already been tested.

Air Conveyor Performance

80 PSIG (5.5 BAR)	Air Consumption		Vaccum	
	SCFM	SLPM	H2O	kPa
Model				
2710	10.7	303	-72	-18
4214	14.7	416	-42	-11
4225	25.9	733	-42	-11
3633	33	934	-36.8	-9
2845	45	1274	-28.5	-7
2358	58.5	1656	-23.5	-6
1468	68.5	1939	-14.7	-4
1395	95	2690	-13.6	-3.4
1012	128	3625	-10.5	-2.6

Air Conveyor Comparison		
Material Type	Temperature Rating	Corrosion Resistance
Aluminum	275° F (135° C)	Fair
Stainless Steel (Type 303)	400° F (204° C)	Good
Stainless Steel (Type 316)	400° F (204° C)	Excellent
High Temperature Stainless Steel (Type 303)	900° F (482° C)	Good

Applications :

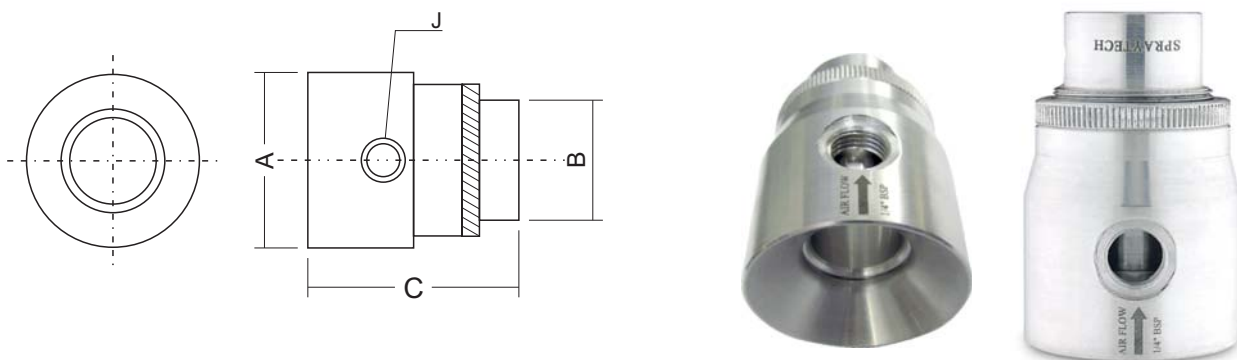
- Hopper loading
- Fiber tensioning
- Material conveying
- Water/trim removal
- Chip removal
- Part transfer
- Filling operations

Adjustable Air Booster

Adjustable Air Booster

The air gap is infinitely adjustable which regulates the consumption and outlet flow from a "breeze" to a "blast". They are available in aluminum or in stainless steel for food service, higher temperatures (400°F/204°C), and corrosive applications. High Temperature Stainless Steel Air Boosters for temperatures up to 700°F (374°C) are also available.

Force and flow for the Adjustable Air Booster is changed by turning the exhaust end (with the knurled ring loose) to open or close the continuous air gap. When desired performance is obtained, the knurled ring can be tightened to lock the flow at that setting. In most cases, a .002" to .004" (0.05mm to 0.10mm) air gap is ideal.



Adjustable Air Booster Performance at 80 PSIG (5.5 BAR)

MODEL	Air Consumption		Amplification	Air Volume at Outlet		Air Volume at 6" (152mm)		Sound Level
	SCFM	SLPM		RATIO	SCFM	SLPM	SCFM	
1089	8.9	252	10	89	2430	267	7556	78
1612	12.9	365	16	206	5635	618	17489	81
2021	21.5	608	20	430	11739	1290	36507	82
2235	35.2	997	22	774	21928	2323	65784	83
2450	50	1415	24	1200	33960	3600	101880	84

Adjustable Air Booster Dimensions

MODEL #	A	B	C	D	E	F	G	H	J	
1089	mm	38	19	57	11	18	14	27	32	1/8" NPT
1612	mm	51	32	73	21	25	19	35	44	1/4" NPT
2021	mm	79	51	83	42	27	19	38	70	3/8" NPT
2235	mm	102	76	103	56	31	32	46	89	1/2" NPT
2450	mm	127	102	127	77	38	44	54	114	1/2" NPT


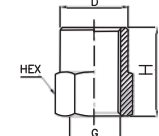

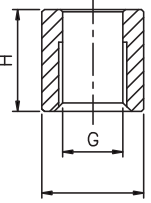

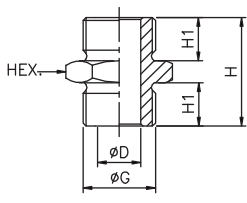

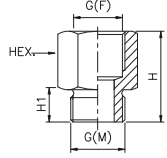

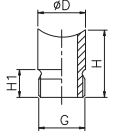

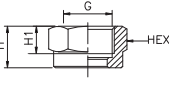

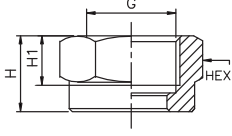


NIPPLES, LOCKNUTS & INTERNAL FILTERS


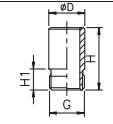

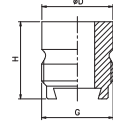

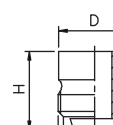

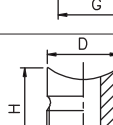

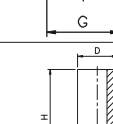
We offer a range of nipples and locknuts in different types and materials to suit most of our customers requirements. Produced in high quality materials and under strict tolerances they ensure a precise and reliable assembly with all nozzles. In your system small size filters ensure individual protection against clogging for individual low capacity nozzles.

PIPE CLAMPS AND SWIVEL JOINTS


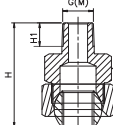

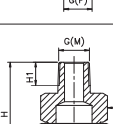

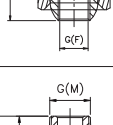

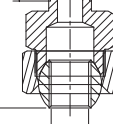

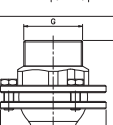
The most extensive range of nozzle clamps engineered for industrial applications to give your system a modern and efficient design with the added value of an easy and well kept at peak performance and long periods of time. Three series of swivels in a wide size range allow the proper connection and quick pointing of the nozzles in your system, improving its overall performances. Swivel joints are available in brass and several stainless steel qualities.

 	Connector (ACC001)	CONNECTION	H	H1	D
		3/8"	18	10	17.5
		3/4"	28	14	27.5
 	COUPLING (ACC002)	CONNECTION	H	D	
		1/8"	14	16	
		1/4"	20	20	
		3/8"	20	22	
		1/2"	25	27	
		3/4"	25/30	33.5	
 	NIPPLE (ACC003)	CONNECTION	H	H1	HEX
		3/8" X 1/4"	25	10	22
		3/8" X 3/8"	25	10	22
		3/8" X 1/2"	28	10	27
		3/4" X 3/4"	36	14	32
 	SOCKET (ACC004)	CONNECTION	H	H1	HEX
		3/8" X 1/8"	20	10	22
		3/8" X 1/4"	24	10	22
		3/8" X 3/8"	28	10	22
 	WELDING NIPPLE With Radius (ACC201)	CONNECTION	H	H1	D
		3/8"	18	11.5	17.5
		3/4"	27	15.5	27.5
 	LOCK NUTS 3/8" (ACC302)	CONNECTION	H	H1	HEX
		3/8"BSPP	13	9.8	22
		3/4"BSPP	16	13	32
 	RETAINING LOCK NUTS 3/4" (ACC301)	1"BSPP	38	32	41

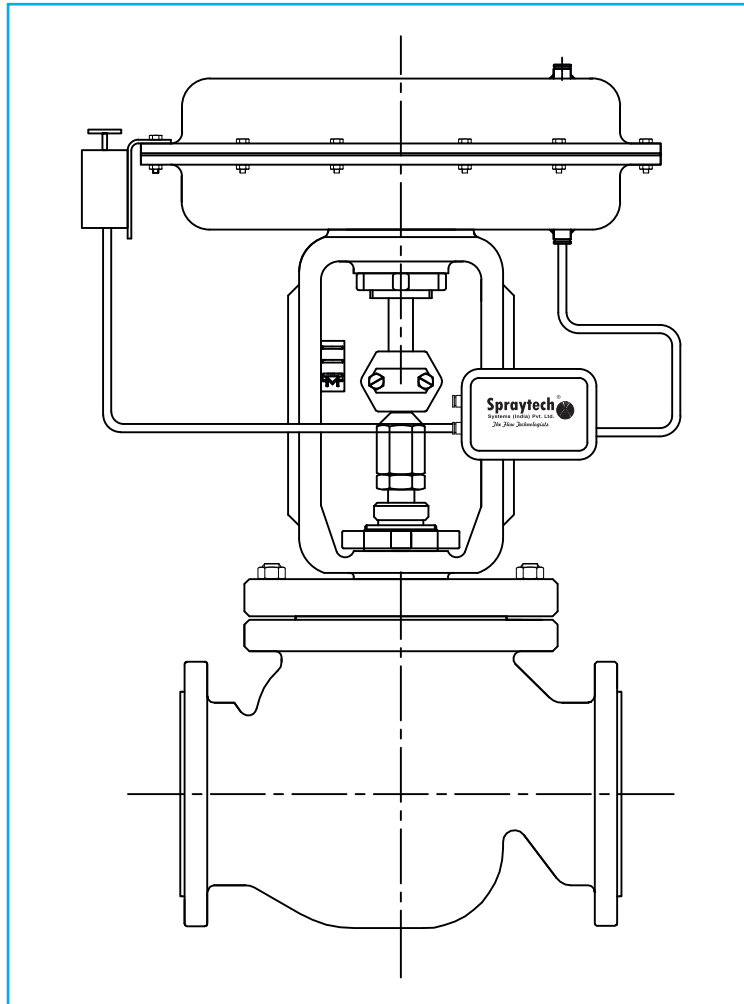
Accessories Welding Nipple

 	Welding Nipple (ACC202)	CONNECTION	H	H1	D
		3/8" BSPP	18	11.5	17.2
		3/4" BSPP	27	15.5	28
 	Welding Nipple Dovetail (ACC203)	CONNECTION	H	H1	D
		3/8" BSPP	18	11.5	17
		3/8" BSPP	28	11.5	17
 	Dovetail Nipple (ACC204)	CONNECTION	H	H1	D
		3/4" BSPP	27	15.5	28
		3/4" BSPP	35	15.5	28
 	Dovetail Nipple With Radius (ACC205)	CONNECTION	H	H1	D
		1" BSPP	50	24	38
		1" BSPP	120	24	44
 	Dovetail Nipple (ACC205)	CONNECTION	H	H1	D
		1 1/4" BSPP	40	24	42

Accessories Boll Joint

 <p>(ACC401)</p>		CONNECTION	H	H1	HEX	
		1/8"(M) X 1/8"(F)	35	6.5	22/22	
		1/4"(M) X 1/4"(F)	43.5	10	24/27	
 <p>(ACC401)</p>		CONNECTION	H	H1	HEX	
		3/8"(M) X 3/8"(F)	40	10.1	27/30	
		3/8"(M) X 1/4"(F)	43.5	10.1	24/27	
 <p>(ACC402)</p>		CONNECTION	H	H1	HEX	
		1/2"(M) X 1/2"(F)	61	13.2	41/41	
		3/4"(M) X 3/4"(F)	61	14.5	42/42	
 <p>(ACC403)</p>		CONNECTION	H	H1	D	
		1"	90	22	90	
		1 1/2"	130	30	90	
 <p>clamp (ACC404)</p>		PIPE	MOC	H1	H2	D
		1/2"	PP/PVC	36	16	20/22
		3/4"	PP/PVC	40	17	25/27
		1"	PP/PVC	44	21	32/35

Flow Elements



- PRDS
- Orifice assemblies
- Integral assemblies
- Differential pressure flow meter and transmitters analog and digital
- Multistage orifice assemblies
- Single seat globe control and manual valves
- Averaging pitot tubes
- V notch ball control valve
- Flow nozzle
- Positioners and position transmitters
- Flow venturi
- PID Sanitary globe control valve
- 3 way Globe control valve
- Self actuated pressure and flow and temperature regulators
- Manual valves ball, butterfly and gate type
- Sight flow indicators

Pressure Reducing & Desuperheating Station

Desuperheaters reduce the temperature of superheated process steam by introducing finely atomized cooling water droplets into the steam flow.

Desuperheated steam is more efficient in the transfer of thermal energy, consequently desuperheaters are used to bring the outlet degree of superheat closer to that of saturation.

In typical process plants, process steam is usually superheated or heated to a temperature above saturation. The difference, between the saturation temperature and the actual temperature of the steam is called 'superheat'.



Single seat globe control and manual valves

Spraytech Systems have gone ahead with its endeavour of optimizing in process control instruments, in adding control elements in its range of manufacture. We at Spraytech Systems have globe control valves till 16" and upto 2500#RF for applications from -196 °C till 550 °C.

Applications in flow element control lead to control of flow through a globe control valve affecting control of flow, pressure and temperature thus a playing a wide role in the control element of the plant.

Applications

As a main manufacturer of process Instruments, we provide a comprehensive product range for all chemical processes from light and heavy-duty valves in modular design made of all common materials and exotic alloys according to DIN, ANSI to high-pressure valves complying with important company standards. Forged bodies, live-loaded packing, metal bellows, pressure-balanced plugs, heating jackets as well as corrosion-resistant, low-noise and low wear valve trims are included in our product portfolio for this field.

Averaging pitot tubes

Spraytech Systems manufactured Averaging Pitot Tubes are another type of differential pressure flow meters. Averaging Pitot tubes are basically used to detect flow velocity of fluids, gasses, steam, steam water and absolutely all those media which at most with 3-5ppm of solids as the max size.

Principle of operation

Averaging Pitot tube is nothing but an element which is suppose to measure the flow rate and offer the differential pressure to the flow meter mounted on top. The averaging Pitot tube works on the 80% velocity of the media rate at the top of the centre line in a velocity gradient in a pipe line or duct and 70% velocity of the media in the below portion of the centre line.

It does not work on the centre line velocity which is 100% for the media as what a orifice, a venturi and nozzle, and many more flow meter works. Thus the velocity of the media is perfectly averaged out and offered for DP measurement in the flow meter.



Orifice and Orifice assemblies

Spraytech Systems orifice plate is a device used for measuring flow rate. Either a volumetric or mass flow rate may be determined, depending on the calculation associated with the it. It uses the same principle, namely Bernoulli's principle which states that there is a relationship between the pressure of the fluid and the velocity of the fluid. When the velocity increases, the pressure decreases and vice versa.

Following factors are used to judge the performance of Spraytech Systems Orifice plate :

1. Precision in the bore calculations
2. Quality of the installation
3. Condition of the plate itself
4. Orifice area ratio
5. Physical properties of the fluid flow under measurement, refer the free length table mentioned below



3 way globe control valve



Spraytech Systems have gone ahead with its endeavour of optimizing in process control instruments, in adding control elements in its range of manufacture. We at Spraytech Systems have 3 way globe control valves till 16" and up to 2500#RF for applications from -196°C till 550°C.

Valve body made of

- Cast iron
- Cast steel
- Cast stainless steel

Undivided valve bonnet

The control valves, designed according to the modular assembly principle, can be equipped with various accessories: Positioners, limit switches, solenoid valves and other accessories according to IEC 60534-6 and NAMUR recommendation.

Sight flow indicators

SPRAYTECH SYSTEMS (INDIA) PVT. LTD. offers sight flow indicators of following types :

- Double Window - Plain
- Double Window - Rotary Wheel
- Double Window - Flapper
- Double Window - Drip Tube
- Full View

Specifications :-

Type	: Double Window - Plain / Rotary Wheel / Flapper / Drip Tube / Full View
Body	: CS, SS 304, SS 304L, SS 316, SS 316L, others on request
Retainer Flange	: CS, SS 304, SS 304L, SS 316, SS 316L, others on request
Cushion / Gasket	: C.A.F. / P.T.F.E. / Graph oils
Glass	: Toughened Borosilicate
Process Connection	: Flanged / Screwed / Welded / Triclamp
Fasteners	: SS, ASTM A193 Gr. B7 / A 194 Gr. 2H



Valves



Ball Valve



Gate Valve



Check Valve



Butterfly Valve



Globe Valve

Industries

- Chemical
- Fertilizer
- Power
- Oil & Gas
- Petrochemicals
- Water Treatment
- Pharma
- Paper & Pulp
- Steel
- Cement
- Municipal Corporations

Applications

- Water & Environment
- Irrigation
- Water Transportation
- Water Treatment Plant
- Drinking Water Supply Schemes
- Hydro Projects
- Industrial Water
- Sewage Systems
- Ash Handling Plant
- Coal Handling Plant
- Steel Melting Shop

Strainers & Filters Elements



- Filters
- Strainers
- Mixers
- Separators
- Pr. Vessels
- Valves

Simplex / Duplex Basket Filters

1) Fabricated design with MOC in

A 106 / A53 / IS 2062 / AISI304 / 316 / 304L / 316L A 312 TP 304 / 316 / 304L / 316L / A 240 TP 304 Hastelloy, alloy 20, high / low temp. Alloys. Nonferrous like Monel etc.

2) Cast Design

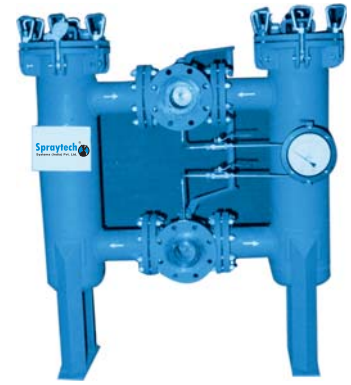
A 216 Gr. WCB / A351 Gr. CF8[M] CF3[M] A 217 Gr. C5 / WC6 / WC9 / A352 LCB etc.

3) For duplex filters sizes up to 4" in 3 way ball valve design, common lever for change over

4) "6" & above in

- a) Transfer Valve design
- b) Butterfly Valve design
- c) Header design

Fabricated / cast. Operation by pneumatic / electrical actuator, Used where down time is unavailable.



Duplex Basket Filter



Simplex Basket Filters

Self Cleaning Filters



- 1) Wedge wire design
- 2) SMP france STR design
- 3) Stampings design
- 4) Four compartments - auto wash design

Manual / Motorized. These filters are used for water, oil, Pulp, grease applications, element is provided with backwash arm. When element gets choked, diff. Pressure switch across the inlet / outlet gives a signal to the motor & drain gets opened simultaneously. The part of clean liquid goes in the reverse direction. Suitable where continuous flow is required. It can be supplied with control panel, motor, actuated drain valves, etc.

Lube oil Filters Element

Available in pleated wire mesh Elements / Pleated paper elements as required for highly viscous fluids. These can be supplied at higher pressures upto 300 bar, DOF as fine as 5 microns.

Compressed Air Filters

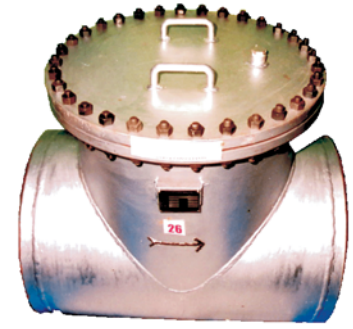
The unique design of Coalescing Separator, combines the simplicity & efficiency. As wet compressed air / gas / steam enters the Moisture Separator, it comes in contact with the multi layer dense media. Water droplets, as well as any other aerosols are intercepted by the coalesces and forced to coalesce. As the droplets grow in size and weight, the gravity pulls them down to Sump. The liquid that accumulates can then be drained.



Strainers

- 1) 'Y' type cast / fabricated / forged
- 2) 'T' type fabricated / forged
- 3) Conical / Temporary, fabricated

MOC in CS / SS / alloy steel / non - ferrous,
CSRL for housings and SS304 / 316 / 304L /
316L / MONEL / PP / Brass for element.



- 1) Gravity sand filters
- 2) Pressure sand filters
- 3) Valveless auto gravity filters, spares for all above

Valveless Auto Gravity Filters

1. Work on syphon, hence automatic.
2. No moving parts, hence less maintenance.
3. No pumps, electricity, compressed air required.
4. No scope for human error.

Sand Filters

Cartridge Filters [0.1 to any micron size]

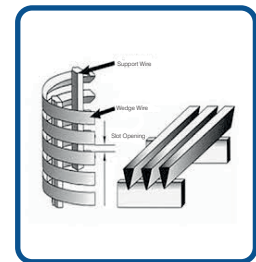
Cartridge of

PP	Borosilicate
Ceramic	Cellulose
Charcoal	Asbestos
Glass fibre	SS sintered
Cotton	Taper Basket
SS	Pleated Basket

Application :- Solid Liquid, Liquid Gas, Solid Gas.



Wedge Wire Element



Mixer



For viscous fluid, the mixer is provided with 2 sets of blades, the outer one rotating at as low RPM as 15 to 25 & the inner one at comparatively higher RPM & in the reverse direction which mixes the ingredients uniformly all over.

Other versions of mixers are tiltable, rotating at higher RPM as required for low viscosity fluids.

Planetary gear mixers are also meant for higher viscous fluids.

MOC - AISI 304 / 316 / 304-L / 316-L etc.
Provision for variable speed is available.

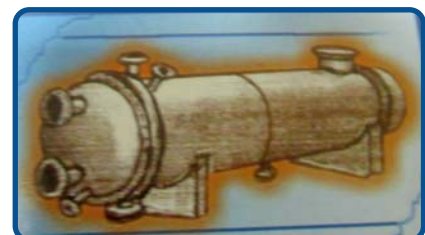
Vessels

Pressure Vessels, heat Exchangers, Condensers, Reaction towers in accordance with ASME sec. -VIII Div.1, sec. IX, Tema, IS 2825 etc.

MOC :

SA515 / SA516 / IS2002 / 2062 , A106 / A53 / IS1239 / 3589 / A105, ASTM A240 TP304 / SS316 / 304-L / 316-L / A 385 / 335 / A 312 TP 304 / 316 A182 / F304 / 316 / F69 / F22 / F11 etc.

Also consultancy available in: Design of filters / Valves / Vessels / Mixers. Computation of pressure drop, CV value, Thickness calculations, etc.



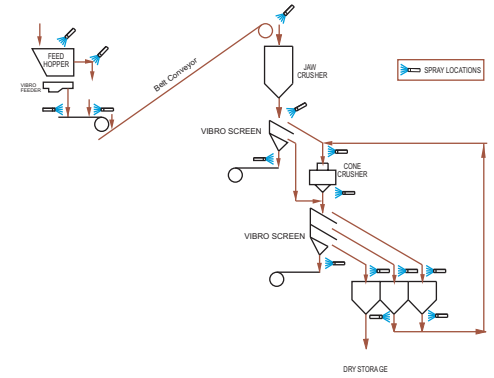
Dust Suppression Systems

Technical Data on Request

Introduction:-

The dust suppression system is meant to suppress the dust generated during transfer of material at feed/discharge points of conveyors in various transfer towers.

This system uses water and compressed air to produce micron sized droplets that are able to suppress respirable dust without adding any detectable moisture to the process.

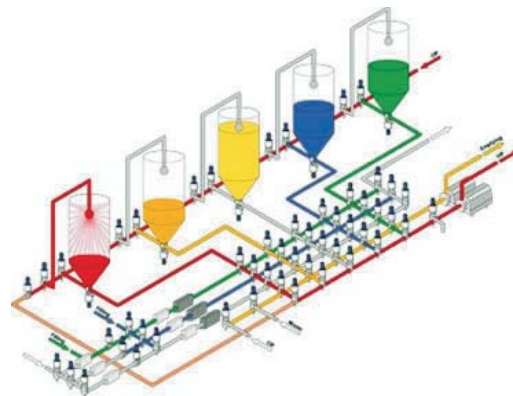
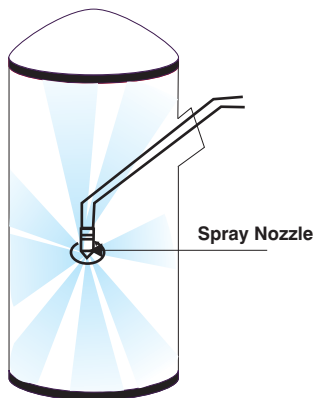


Technical Data on Request

CIP (Clean In Place) Spray Systems

Introduction:-

Tank cleaning system is used to clean the various types of industrial tanks. Tanks must be cleaned from Time to time for various reasons. We provide portable as well as fixed spray systems.

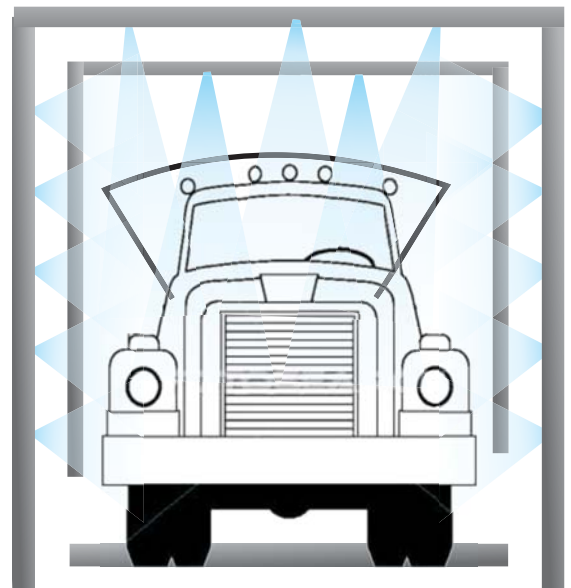


Vehicle Washing Systems

Technical Data on Request

Introduction:-

"SPRAYTECH" have introduces a compressive list of semi automatic vehicle washing systems specifically designed for most types & sizes of vehicles. Depending on the type of vehicle only variation occurs in costs, washing speed & capabilities dependability, construction & washing techniques.



ENQUIRY FORMAT - TO HELP YOU GET A FASTER SOLUTION .



▶ COMPANY NAME _____

▶ CONTACT DETAIL / PERSON NAME _____

FAX. _____ TEL. _____ E-MAIL ID _____

▶ TYPES OF NOZZLES Air Atomizing Full Cone Flat Hollow Cone Tank Cleaning Straigh Jet

▶ ENTRY Axial Tangential

▶ SPRAY PATTERN _____

▶ SPRAY ANGLE Degree

▶ FLOW RATE LPM LPH M³/hr

▶ PRESSURE BAR Kg/Cm2 PSI

▶ END CONNECTION MALE FEMALE Flanged

▶ QUANTITY Nos.

▶ MOC. PVDF Teflon/PTFE PP/PVC PP/PVC Delrin / POM Nylon
 Cast Iron SS303/SS304 SS316 Brass Aluminum M.S.
 Hastelloy C/B /2000 Titanium Monel Silicon Carbide Polyethylene

▶ Please Specify other Moc. _____

▶ TYPES OF INDUSTRIES _____

▶ APPLICATION OF NOZZLES _____

▶ OTHER ACCESSORIES Nipple Nuts Boll Joint Socekets Adapter Clip On

▶ FABRICATION OF HEADERS Yes No

▶ SPRAY SYSTEM REQUIREMENT Yes No

▶ Feasibility Yes No

▶ Specific Commercial / Legal Requirements _____

▶ Remark _____

▶ Received By _____

MKT/FR/01

Note : Innovation, New Design & Engineering is perpetual process at Spraytech, Shown dimension may change without notice.

Spraytech Products at Glance

Flow Line Products

Spray Nozzles
Spray Systems
Flow Control Elements
Flow Measuring Elements
Control Valves
Strainers & Filters
Planetary Mixers, Agitator

Pharma Products

FBP, FBE, FBC, Spray Nozzles & Lances
Wurster Coating Lance / Nozzles
Top Spray Lance / Nozzles
RMG / HSG Spray Lance / Nozzles
Tablet Coating Spray Nozzles (Guns)
CIP Spray Nozzles

Forged Products

Forged Fittings
Flanges
Valve Manifolds
Check Valves
Plugs & Bushings
Hydraulic Fittings
Compression Tube Fittings

Companies Location Map



Regd. Office :

20 KMS from Mumbai International Airport

Regd. Office :

Spraytech House, Plot A-132, Road No. 23,
Spraytech Circle, Wagle Indl. Estate,
Thane (W) - 400 604.
Mumbai - Maharashtra, (India)
Tel. : 91-022-2582 89 29/2735/2736
Fax : 91-022-2581 2861
E-mail : sales@spraytechindia.com
exportsales@spraytechindia.com

Rabale Plant (Navi Mumbai) :

Spraytech Systems (India) Pvt. Ltd.
Plot No.R-513,TTC Industrial Area,
MIDC Rabale, Navi Mumbai-400 701.

Indapur Plant (Pune) :

Spraytech Systems (India) Pvt. Ltd.
Plot No.A-5, Indapur Five Star
Industrial Area,
Village-Loni,Devkar Balpudi.
Tal.-Indapur, Dist-Pune. 413106.