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

Cleaning-In-Place (CIP) Spray Nozzles

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

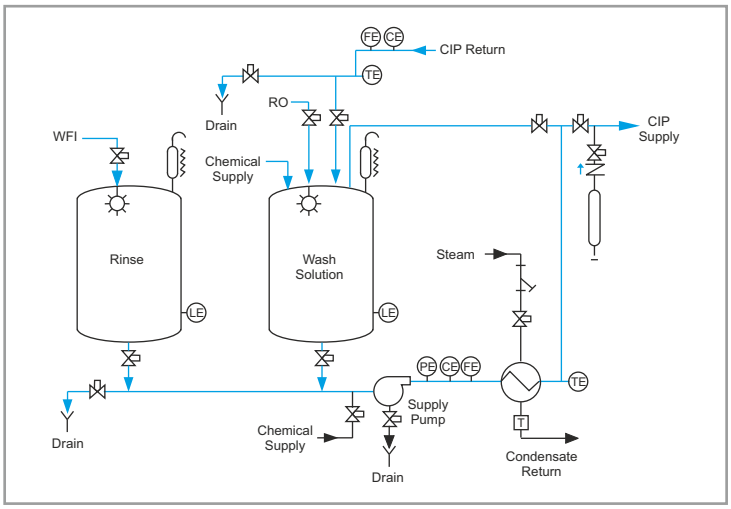
Viscosity of fluids decreases with increasing temperature so, effective cleaning can be achieved by using hot cleaning fluids or by increasing temperature of vessel tank by means of steam jackets. By virtue of this viscosity of substances to be cleaned decrease and effective cleanliness increases.

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.

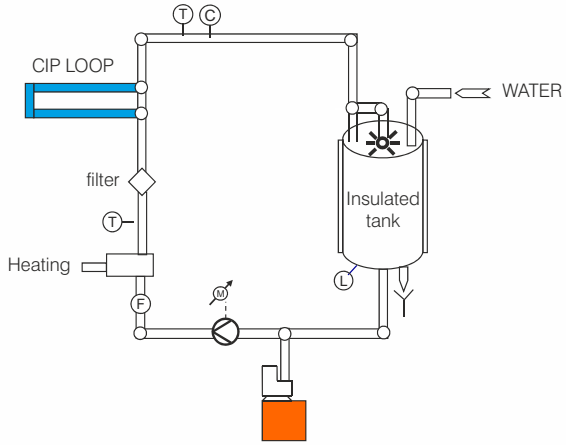


Fully or semi-automated, integrated cleaning technique that allows to clean closed or open circuits without dismantling equipments

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

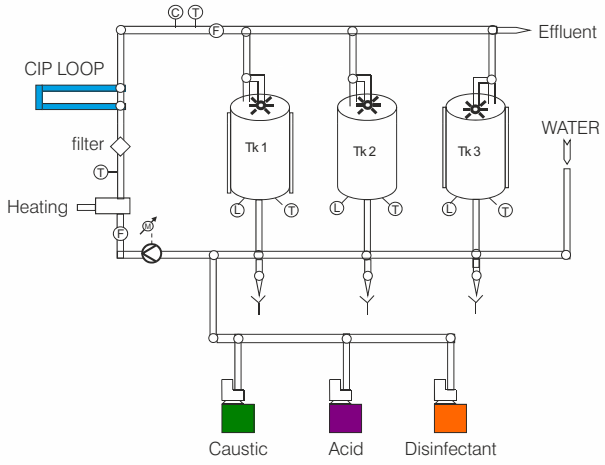


cleaning solution is used only once and discharged to drain after use single tank

Advantage
- Simple, not very costly installation
- Could be applied for:
- Small installations (decentralized CIP system)
- Processes where cross-contamination is a concern
- Heavy soiled equipments

Disadvantage
- High operational costs
- Environmental impact

Re-use system



the same cleaning solution is used for a large number of cleaning operations (recover & reuse) multi-tanks

Advantage
- Lower environmental impact
- Could be applied for:
- Large installations (centralized CIP system)

Disadvantage
- Installation can be complex and very costly
- Regular control of the cleaning power of cleaning solutions

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

- SPRAYTECH — Company Name
- EA — Type of Nozzle
- 1 — Rank of Flow
- A — Spray Angle
- 096 — Flow Rate @ 2 bar Pressure
- M2 — Material Code
- Y — Thread Type
- B — Thread Size
- Nozzle Sub-type

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

Nozzle Sub-type (see table overleaf)

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

Codes	Thread Type
X	BSPP
Y	BSPT
Z	NPT

Note : special Connection on request

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"

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(Polyvinylidenefloride)
P7	Polyethylene

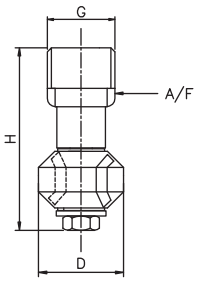
Note : Special material on request

Self-rotating / Stationary 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.

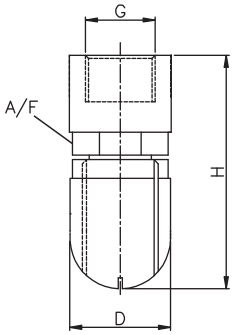
Coverage Type	Spray Angle
A	180°
B	180°
C	270°
D	270°
E	360°

Female Connection On Request

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
	SPRAY ANGLE										G/A DIMENSION. MM		
		XB	XC	XD	40* psi	1.5	2	3	5	7	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			
EA2.220.M2	A/B/C/D/E		3/8"	1/2"	6.81	19.05	**22.00**	26.94	34.79	41.16	79	30	22
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.

Coverage Type	Spray Angle
B	180°
D	270°

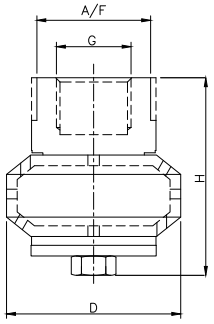
Male Connection On Request

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
	SPRAY ANGLE								G/A DIMENSION. MM		
		XD	40* psi	1.5	2	3	5	7	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

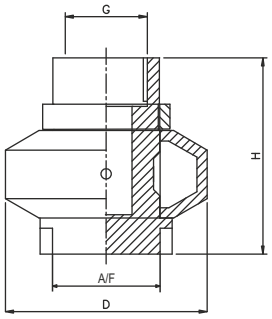
EC Self-Rotating Spray Nozzles Stainless Steel & Plastic Versions

EC

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

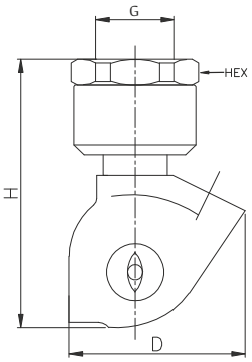
Coverage Type	Spray Angle
C	270°
D	270°
E	360°

MODEL No.							FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2		P3/P4
		CONNECTION					Flow Capacity in GPM	Pressure [bar]					SS304/ SS316		TEFLON/ NYLON
	SPRAY ANGLE	XD	XE	XF	XH	XK	40* psi	1.5	2	3	5	7	G/A DIMENSION. MM H	D	A/F
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

ED

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.



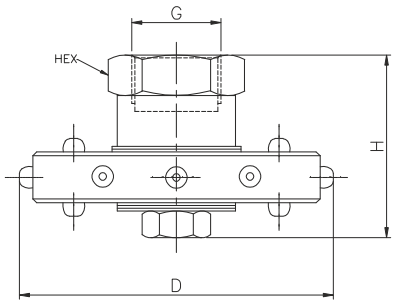
Male Connection On Request

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

MODEL NO.			FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2	P3/P4
		CONNECTION	Flow Capacity in GPM	Pressure [bar]					SS304/ SS316	TEFLON/ NYLON
	SPRAY ANGLE	XE	40* psi	1.5	2	3	5	7	G/A DIMENSION. MM H	D
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/cm^2 and also available coverage 180˚(up and down), 270˚ (up and down) and 360˚.

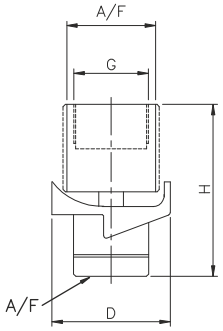
Male Connection On Request

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

MODEL NO.					FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1		M2
					Flow Capacity in GPM	Pressure [bar]					SS304/		SS316
	SPRAY ANGLE	XF CONNECTION	XK CONNECTION	XM CONNECTION							G/A DIMENSION. MM		
					40* psi	1.5	2	3	5	7	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˚.

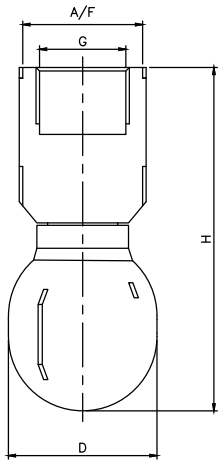
Male Connection On Request

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

MODEL No.				FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2		P3/P4
				Flow Capacity in GPM	Pressure [bar]					SS304/ SS316		TEFLON/ NYLON
	SPRAY ANGLE	XE CONNECTION	XF CONNECTION							G/A DIMENSION. MM		
				40* psi	1.5	2	3	5	7	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

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˚.



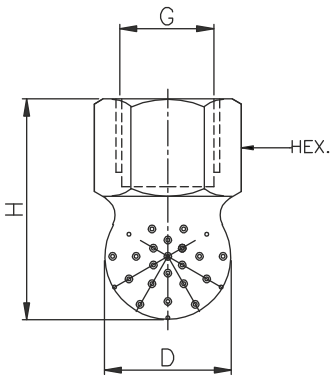
Male Connection On Request

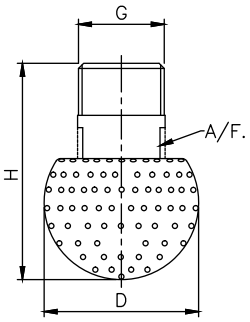
Coverage Type	Spray Angle
C	270°
D	270°
E	360°

MODEL No.							FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1	M2
							Flow Capacity in GPM	Pressure [bar]					SS304/	SS316
	SPRAY ANGLE	CONNECTION											G/A DIMENSION. MM	
		XC	XD	XE	XF	XG	40* psi	1.5	2	3	5	7	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





Design for 360°
Spray Coverage

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

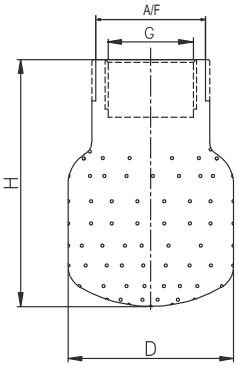
Male Connection On Request

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

SPRAY ANGLE	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
		SPRAY ANGLE	XC	XD							G/A DIMENSION. MM		
					40* psi	1.5	2	3	5	7	H	D	A/F
	EH2.180.M2	B/D/E	3/8"	1/2"	5.5	15.59	**18.00**	22.05	28.46	33.67	42	30	15
	EH2.280.M2	B/D/E	3/8"	1/2"	8.58	24.25	**28.00**	34.29	44.27	52.38	Weight (Metals) = 57.0 gms. Approx		
	EH2.520.M2	B/D/E	3/8"	1/2"	15.94	45.03	**52.00**	63.69	82.22	97.28			
	EH2.800.M2.XD	B/D/E		1/2"	24.52	69.28	**80.00**	97.98	126.49	149.67			
	EH3.100.M2.XD	B/D/E		1/2"	30.65	86.60	**100.0**	122.47	158.11	187.08	45.3	26	27

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

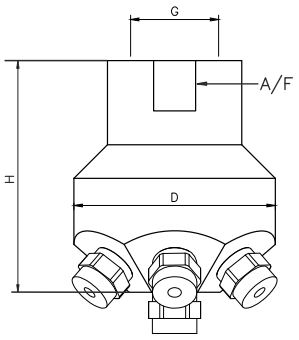
Coverage Type	Spray Angle
A	180°
B	180°
D	270°
E	360°

MODEL NO.	SPRAY ANGLE	XE	XF	XG	XH	XK	FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2		P3/P4
							Flow Capacity in GPM	Pressure [bar]					SS304/ SS316		TEFLON/ NYLON
													G/A DIMENSION. MM		
							40* psi	1.5	2	3	5	7	H	D	A/F
EI3.100.M2.XE	A/B/D/E	3/4"					30.65	86.60	**100.0**	122.47	158.11	187.08	78	40.5	28
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			
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			
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°

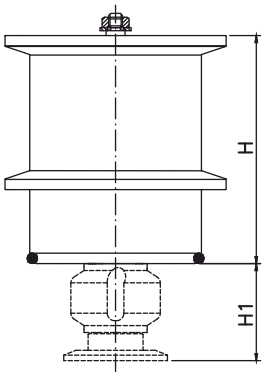
MODELNO.			FLOW CAPACITY IN LPM AT DIFFERENT PRESSURE VALUES						M1/M2	P3/P4
			Flow Capacity in GPM	Pressure [bar]					SS304/ SS316	TEFLON/ NYLON
	SPRAY ANGLE	XH							G/A DAIMENTION	
			40*PSI	1.5	2	3	5	7	H	D
EJ3.100.M2.XH	A/B/E	1 1/2"	30.65	86.60	100.0	122.47	158.11	187.08	121	127
EJ3.140.M2.XH	A/B/E	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
		CONNECTION	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 _____