

Air Atomizing Spray Nozzles

Expertly atomize fluids by combining liquid and compressed gas, typically air, at low pressures, with BETE air atomizing nozzles. Also known as two-fluid nozzles, the spray they produce is composed of very fine droplets ideal for coating, humidifying, gas cooling, lubricating, and misting or fogging applications.



Increase Performance, Reliability, & Efficiency With BETE Air Atomizing Lances, Headers, and Complete Automated Spray Systems

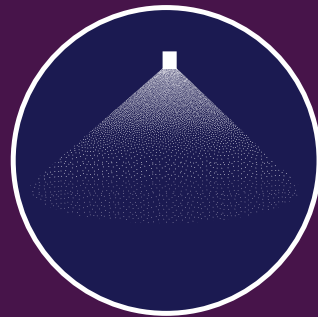


At BETE, we measure success by understanding our customers' businesses to provide effective engineered solutions for their fluid process challenges. With over 75 years of experience designing and manufacturing nozzles and spraying systems, BETE is a trusted provider of spray technology. We listen to and partner with our customers to ensure optimal solutions for their spraying challenges.

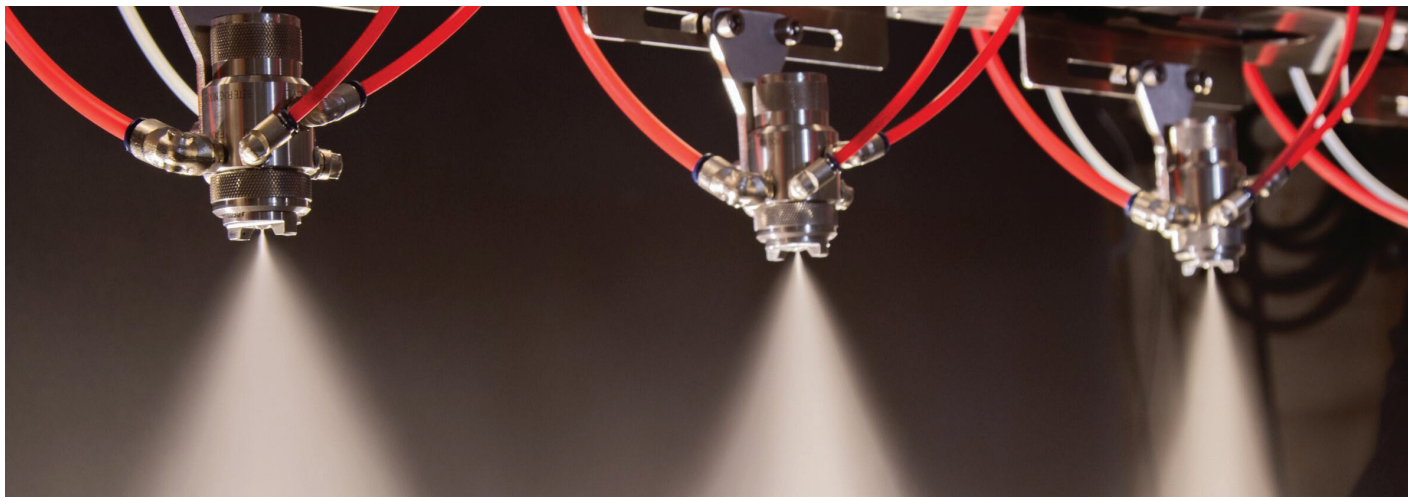
We use decades of experience with spray design and applications engineering combined with our CNC Machine Shop, Foundry, and Spray Lab to design, manufacture, and test our spray technology. Our team provides guidance and technical expertise in the selection of products and the development of custom solutions. We offer Advanced Spray Engineering Services (ASES) to solve more challenging and critical problems, including the ability to do CFD studies and physical testing. By combining our comprehensive in-house resources with our customers' knowledge, BETE can quickly and effectively solve complex spray applications.

To learn more about BETE spray lances and fabrications, see pages 16 and 17.

For more information on our complete spray system solutions, see page 19.



AIR ATOMIZING



XA

Low Flow Air Atomizing

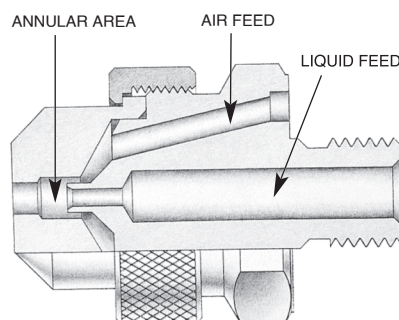
The XA nozzle system uses the energy in compressed air to produce highly atomized sprays at low flow rates. There are many interchangeable components that can be assembled to achieve a variety of spraying objectives.

SPRAY SET-UPS

XA nozzles produce eight distinctly different types of sprays, depending on which interchangeable air and fluid caps are selected. The spray type and flow rate are determined by the "set-up"—a specific combination of one air cap and one fluid cap.

Internal Mix Set-ups

Liquid and air streams meet within the nozzle and are mixed together and expelled through the same orifice(s). 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-ups 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.



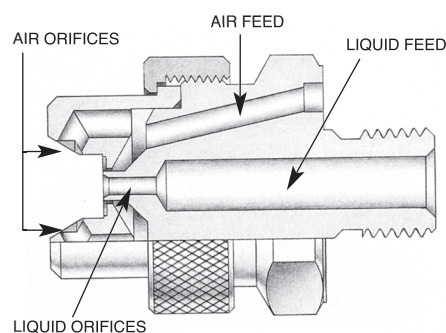
Cutaway View: Internal Mix Set-up

External Mix Set-ups

The air and liquid streams exit the nozzle independently and are combined and mixed outside of the nozzle. Because there is no connection between the air and liquid lines within the nozzle, 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-ups do not atomize as finely as Internal Mix Set-ups.

External Mix Set-ups may be used with liquids having a viscosity above 200 centipoise and for abrasive suspensions. BETE Applications Engineers can provide guidance for



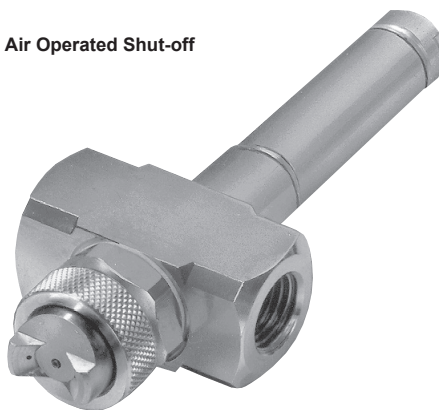
Cutaway View: External Mix Set-up

spraying high viscosity liquids.

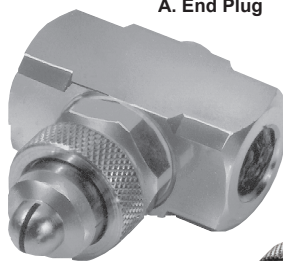
Siphon Set-ups

Internal and External Mix Set-ups require the liquid to be supplied to the nozzle under pressure from a municipal water supply, pump, or pressure pot. Siphon Set-ups use the flow of compressed air within the nozzle to siphon liquid from a container. Siphon Set-ups are frequently used for spraying additives from a container without the use of a pump. They provide the

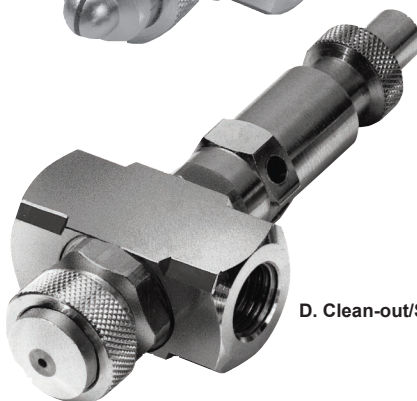
E. Air Operated Shut-off



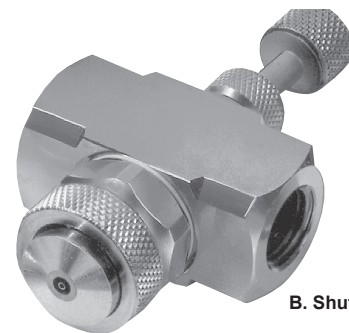
A. End Plug



D. Clean-out/Shut-off



B. Shut-off



Bold letters (A, B, C, D, E, F) refer to hardware assemblies shown on p. 78.

XA Components & Options

lowest flow rates available in the XA series (as low as 0.38 L/hr). They are generally not suitable for use with liquids having a viscosity above 200 centipoise.

By supplying the liquid under pressure, SR Set-ups may be used with liquids having a viscosity above 200 centipoise. In this case, the liquid flow rate is regulated by the fluid cap, and can be determined by using the EF chart for the specific fluid cap.

BASIC OPERATION

The basic XA nozzle assembly consists of a body, a spray set-up, and a "hardware assembly" that can provide shut-off and clean-out capabilities.

Non-Automatic Operation

The **XA00 Square Body** is the basic component of a non-automatic XA nozzle. Air and liquid feeds are located at opposite ends, perpendicular to the spray.

The **XA03 Body** has air and liquid feeds on one side, perpendicular to the spray axis.

The **XA05 Body** has air and liquid inlets located in-line with the spray. *Hardware assemblies cannot be used with the XA05 body.*

Hardware Assemblies for Non-Automatic Operation

A. Plug. The minimum option hardware assembly required for XA operation. Provides neither clean-out nor shut-off.

B. Shut-off. Turning the knurled knob will stop the flow of liquid to the nozzle. Should not be used to meter the flow of liquid.

C. Clean-out. Pressing the spring-loaded plunger will force a small dia-meter rod through the liquid orifice, cleaning any obstruction. Useful for intermittent spraying of a liquid that may dry in the orifice when not in use.

D. Clean-out/Shut-off. Combines functions of hardware assemblies B and C in one unit.



PR Air Cap



Fluid Cap



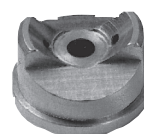
SR Air Cap



FF Air Cap



ER Air Cap



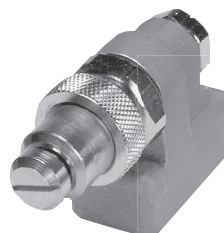
EF Air Cap



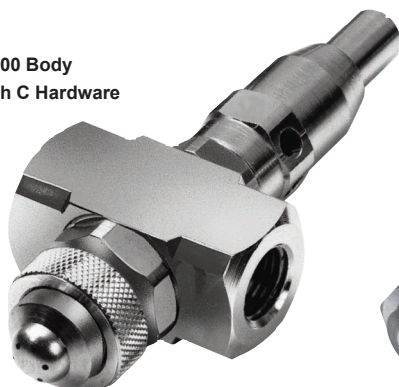
XW Air Cap



PF Air Cap



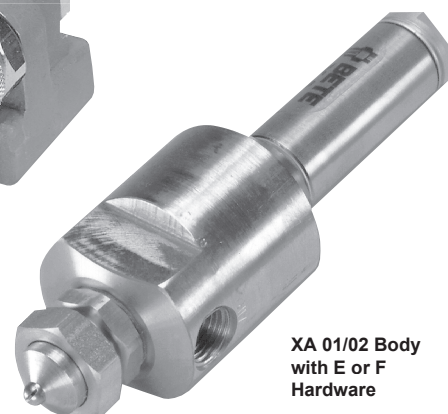
XA03 Body



XA00 Body
with C Hardware



XA05 Body



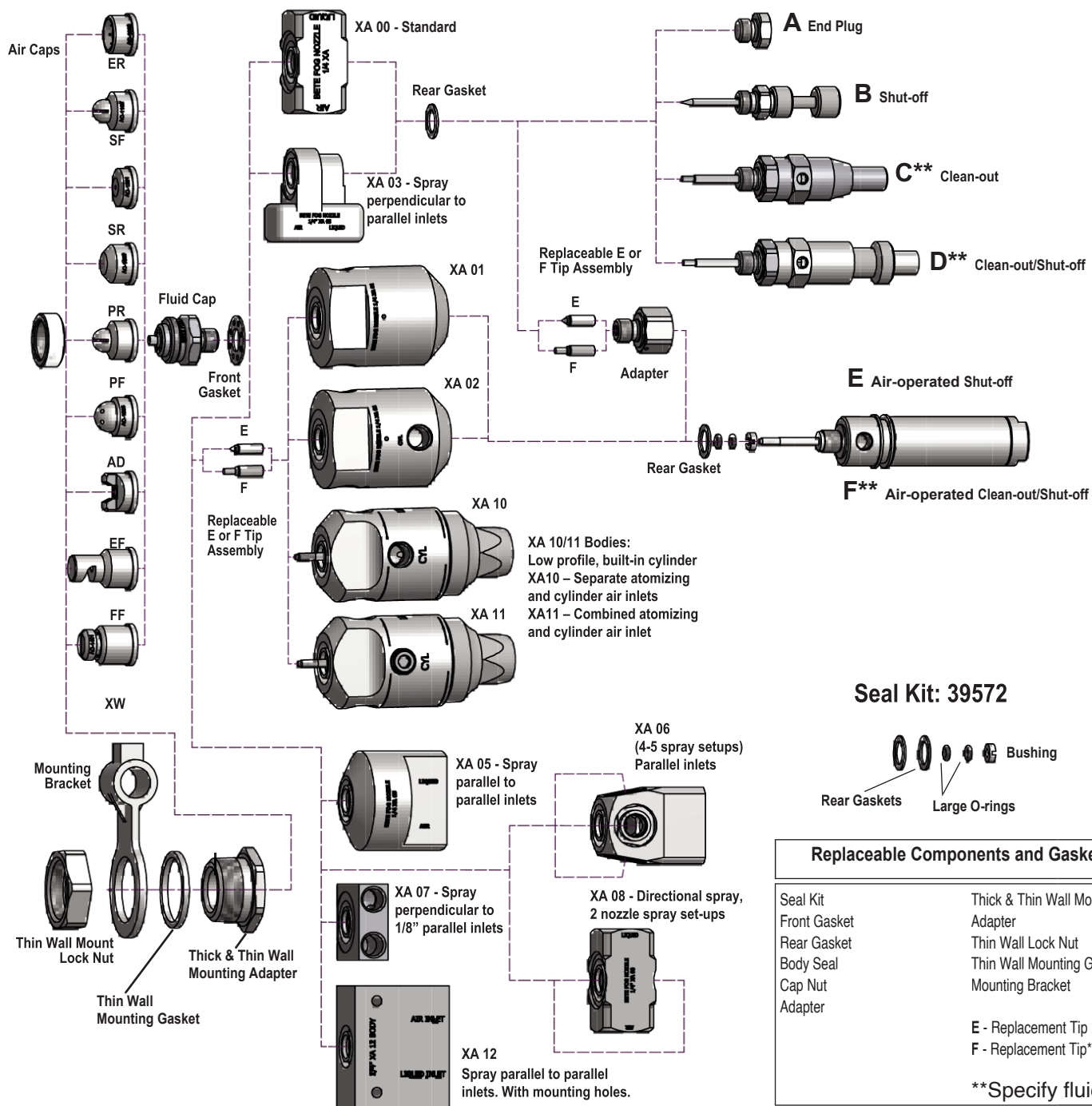
XA 01/02 Body
with E or F
Hardware

XA Components & Options

Spray Set-up

Body Styles and Seals

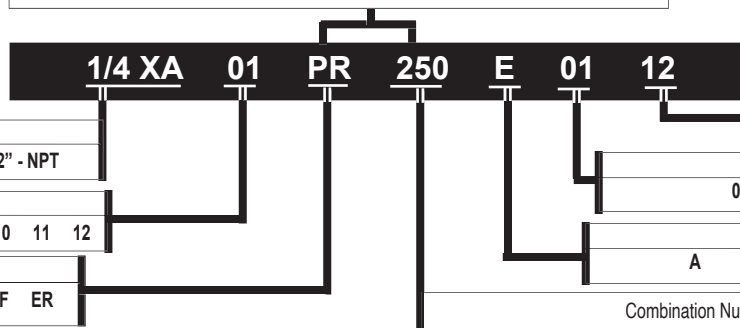
Hardware Assemblies



TO ORDER

Spray Set-up Number

Sizes and Series											
1/8" B, 1/4" B, 1/2" B - BSP						1/8", 1/4", 1/2" - NPT					
Body Styles											
00	01	02	03	05	06	07	08	10	11	12	
Air Cap Style											
PR	FF	AD	XW	PF	EF	SR	SF	ER			



*For extensions, A hardware is standard; E and F hardware may be provided on an application-specific basis.

Extension Size*					
12"					
Mounting Hardware					
01	02	03			
Hardware Assemblies					
A	B	C	D	E	F
Combination Number					

Combination Number

AIR ATOMIZING

TO ORDER: specify pipe size, body style, spray set-up #, hardware and mounting assemblies, and material. See page 84.

XA Components & Options

AUTOMATIC OPERATION

For critical applications which require automatic, no-drip, or high-speed spray shut-off, the XA can be supplied with an air-cylinder-operated shut-off or clean-out/shut-off. These air cylinders provide virtually instantaneous liquid shut-off at rates of up to 180 cycles per minute. *The air cylinders require a minimum of 5.5 bar to run that fast.*

Bodies for Automatic Operation

The XA01, XA02, XA10, and XA11 Round Bodies are rugged, highly reliable, and well-suited to the rigors of high-cycle automatic operation. They have been designed to simplify the feed piping required for installing automatic nozzles by providing a constant location for the air inlet piping. With their neat, professional appearance, they are particularly recommended for OEM applications.

The XA01 Round Body has one inlet for air and one for liquid. Because the air inlet supplies air for both cylinder movement and liquid atomization, spraying during start-up and shut-off is not as crisp and precise as with the XA02. *The XA01 body cannot be used with atomizing air pressure under 2 bar.*

The XA02 Round Body has two inlets for air and one inlet for liquid. One of the air inlets supplies the cylinder and the other supplies

atomizing air. The XA02 body must be used when the air cylinder operates at a different pressure from the atomizing air or where the atomizing air is supplied below 2 bar. *NOTE: The XA00 Square and XA03 Bodies used for non-automatic operation can also be used, with hardware assemblies E or F, for automatic operation. Special design features allow field upgrading to automatic operation.*

The XA10 and XA11 Bodies have a built in air-operated cylinder. The integral cylinder provides a smaller profile for use where space is limited.

Hardware Assemblies for Automatic Operation

E. Air-Operated Shut-off. Removal of air pressure to the cylinder causes a spring-loaded poppet valve actuator to shut off liquid flow.

F. Air-Operated Clean-out/Shut-off. Operation similar to E, but includes a clean-out needle.

SOLENOID VALVES

Electrically operated solenoid valves can be used to control the operation of any XA nozzle. BETE can supply solenoid valves matched to your specific application.

Solenoids for Automatic XA Nozzles.

A 3-way, quick-exhaust solenoid valve is required to operate the E or F hardware assembly. The valve is

located in the line that supplies air to the cylinder, as close to the nozzle as possible. Independent control of the atomizing air of an XA02 or square body requires an additional 2-way solenoid valve.

Solenoids for Non-Automatic XA Nozzles.

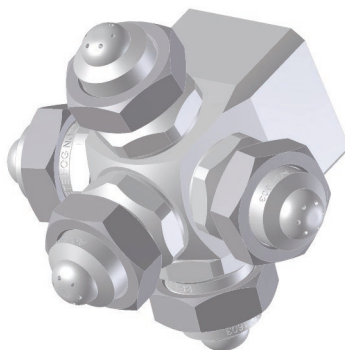
Two-way solenoid valves can be used to stop and start the flow of air and liquid to any non-automatic XA nozzle.

FILTERS, REGULATORS AND STRAINERS

For optimum reliability, every XA nozzle should have a strainer and regulator in the liquid feed line and a filter and regulator in the air feed line. Every XA nozzle with a Siphon Feed Set-up should have a filter and regulator in the air line. The size and type of each of these components depends on the application, and can be determined by your BETE sales representative. BETE maintains an inventory of filters, strainers, and regulators that can be supplied with your XA nozzle to ensure reliable operation. These components can be purchased individually or in kit form.



Simple piping and robust design describe this multiple nozzle XA lance.



The XA06 manifold body can be fitted with up to five nozzle setups and is often used for humidification of large areas.



Corrosion-resistant XA in PVC

XA Components & Options

SPRAY EXTENSIONS

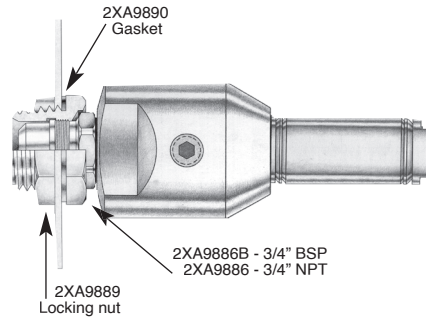
The spray set-up can be moved away from the nozzle body by using optional 152mm or 305mm extensions. These allow the spray to be moved closer to the target while keeping the nozzle body and associated piping at a distance.

MOUNTING HARDWARE

In many XA installations the nozzle is supported by the rigid metal pipe that supplies air or liquid. There are several components which can provide support for the XA Bodies when it isn't appropriate to suspend the nozzle from piping; for example, when the nozzle will spray through the wall of a tank or duct, or when the air and liquid will be supplied through flexible tubing. All XA bodies except the XA03 can be used with any of the mounting hardware described here.

Thin Wall 02 Adapter

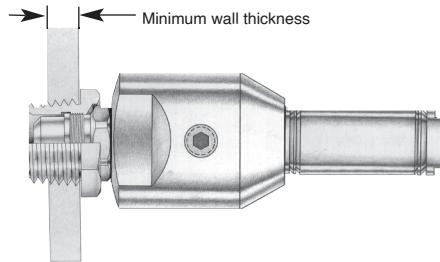
Three-piece adapter used to support an XA nozzle with the body located outside a tank or duct having a relatively thin (less than 10mm) wall and the spray directed into the interior. To use this adapter, a 27mm diameter hole must be drilled through the wall. This adapter both secures the air cap and attaches the nozzle body to the tank wall.



XA02 with Thin Wall 02 Adapter

Thick Wall 01 Adapter

Similar in design and function to the Thin Wall Adapter, but intended for use with tanks or ducts with walls that are thick enough (10mm or over) to be drilled and tapped for a 3/4 inch NPT thread.



XA02 with Thick Wall 01 Adapter

Mounting Bracket 03 Adapter

This bracket is used in combination with a Thin Wall Adapter to support an XA nozzle from a 13mm-diameter metal rod. The bracket allows flexibility in aiming the spray.

MATERIALS

Bodies, Fluid Caps, Air Caps, Hardware Assemblies, Mounting Hardware

The standard materials for the XA series are nickel-plated brass and 303 and 316 stainless steels. Other metals and plastics can be supplied on request. See page 12 for a complete material list.

Air Cylinders

The air cylinders used for XA hardware assemblies E and F have rods and cylinders made of stainless steel and end caps made of anodized aluminum. All metal parts in contact with the spray liquid are 316 stainless steel.

Seals

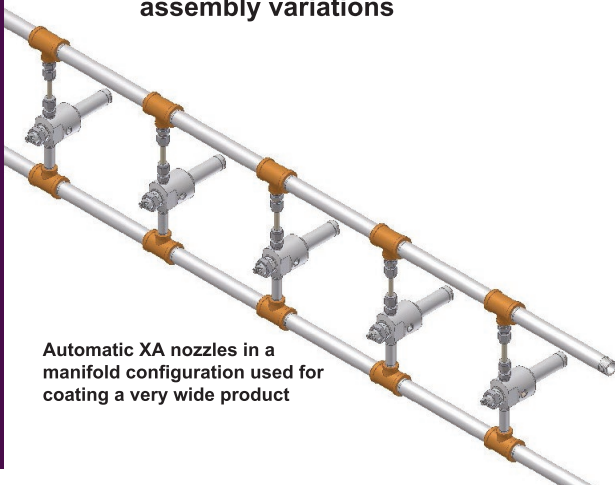
The standard material for XA gaskets is compressed fiber with a neoprene binder. For installations requiring FDA approval, SBR gaskets are available. Other elastomeric and metallic gasket materials can be supplied on request.

The standard material for O-rings in XA automatics is Viton®. Other materials available on request.

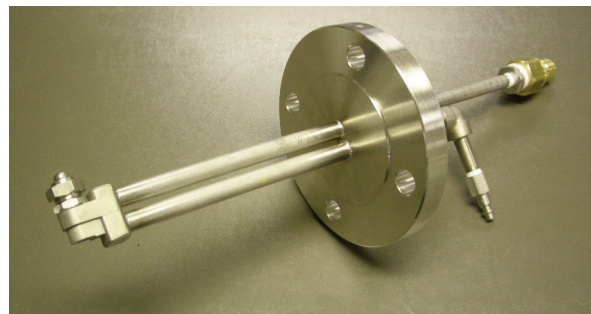


XA03 Mounting Bracket

BETE can fabricate XA nozzles into any number of lance assembly variations



Automatic XA nozzles in a manifold configuration used for coating a very wide product



Spray lance (see pages 16, 17) with a right angle XA and quick-connect fittings

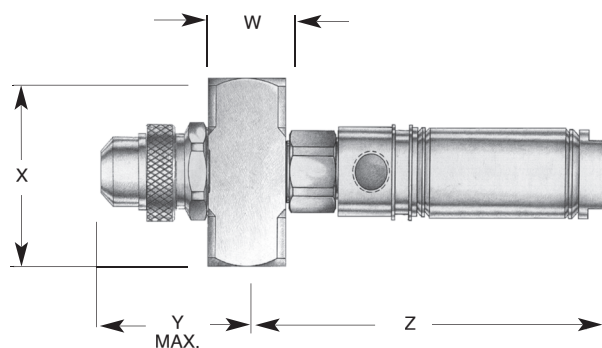
XA Components & Options

Spray Set-up Numbers

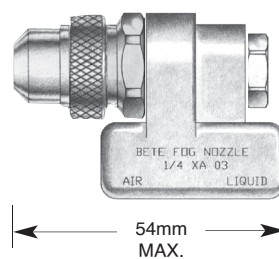
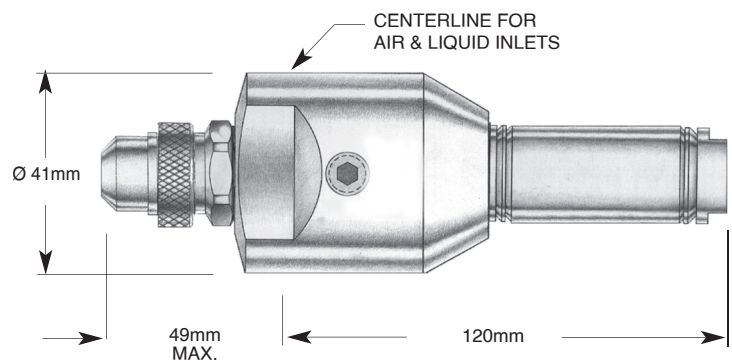
SPRAY SET-UP	PIPE SIZE BSP or NPT	SET-UP NO.	FLUID CAP	AIR CAP
EF	FLAT FAN (EXTERNAL MIX)	1/8	EF 050 EF 100	FC7 AC1003
		OR	EF 150 EF 200	FC4 AC1003
			EF 250 EF 300	FC3 AC1003
			EF 350 EF 400	FC6 AC1002
		1/4	EF 450 EF 500	FC2 AC1004
			EF 550 EF 600	FC1 AC1004
			EF 650 EF 700 EF 750	FC8 AC1005 FC5 AC1005
		1/2	EF 5050	FC501 AC5001
SF	SIPHON FLAT FAN	1/8	SF 050 SF 100	FC3 AC1101
		OR	SF 150 SF 200	FC2 AC1103
		1/4	SF 250 SF 300	FC4 AC1202
			SF 350 SF 400 SF 450	FC1 AC1204 FC5 AC1205
SR	SIPHON ROUND	1/8	SR 050 SR 150 SR 200	FC7 FC4 AC1201
		OR	SR 250 SR 300	FC3 FC1
		1/4	SR 350 SR 400 SR 450	AC1303 AC1301 AC1302
			SR 450 SR 500 SR 550	FC5 AC1304 FC1 AC1305
PF	PRESSURE FLAT FAN	1/8	PF 050 PF 100 PF 150 PF 200	FC4 FC3 FC3 AC1302
		OR	PF 250 PF 300 PF 350 PF 400	FC2 AC1304 FC1 AC1305
		1/4	PF 450 PF 500 PF 550	FC5 AC1306 FC1 AC1305
			PF 550 PF 600 PF 650	FC5 AC1306 FC1 AC1305
XW	EXTRA WIDE-ANGLE ROUND	1/2	XW 050 XW 100 XW 150 XW 200 XW 250 XW 300	FC8 AC1401 FC4 AC1501 FC4 AC1502 FC3 AC1502 FC2 AC1503 FC1 AC1503 FC5 AC1504
		OR	XW 350 XW 400 XW 450 XW 500 XW 550 XW 600	FC1 AC1503 FC5 AC1504 FC1 AC1503 FC5 AC1504
		1/4	XW 600 XW 650 XW 700 XW 750 XW 800 XW 850	FC1 AC1503 FC5 AC1504 FC1 AC1503 FC5 AC1504
			XW 850 XW 900 XW 950 XW 1000 XW 1050 XW 1100	FC1 AC1503 FC5 AC1504 FC1 AC1503 FC5 AC1504
PR	PRESSURE ROUND	1/8	PR 050 PR 100 PR 150 PR 200 PR 250 PR 300	FC4 AC1501 FC4 AC1502 FC3 AC1502 FC2 AC1503 FC1 AC1503 FC5 AC1504
		OR	PR 350 PR 400 PR 450 PR 500 PR 550 PR 600	FC1 AC1503 FC5 AC1504 FC1 AC1503 FC5 AC1504
		1/4	PR 600 PR 650 PR 700 PR 750 PR 800 PR 850	FC1 AC1503 FC5 AC1504 FC1 AC1503 FC5 AC1504
			PR 850 PR 900 PR 950 PR 1000 PR 1050 PR 1100	FC1 AC1503 FC5 AC1504 FC1 AC1503 FC5 AC1504
AD	WIDE ANGLE ROUND	1/8	AD 050 AD 100 AD 150 AD 200 AD 250 AD 300	FC4 AC1601 FC2 AC1603 FC2 AC1602 FC1 AC1603 FC1 AC1604 FC5 AC1605
		OR	AD 350 AD 400 AD 450 AD 500 AD 550 AD 600	FC1 AC1603 FC1 AC1604 FC5 AC1605 FC1 AC1603 FC5 AC1605
		1/4	AD 600 AD 650 AD 700 AD 750 AD 800 AD 850	FC1 AC1603 FC5 AC1605 FC1 AC1603 FC5 AC1605
			AD 850 AD 900 AD 950 AD 1000 AD 1050 AD 1100	FC1 AC1603 FC5 AC1605 FC1 AC1603 FC5 AC1605
FF	DEFLECTED FLAT FAN	1/8	FF 050 FF 100 FF 150 FF 200 FF 250 FF 300	FC10 AC1701 FC7 AC1801 FC4 AC1801 FC3 AC1802 FC6 AC1802 FC2 AC1802 FC1 AC1803
		OR	FF 350 FF 400 FF 450 FF 500 FF 550 FF 600	FC6 AC1802 FC2 AC1802 FC1 AC1803 FC3 AC1803 FC9 AC1803 FC5 AC1803
		1/4	FF 600 FF 650 FF 700 FF 750 FF 800 FF 850	FC3 AC1803 FC9 AC1803 FC5 AC1803 FC3 AC1803 FC9 AC1803 FC5 AC1803
			FF 850 FF 900 FF 950 FF 1000 FF 1050 FF 1100	FC3 AC1803 FC9 AC1803 FC5 AC1803 FC3 AC1803 FC9 AC1803 FC5 AC1803
ER	NARROW ANGLE ROUND	1/8	ER 050 ER 100 ER 150 ER 200 ER 250 ER 300	FC7 AC1801 FC4 AC1801 FC3 AC1802 FC6 AC1802 FC2 AC1802 FC1 AC1803
		OR	ER 350 ER 400 ER 450 ER 500 ER 550 ER 600	FC6 AC1802 FC2 AC1802 FC1 AC1803 FC3 AC1803 FC9 AC1803 FC5 AC1803
		1/4	ER 600 ER 650 ER 700 ER 750 ER 800 ER 850	FC3 AC1803 FC9 AC1803 FC5 AC1803 FC3 AC1803 FC9 AC1803 FC5 AC1803
			ER 850 ER 900 ER 950 ER 1000 ER 1050 ER 1100	FC3 AC1803 FC9 AC1803 FC5 AC1803 FC3 AC1803 FC9 AC1803 FC5 AC1803

Dimensions with Hardware Options for XA00 Body, BSP or NPT

Pipe Size	Hardware Option	Dimensions in (mm)			
		W	X	Y	Max. "Z"
1/8 OR 1/4	A				14.3
	B				42.3
	C	22.2	42.9	49.2	63.5
	D				77.0
	E				103
	F				103
1/2	A	31.8	63.5	68.3	25.4

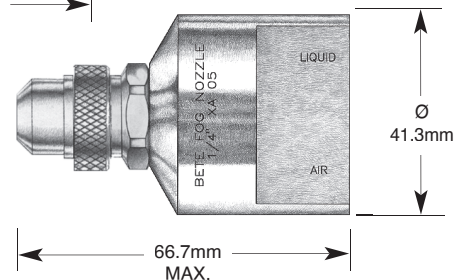


Overall Dimensions of XA Assemblies with XA00 Body (Shown with E or F Hardware)



Overall Dimensions for Assemblies with XA03 Bodies

Overall Dimensions for Assemblies with XA05 Bodies



AIR ATOMIZING

CALL 413-772-0846
Call for the name of your nearest BETE representative.

XA Components & Options

SYSTEM SET-UPS AND ACCESSORIES

BETE carries a complete line of controls and accessories required for setting up a system using the XA Series nozzles.

Contact your BETE representative for details.

Pressure System Set-up

In a pressure-fed system, the liquid is supplied under pressure to either internal or external mix BETE XA Series nozzles.

Air and liquid regulators control the fluid delivery pressure, while the air filter and liquid strainer ensure that the supplied fluids are of high quality.

Operational control is maintained by manual or solenoid valves used in conjunction with the various hardware assemblies.

Siphon System Set-up

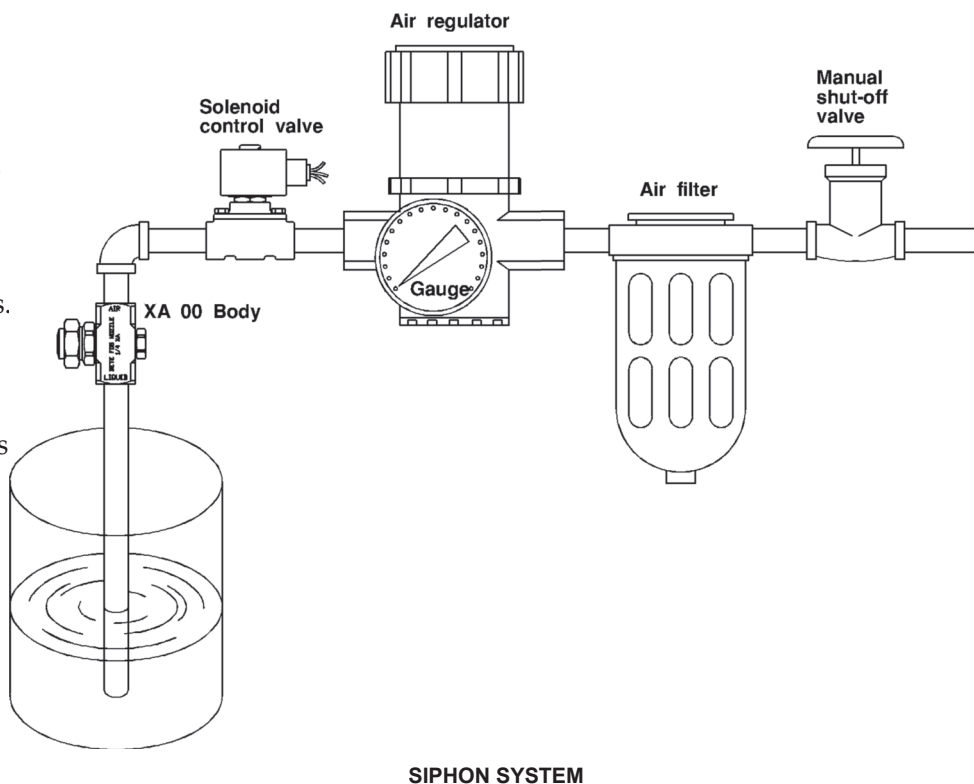
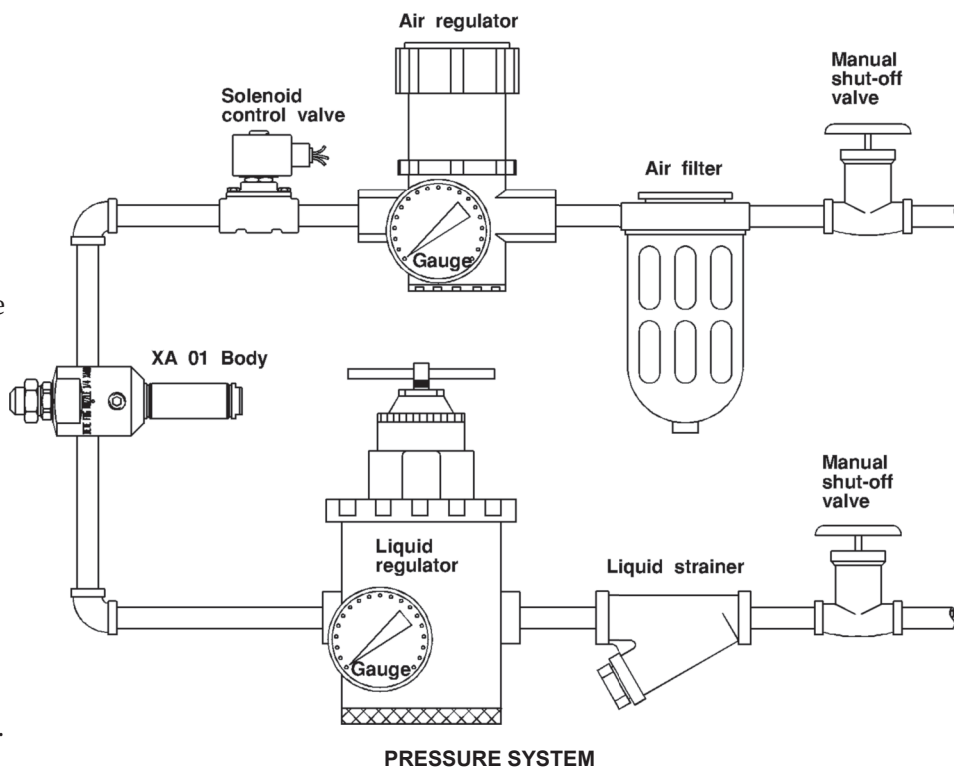
In a siphon-fed system, the liquid is supplied by either a siphon or gravity feed.

An air regulator controls the air delivery pressure, while the air filter ensures that the compressed air is of high quality.

Operational control is maintained by manual or solenoid valves used in conjunction with the various hardware assemblies.

When used as a gravity feed set-up, a positive liquid shutoff capability should be provided.

Filters, regulators, and strainers matched to your XA application are available from stock.

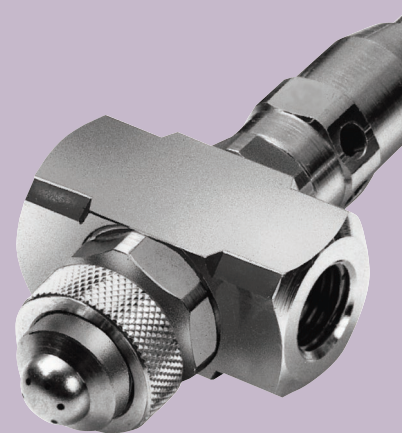
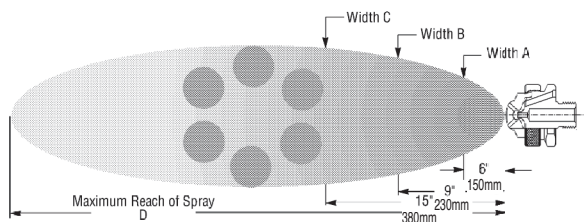


XA AD

Pressure-fed/Int. Mix/Wide Angle Round

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- Very fine atomization
- 70° Hollow Cone spray pattern
- Moderate forward spray projection



1/4" XA AD100 C
XA 00 Body; C Hardware

Dimensions are approximate. Check with BETE for critical dimension applications.

XA AD Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	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	air	Bar liquid	A (mm)	B (mm)	C (mm)	D (m)
1/8	AD 050	Fluid Cap FC4 & Air Cap AC1601	0.6	5.3	0.60	1.1	8.1	0.79	1.5	8.1	0.92	2.4	8.9	1.24	3.1	10.5	1.44	0.7	0.7	140	180	230	1.5
			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	1.4	1.5	150	190	240	1.8
			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	1.8	2.0	160	200	250	2.1
			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	3.0	3.0	160	200	260	2.7
	AD 100	Fluid Cap FC2 & Air Cap AC1603				1.7	13.2	4.08															
			0.9	7.0	3.00	1.7	9.8	4.74	2.0	18.5	4.08	2.8	25.0	5.04	3.7	31.0	5.76						
			1.0	2.1	3.72	1.8			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	0.9	0.7	180	240	310	1.8
	AD 150	Fluid Cap FC2 & Air Cap AC1602																					
			1.1	12.3	2.40	2.2	16.3	3.72	2.7	21.0	4.14	4.2	19.3	6.00	5.6	22.0	7.80						
			1.3	9.9	2.70	2.5	12.1	4.26	3.0	16.3	4.68	4.6	14.6	6.78	6.0	17.6	8.52						
			1.4	7.9	3.00	2.8	8.9	4.74	3.2	12.3	5.16	4.9	10.8	7.44	6.3	14.0	9.12	1.5	0.7	150	190	230	2.7
OR 1/4	AD 200	Fluid Cap FC1 & Air Cap AC1603	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	3.0	1.5	160	200	240	4.6
			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	3.4	2.0	160	200	240	5.5
			1.8	3.9	3.72	3.2	5.5	5.46	3.9	6.4	6.30	6.0	4.9	9.42				5.3	3.0	180	220	250	7.3
			2.0	3.1	4.02	3.4	4.7	5.70	4.2	4.7	6.90	6.3	4.0	10.0				6.3	4.0	190	240	280	9.4
	AD 250	Fluid Cap FC1 & Air Cap AC1604	0.7	23.1	1.70	1.4	37.1	2.38	2.1	26.9	3.91	2.8	49.2	3.91	3.7	57.2	4.59						
			0.9	8.30	2.89	1.5	30.3	2.89	2.2	22.3	4.42	3.0	40.1	4.59	3.8	53.0	5.10						
			1.0	3.40	3.40	1.7	18.2	3.74	2.4	11.4	5.44	3.1	32.9	5.10	4.0	44.7	5.95	0.9	0.7	190	250	360	2.1
						1.8	11.7	4.42	2.5	7.20	5.95	3.2	28.8	5.44	4.2	34.4	6.80	1.5	1.5	200	270	370	3.2
	AD 300	Fluid Cap FC5 & Air Cap AC1605																					

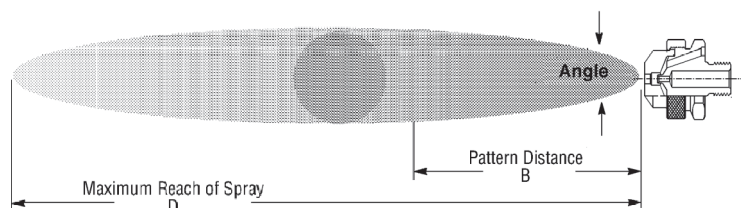
Standard Materials: Nickel-plated Brass, 303 Stainless Steel, and 316 Stainless Steel

XAPR

Pressure-fed/Int. Mix/Narrow Angle Round

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- Very fine atomization
- Narrow spray angle (12°- 22°)
- Full cone pattern
- Large forward projection (up to 8.5 m)



1/4" XA 02 PR050 E
XA 02 Body; E Hardware

Dimensions are approximate. Check with BETE for critical dimension applications.

XA PR Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	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	air	Bar liquid	Spray Angle (deg.)	B (mm)	D (m)
1/8 OR 1/4	PR 050	Fluid Cap FC4 & Air Cap AC1501	0.7	2.5	0.960	1.1	6.4	0.720	1.4	6.4	0.840	2.7	6.2	1.38	3.5	7.8	1.68					
			0.9	1.8	1.14	1.4	5.0	0.900	1.7	5.5	1.02	2.8	5.7	1.50	3.7	7.3	1.74	0.9	0.7	13	300	3
			1.0	1.4	1.32	1.7	4.1	1.14	2.0	4.5	1.20	3.0	5.2	1.62	3.9	6.4	1.98	1.7	1.5	13	330	3
						1.8	3.4	1.20	2.2	3.4	1.44	3.1	4.7	1.74	4.2	5.5	2.28	2.5	2.0	13	360	3
						2.0	3.0	1.38	2.4	3.0	1.56	3.2	4.3	1.86	4.5	4.5	2.58	3.1	3.0	14	390	4
						2.1	2.6	1.50	2.5	2.5	1.68	3.4	3.9	1.98	4.6	4.1	2.70	4.5	4.0	15	440	4
	PR 100	Fluid Cap FC4 & Air Cap AC1502	0.7	2.5	1.14	1.4	5.7	1.62	1.7	6.7	1.74	2.2	9.2	2.04	2.8	11.9	2.34					
			0.9	2.0	1.32	1.5	5.2	1.74	1.8	6.4	1.86	2.5	8.2	2.34	3.1	11.0	2.58	0.9	0.7	12	430	4
			1.0	1.6	1.56	1.7	4.8	1.92	2.0	5.9	2.04	2.8	7.2	2.64	3.4	10.1	2.82	1.5	1.5	13	460	4
						1.8	4.3	2.10	2.1	5.2	2.22	3.0	6.7	2.82	3.7	9.2	3.12	2.4	2.0	13	480	4
						2.0	3.9	2.22	2.2	4.8	2.40	3.1	6.3	2.94	3.9	8.4	3.48	3.0	3.0	13	510	5
						2.1	3.4	2.40	2.4	4.3	2.58	3.2	5.9	3.12	4.2	7.6	3.72	3.9	4.0	15	560	5
	PR 150	Fluid Cap FC3 & Air Cap AC1502	0.9	4.8	1.26	1.7	8.4	1.86	2.0	10.7	1.98	2.7	16.5	2.22	3.4	20.0	2.58					
			1.1	4.1	1.62	1.8	7.5	2.10	2.1	9.8	2.22	2.8	15.4	2.28	3.7	18.4	2.82	1.5	0.7	12	480	4
			1.4	3.4	1.98	2.0	7.0	2.22	2.4	8.2	2.52	3.1	13.6	2.58	3.9	16.8	3.00	2.5	1.5	13	510	4
			1.5	3.1	2.10	2.2	5.7	2.64	2.7	6.8	2.88	3.4	11.8	2.94	4.2	15.2	3.30	3.0	2.0	13	530	5
			1.7	3.0	2.34	2.5	4.8	2.94	3.0	5.9	3.30	3.7	10.4	3.30	4.5	13.8	3.60	3.4	3.0	14	560	5
			1.8	2.9	2.46	2.8	4.1	3.24	3.2	5.0	3.54	3.9	9.1	3.66	4.8	12.4	3.90	4.2	4.0	15	600	5
1/4	PR 200	Fluid Cap FC2 & Air Cap AC1503	0.9	13.0	4.56	2.2	17.8	6.96	2.8	20.0	8.16	3.4	32.0	8.94	4.6	37.0	11.6					
			1.4	8.9	5.46	2.5	13.1	7.80	3.1	16.3	8.94	3.9	25.0	10.2	5.3	29.0	13.2	1.7	0.7	18	660	5
			1.5	7.2	5.88	2.8	9.5	8.58	3.4	11.9	9.78	4.6	15.9	12.3	5.6	25.0	14.1	2.8	1.5	20	760	6
			1.7	5.8	6.30	3.1	7.0	9.42	3.9	7.0	11.2	5.3	9.1	14.4	6.0	21.0	15.0	3.9	2.0	20	810	7
			1.8	4.7	6.72	3.4	4.9	10.3	4.2	4.7	12.3	5.6	6.8	15.3	6.3	17.4	16.2	5.3	3.0	21	910	8
			2.0	3.6	7.14	3.5	4.2	10.7	4.6	3.0	13.2	6.0	5.0	16.5	6.7	14.0	17.4	6.0	4.0	21	970	9
	PR 250	Fluid Cap FC1 & Air Cap AC1503	0.9	31.0	3.42	1.4	61.0	4.14	2.1	53.0	5.76	2.7	80.0	6.18	3.8	88.0	8.10					
			1.0	25.0	3.96	1.5	54.0	4.56	2.4	41.0	6.72	3.0	69.0	7.02	4.2	73.0	9.36	1.0	0.7	17	610	5
			1.1	18.5	4.50	1.7	48.0	5.10	2.7	31.0	7.62	3.2	59.0	7.80	4.6	61.0	10.6	1.8	1.5	18	690	6
			1.3	12.9	5.10	1.8	41.0	5.58	2.8	26.0	8.16	3.5	49.0	8.76	4.9	48.0	11.8	2.8	2.0	20	760	7
						2.0	35.0	6.12	3.0	22.0	8.64	3.7	44.0	9.24	5.3	39.0	12.9	3.5	3.0	20	790	7
						2.1	30.0	6.60				3.8	37.0	9.66	5.6	31.0	14.4	4.9	4.0	21	910	9
1/4	PR 300	Fluid Cap FC5 & Air Cap AC1504	1.0	44.0	5.16	1.4	125	4.74	2.0	123	6.48	2.2	199	5.28	3.0	250	5.94					
			1.1	32.0	6.12	1.5	106	5.46	2.1	108	7.14	2.5	174	6.60	3.2	225	7.20	1.0	0.7	19	890	6
						1.7	87.0	6.30	2.2	95.0	7.80	2.8	146	7.98	3.5	205	8.46	1.7	1.5	20	990	7
						1.8	70.0	7.08	2.4	79.0	8.58	3.1	121	9.24	3.8	182	9.78	2.4	2.0	21	1040	8
						2.0	55.0	7.80	2.5	64.0	9.30	3.2	108	9.96	4.1	159	11.0	3.1	3.0	21	1070	8
									2.7	52.0	9.96	3.4	95.0	10.6	4.6	121	13.5	3.8	4.0	22	1170	9
	PR 300	Fluid Cap FC5 & Air Cap AC1504							2.8	42.0	10.7	3.5	84.0	11.2	4.9	93.0	15.3					

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

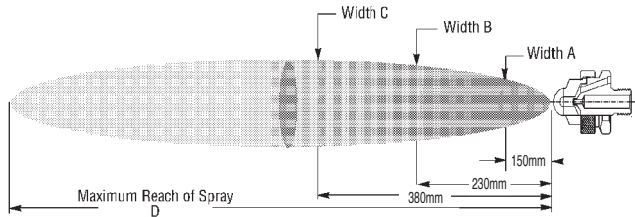
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XAPF

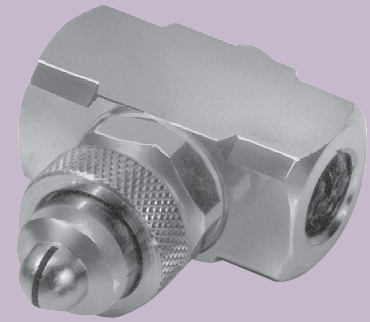
Pressure-fed/Internal Mix/Flat Fan

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- Flat fan, wide angle spray patterns (between 80° and 90°)
- Very fine atomization



Dimensions are approximate. Check with BETE for critical dimension applications.



1/4" XA PF300 A
XA 00 Body; A Hardware

AIR ATOMIZING

CALL 413-772-0846
Call for the name of your nearest BETE representative.

XA PF Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	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	air	liquid	A (mm)	B (mm)	C (mm)	D (m)
1/8 OR 1/4	PF 050	Fluid Cap FC4 & Air Cap AC1301	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	1.1	0.7	250	360	460	2.6
			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	2.1	1.5	360	480	660	3.0
			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	2.1	1.5	360	480	660	3.0
			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	2.8	2.0	380	530	760	3.2
			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	3.5	3.0	470	610	860	3.4
			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	6.0	4.0	560	740	940	4.0
	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								
	PF 100	Fluid Cap FC3 & Air Cap AC1303	1.3	3.9	1.80	2.1	7.4	2.40	3.0	6.1	3.12	3.9	9.4	3.60	5.3	10.2	4.68	1.5	0.7	250	330	460	1.8
			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	2.7	1.5	360	510	690	2.0
			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	3.2	2.0	480	580	740	2.0
			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	4.2	3.0	610	740	940	2.1
			1.8	1.3	2.46	2.8	3.1	3.12	3.5	3.2	3.72							5.6	4.0	610	740	940	2.1
			2.0	1.0	2.64	3.0	2.6	3.30	3.9	1.8	4.08									640	760	970	2.3
	PF 150	Fluid Cap FC3 & Air Cap AC1301	0.9	8.2	1.20	1.4	14.4	1.62	2.1	13.5	2.16	2.7	19.1	2.52	4.6	16.1	4.14	1.1	0.7	360	460	710	2.1
			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	2.1	1.5	430	610	810	2.4
			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	3.0	2.0	510	660	890	2.6
			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	3.5	3.0	580	760	970	2.7
			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	5.6	4.0	580	760	970	3.2
					2.4	6.1	2.76	3.4	4.0	3.78	4.6	5.9	4.74	6.3	5.6	6.24							
PF 200	Fluid Cap FC3 & Air Cap AC1302	2.5	5.1	2.94	3.5	3.3	3.96	4.9	4.0	5.16	4.6												
		1.0	9.0	1.50	2.0	10.4	2.46	2.4	11.6	2.88	3.1	15.6	3.36	4.2	17.1	4.38	1.4	0.7	100	130	170	3.0	
		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	2.5	1.5	130	150	200	3.7	
		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	3.2	2.0	130	170	220	4.0	
		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	3.8	3.0	150	220	280	4.2	
		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	5.3	4.0	150	220	280	4.2	
PF 250	Fluid Cap FC2 & Air Cap AC1304	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	5.3	4.0	200	250	330	4.8	
		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							
		1.1	11.2	3.24	2.1	18.0	4.74	2.7	19.6	5.58	3.5	27.0	6.72	4.6	33.0	8.22	1.4	0.7	150	180	200	3.0	
		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	2.4	1.5	230	280	330	3.2	
		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	3.0	2.0	250	330	400	3.4	
		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	3.7	3.0	300	380	460	3.5	
PF 300	Fluid Cap FC1 & Air Cap AC1304	1.7	3.8	4.62			6.84	3.2	11.4	6.84	4.1	18.9	7.92	6.0	15.7	11.2	5.3	4.0	330	410	480	4.0	
										4.2	17.2	8.22	6.3		12.4	12.0							
		0.9	27.0	1.98	1.8	38.0	3.30	2.4	39.0	4.02	3.2	58.0	4.56	4.6	59.0	6.36	1.1	0.7	180	230	300	3.4	
		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	2.4	1.5	230	300	410	3.5	
		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	3.2	2.0	250	330	430	3.7	
		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	3.9	3.0	300	380	480	3.8	
PF 350	Fluid Cap FC1 & Air Cap AC1305	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	6.0	4.0	330	410	510	4.4	
		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							
										3.7	16.8	4.9	14.8	8.40	7.0	12.7	11.9						
		1.0	17.0	1.38	2.0	24.0	2.64	2.4	28.0	3.06	3.4	38.0	4.32	3.9	65.0	4.50	1.1	0.7	100	130	150	2.4	
		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	2.1	1.5	100	130	170	3.0	
		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	2.8	2.0	130	170	220	3.4	
PF 400	Fluid Cap FC5 & Air Cap AC1306	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	4.9	4.0	200	250	350	4.0	
					2.5	7.2	4.26	3.0	11.7	4.74	3.9	19.7	6.30	5.3	21.0	8.94	3.7	3.0	150	200	280	3.6	
										4.2	13.1	7.20	5.6	13.8	10.4	4.9	4.0						
										4.6	7.2	8.28	6.3		13.2	13.5							
		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	1.0	0.7	180	200	250	3.4	
		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	1.8	1.5	250	300	430	3.8	
PF 400	Fluid Cap FC5 & Air Cap AC1306						2.4	62.0	8.82	3.2	95.0	9.78	4.6	89.0	13.5	2.4	2.0	250	300	460	4.3		
								2.5	48.0	9.72	3.4	78.0	11.0	4.9	58.0	15.9	3.4	3.0	330	410	530	4.6	
								2.7	36.0	10.6	3.5	62.0	11.6	5.3	34.0	18.3	4.9	4.0	360	430	580	5.2	
										3.7	48.0	12.6	5.6	16.7	20.4								
										3.8	37.0	13.5											

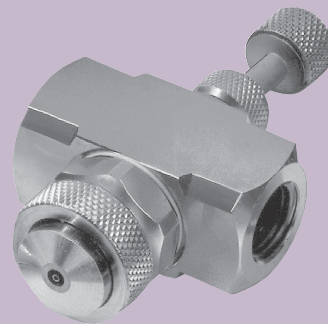
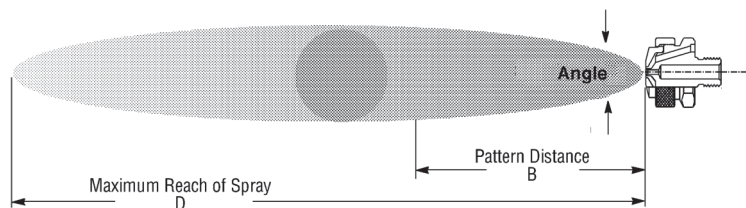
Standard Materials: Nickel-plated Brass, 303 Stainless Steel, and 316 Stainless Steel

XASR

Siphon-fed Round

DESIGN FEATURES

- Lowest flow available
- Very fine atomization
- Narrow spray angle (12°- 22°)
- Full cone pattern
- Short to moderate forward spray projection



1/4"XA SR 200 B
XA 00 Body; B Hardware

Dimensions are approximate. Check with BETE for critical dimension applications.

XA SR Set-up 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	Fluid and Air Cap Numbers	ATOMIZING AIR		Liquid Capacity in l/h (Liters Per Hour)								Spray Dimensions at 200 mm. Siphon Height			
			Air (bar)	Air Capacity (Nm ³ /h)	Gravity Head			Siphon Height					Air (bar)	Spray Angle (deg.)	B (mm)	D (m)
					450 mm	300 mm	150 mm	100 mm	200 mm	300 mm	600 mm	900 mm				
1/8" or 1/4"	SR 050	Fluid Cap FC7 & Air Cap AC 1201	0.7	0.66	1.5	1.3	1.1	0.9	0.7	0.5			0.7	18	280	1.8
			1.5	1.02	1.8	1.7	1.5	1.3	1.2	1.1			1.5	18	280	1.9
			3.0	1.68	2.1	1.9	1.7	1.5	1.4	1.3	1.1	0.8	3.0	18	300	2.3
			4.0	2.16	2.2	2.0	1.8	1.6	1.5	1.4	1.2	0.9	4.0	18	360	2.6
	SR 150	Fluid Cap FC4 & Air Cap AC1201	0.7	0.78	2.4	2.1	1.7	1.5	1.2	0.8			0.7	18	300	2.1
			1.5	1.20	2.8	2.6	2.4	2.1	1.9	1.6	0.9		1.5	18	330	2.3
			3.0	1.92	3.4	3.1	2.9	2.8	2.6	2.4	1.7	1.1	3.0	18	380	2.6
			4.0	2.46	3.7	3.4	3.3	3.1	2.9	2.7	2.1	1.5	4.0	19	430	3.0
1/8" or 1/4"	SR 200	Fluid Cap FC4 & Air Cap AC1202	0.7	1.38	2.5	2.3	2.0	1.6	1.4	1.1			0.7	18	300	2.4
			1.5	2.16	2.9	2.8	2.5	2.2	2.0	1.7	0.9		1.5	18	330	2.7
			3.0	3.48	3.4	3.3	3.2	2.9	2.8	2.5	1.9	1.2	3.0	19	380	3.4
			4.0	4.44	3.7	3.6	3.5	3.4	3.3	3.0	2.5	2.0	4.0	20	430	4.0
	SR 250	Fluid Cap FC3 & Air Cap AC1202	0.7	1.14	4.5	4.0	3.4	21	1.8	1.4			0.7	21	380	3.0
			1.5	1.86	5.3	4.9	4.4	3.5	2.9	2.7	1.8		1.5	21	410	3.4
			3.0	3.00	6.0	5.6	5.0	4.4	4.0	3.4	2.4	1.2	3.0	21	460	4.0
			4.0	3.90	5.7	5.4	5.0	4.2	3.9	3.5	2.8	1.9	4.0	22	510	4.6
1/8" or 1/4"	SR 400	Fluid Cap FC1 & Air Cap AC 1204	1.5	3.48	22	19.9	16.3	12.3	10.5	8.3	2.8		1.5	17	460	3.7
			3.0	5.28	25	23	19.5	16.7	14.2	11.5	6.4	2.8	3.0	18	510	4.3
			4.0	6.66	26	24	21	18.4	15.7	12.9	7.9	4.5	4.0	18	530	4.9
			5.6	8.82	26	24	22	19.7	17	14.6	9.8	6.1	5.6	19	580	5.5
	SR 450	Fluid Cap FC5 & Air Cap AC 1205	2.0	8.64				27	22	16.8			2.0	20	510	6.7
			3.0	11.4				30	26	21			3.0	20	530	7.0
			4.0	14.4		43	40	31	28	23	11.0		4.0	21	580	7.6
			5.6	18.9	44	42	39	31	28	24	16.7	8.3	5.6	22	630	8.2

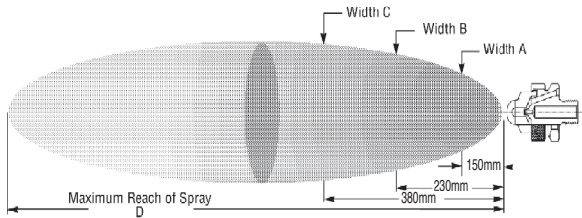
Standard Materials: Nickel-plated Brass, 303 Stainless Steel, and 316 Stainless Steel

XA SF

Siphon-fed Flat Fan

DESIGN/SPRAY CHARACTERISTICS

- Lowest flow available
- Very fine atomization
- Flat fan spray pattern
- Moderate spray angle (60° - 85°)
- Small forward projection
- Siphon-fed



1/4"XA02 SF 050 F
XA 02 Body; F Hardware

Dimensions are approximate. Check with BETE for critical dimension applications.

XA SF Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid Cap and Air Cap Numbers	ATOMIZING AIR		Liquid Capacity in l/h (Liters Per Hour)								Spray Dimensions at 200 mm Siphon Height				
			Air (bar)	Air Capacity (Nm ³ /h)	Gravity Head			Siphon Height					Air (bar)	A (mm)	B (mm)	C (mm)	D (m)
					450 mm	300 mm	150 mm	100 mm	200 mm	300 mm	600 mm	900 mm					
1/8 or 1/4	SF 050	Fluid Cap FC3 & Air Cap AC1101	0.7	1.68	1.3	1.2	1.1	1.0	1.0	0.8	0.6	0.5	0.7	200	260	380	2.1
			1.5	2.58	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.5	1.5	210	290	380	2.1
			2.0	3.00	0.8	0.8	0.7	0.6	0.5				2.0	230	300	380	1.8
	SF 100	Fluid Cap FC6 & Air Cap AC1102	1.5	3.36	3.7	3.5	3.3	2.9	2.8	2.5	2.3	2.1	1.5	230	320	380	2.7
			2.0	3.90	3.4	3.3	3.1	2.8	2.7	2.6	2.4	2.2	2.0	240	340	420	2.7
			3.0	5.22	2.8	2.7	2.5	2.4	2.2	2.1	1.9	1.7	3.0	270	370	460	3.0
			4.0	6.60	1.9	1.8	1.6	1.5	1.3	1.2			4.0	280	390	480	2.7
	SF 150	Fluid Cap FC2 & Air Cap AC1103	1.5	4.08	5.1	4.8	4.5	3.8	3.7	3.5	3.0	2.4	1.5	190	230	270	3.4
			2.0	4.68	4.9	4.7	4.4	3.6	3.4	3.2	2.9	2.3	2.0	200	250	280	3.4
			3.0	6.18	3.4	3.2	3.0	2.2	2.0	1.7			3.0	220	270	300	3.0
			3.5	7.02	2.2	2.0	1.7										3.0
	SF 200	Fluid Cap FC2 & Air Cap AC1104	1.5	3.78	7.6	7.2	6.6	5.7	5.4	5.1	4.6	3.7	1.5	170	220	270	3.4
			2.0	4.38	7.6	7.3	6.8	5.9	5.7	5.5	5.0	4.2	2.0	180	230	290	3.4
			3.0	5.76	6.4	6.1	5.7	5.0	4.5	4.1	3.3		3.0	200	270	330	3.4
			3.5	6.60	4.2	3.7	3.2	2.6									3.4

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

AIR ATOMIZING

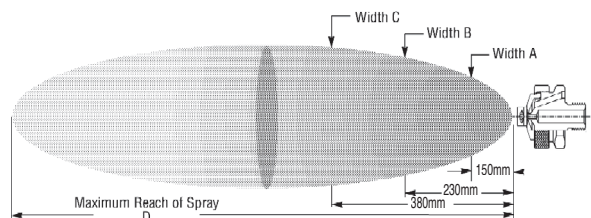
CALL 413-772-0846
Call for the name of your nearest BETE representative.

XA EF

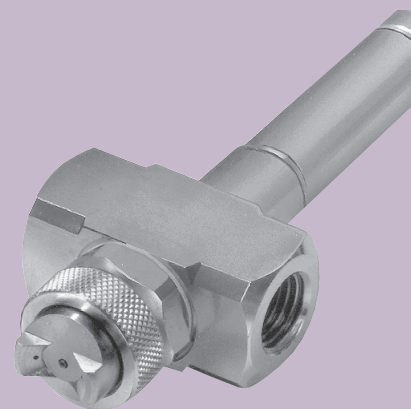
Pressure-fed/External Mix/Flat Fan

DESIGN FEATURES

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



Dimensions are approximate. Check with BETE for critical dimension applications.



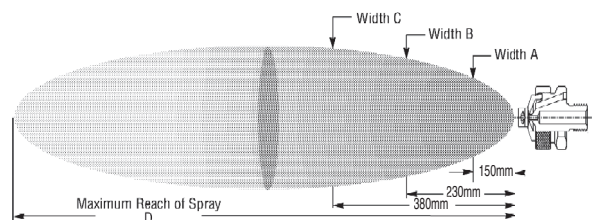
1/4"XA EF 150 E
XA 00 Body; E Hardware

XA EF Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.2 Bar Liquid			0.3 Bar Liquid			0.7 Bar Liquid			1.5 Bar Liquid			3.0 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	Bar air	liquid	A (mm)	B (mm)	C (mm)	D (m)				
1/8 or 1/4	EF 050	Fluid Cap FC7 & Air Cap AC1001	0.4	3	1.32	0.4	4	1.32	0.4	5	1.50	0.6	8	1.68	0.7	11	2.04	0.4	0.3	200	280	330	1.2				
			0.4		1.50	0.4		1.50	0.6		1.68	0.7		2.70	0.6		1.5	280	350	460	1.8						
			0.5		1.62	0.6		1.68	0.7		2.04	1.1		2.70	1.1		1.5	280	330	430	2.4						
			0.6	1.68	0.7	2.04	0.9	2.40	1.4	3.24	1.8	2.5	4.74	1.4	2.0	280	350	480	2.6								
																		1.4	3.0	300	380	510	2.7				
	EF 100	Fluid Cap FC7 & Air Cap AC1003	0.2	3	1.51	0.4	4	1.58	0.7	5	1.87	1.1	8	2.72	2.8	11	4.38	0.2	0.2	90	150	230	0.9				
			0.4		1.58	0.7		1.87	1.1		2.38	1.8		3.23	3.5		5.10	1.1	0.2	90	150	230	1.2				
			0.7		1.87	1.1		2.38	1.4		2.72	2.1		3.57	4.2		6.12	1.4	0.4	100	150	230	1.2				
			1.1		2.38	1.4		2.72	1.8		3.23	2.8		4.42	4.9		7.14	1.4	1.4	120	180	250	1.5				
			1.4		2.72	1.8		3.23	2.1		3.56	3.5		5.10	5.3		7.65	1.8	0.7	120	150	240	1.5				
			1.8		3.23	2.1		3.56	2.8		4.42	4.2		6.12	5.6		8.34	2.8	1.4	130	180	280	1.8				
2.1	3.56	2.8	4.42	3.5	5.10	5.6	8.34	6.3	9.54	4.9					4.9	2.8	150	180	240	2.4							
EF 150	Fluid Cap FC4 & Air Cap AC1001	0.4	5	1.32	0.4	6	1.32	0.6	8	1.68	0.7	12	2.04	1.1	17	2.70	0.7	0.3	280	330	400	1.5					
		0.6		1.68	0.7		2.04	0.7		2.04	1.4		3.24	1.4		3.24	0.7	1.5	380	460	580	1.8					
		0.7		2.04	1.1		2.70	1.4		3.24	2.1		4.26	2.1		4.26	1.4	1.5	350	430	560	2.1					
		1.1		2.70	1.4		3.24	2.1		4.26	2.5		4.74	2.5		4.74	2.5	1.5	330	400	510	3.0					
																						1.8	2.0	380	460	580	2.7
																						1.8	3.0	410	480	660	2.9
EF 200	Fluid Cap FC4 & Air Cap AC1003	0.4	5	1.58	0.7	6	1.87	1.1	8	2.38	1.8	12	3.23	3.2	17	4.92	0.4	0.2	80	140	220	1.0					
		0.7		1.87	1.1		2.38	1.4		2.72	2.1		3.56	3.5		5.10	1.4	0.2	90	150	220	1.7					
		1.1		2.38	1.4		2.72	1.8		3.23	2.8		4.42	4.2		6.12	1.8	0.4	100	170	230	1.8					
		1.4		2.72	1.8		3.23	2.1		3.56	3.5		5.10	4.9		7.14	1.8	1.4	130	190	290	2.1					
		1.8		3.23	2.1		3.56	2.8		4.42	4.2		6.12	5.3		7.62	2.1	0.7	130	180	250	1.8					
		2.1		3.56	2.8		4.42	3.5		5.10	4.9		7.14	6.3		9.54	3.5	1.4	130	220	300	2.4					
2.8	4.42	3.5	5.10	4.2	6.12	6.3	9.54	6.7	9.84	5.3					5.3	2.8	150	190	250	3.0							
EF 250	Fluid Cap FC3 & Air Cap AC1001	0.4	9	1.50	0.4	10	1.50	0.4	16	1.50	0.7	23	2.04	1.4	33	3.24	0.6	0.3	350	480	610	1.8					
		0.5		1.65	0.6		1.68	0.6		1.68	0.9		2.40	1.8		3.72	0.6	0.7	350	480	630	1.5					
		0.6		1.68	0.7		1.86	0.7		2.04	1.1		2.70	2.1		4.26	1.1	1.5	410	510	660	2.1					
		0.7		2.04	0.7		2.04	0.9		2.40	1.4		3.24	2.5		4.74	1.4	1.5	430	530	660	2.4					
																						1.8	2.0	410	510	690	2.7
																						2.1	3.0	410	510	690	2.9
EF 300	Fluid Cap FC3 & Air Cap AC1003	0.7	9	1.87	1.1	10	2.38	1.4	16	2.72	2.5	23	4.08	3.5	33	5.10	0.7	0.2	130	170	250	1.2					
		1.1		2.38	1.4		2.72	1.8		3.23	2.8		4.42	4.2		6.12	1.8	0.2	130	170	250	1.8					
		1.4		2.72	1.8		3.23	2.1		3.56	3.5		5.10	4.9		7.14	2.1	0.4	130	180	240	1.8					
		1.8		3.23	2.1		3.56	2.8		4.42	4.2		6.12	5.3		7.62	2.5	1.4	140	200	320	1.8					
		2.1		3.56	2.8		4.42	3.5		5.10	4.9		7.14	5.6		8.34	2.8	0.7	140	190	300	2.3					
		2.8		4.42	3.5		5.10	4.2		6.12	5.6		8.34	6.3		9.54	4.2	1.4	140	200	360	3.0					
3.5	5.10	4.2	6.12	4.9	7.14	6.3	9.54	7.0	10.56	5.3					5.3	2.8	170	200	300	4.0							

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



Dimensions are approximate. Check with BETE for critical dimension applications.

XA EF Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.2 Bar Liquid			0.3 Bar Liquid			0.7 Bar Liquid			1.5 Bar Liquid			3.0 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	air	liquid	A (mm)	B (mm)	C (mm)	D (m)
1/8 OR 1/4	EF 350	Fluid Cap FC6 & Air Cap AC1002	0.6	13	5.46	0.7	16	6.12	1.4	25	9.36	2.1	37	12.6	3.2	52	17.1	1.4	0.3	330	380	480	3.8
			0.7		6.12	1.1		7.80	2.1		12.6	2.8		15.6	4.2		21.6	2.1	0.7	330	400	560	4.3
			1.1		7.80	1.8		11.0	2.5		14.1	3.5		18.6	5.3		25.8	3.2	1.5	380	480	660	4.6
			1.4		9.36	2.1		12.6	2.8		15.6	4.2		21.6	5.6		27.3	4.2	1.5	380	480	640	5.2
	EF 400	Fluid Cap FC6 & Air Cap AC1004	0.7	13	5.10	1.0	16	6.12	1.4	25	6.96	1.8	37	10.7	3.2	52	12.7	0.7	0.2	130	190	250	1.7
			1.0		6.12	1.4		6.96	1.8		8.34	2.1		11.7	3.5		13.9	1.8	0.2	130	190	250	2.7
			1.4		6.96	1.8		8.34	2.1		9.36	3.5		13.6	3.9		15.3	2.1	0.4	150	190	280	3.0
			1.8		8.34	2.1		9.36	2.5		10.7	4.2		16.0	4.2		16.5	2.5	0.7	150	220	280	3.5
	EF 450	Fluid Cap FC2 & Air Cap AC1002	2.1	18	9.36	2.8	22	11.7	2.8	33	11.7	4.9	48	18.7	4.9	68	18.8	2.5	1.4	170	230	360	3.7
			2.8		11.7	3.5		13.6	5.6		21.6	4.2		1.4	170		230	370	4.3				
			3.5		13.6	4.2		16.0	6.3		24.7	6.3		24.7	4.9		2.8	170	220	320	4.9		
	EF 500	Fluid Cap FC2 & Air Cap AC1004	0.7	18	5.10	1.4	22	6.96	1.8	33	8.34	2.5	48	11.7	3.5	68	13.9	0.7	0.4	150	190	270	2.1
			1.0		6.12	1.8		8.34	2.1		9.36	3.2		12.7	4.2		16.5	1.8	0.7	150	190	270	3.0
1.4			6.96		2.1	9.36		2.5	10.7		3.5	13.6		4.9	18.8		2.5	1.4	150	220	330	3.4	
1.8			8.34		2.5	10.7		2.8	11.7		4.2	16.0		5.3	20.4		2.8	1.4	150	220	360	3.8	
EF 550	Fluid Cap FC1 & Air Cap AC1002	2.1	36	9.36	2.1	45	12.6	2.8	68	15.6	4.9	100	24.3	6.7	141	31.5	5.6	1.5	380	510	660	5.8	
		2.8		11.0	2.5		14.1	3.2		17.1	5.9		27.3	7.0		33.0	3.9	2.0	480	640	840	4.3	
		1.4		9.36	2.1		12.6	2.8		15.6	4.9		24.3	6.7		31.5	5.6	1.5	380	510	660	5.8	
		1.8		11.0	2.5		14.1	3.2		17.1	5.9		27.3	7.0		33.0	6.3	3.0	410	560	790	5.8	
EF 600	Fluid Cap FC1 & Air Cap AC1004	1.0	36	6.12	1.8	45	8.34	2.5	68	10.7	3.5	100	12.7	4.9	141	15.3	1.0	0.2	150	200	250	2.7	
		1.4		6.96	2.1		9.36	2.8		11.7	3.9		14.8	4.6		17.8	2.1	0.2	150	220	290	3.0	
		1.8		8.34	2.5		10.7	3.2		12.7	4.2		16.0	5.6		21.6	2.8	0.4	180	240	360	3.5	
		2.1		9.36	2.8		11.7	3.5		13.6	4.9		18.7	5.6		21.6	3.2	1.4	200	280	390	3.7	
EF 650	Fluid Cap FC8 & Air Cap AC1005	2.5	36	18.0	2.5	45	18.0	3.2	68	21.3	4.6	100	28.8	5.9	141	31.2	2.8	0.2	150	200	300	3.4	
		2.8		19.8	2.8		19.8	3.5		22.8	4.9		31.2	3.9		33.9	3.5	0.7	170	220	320	4.3	
		3.2		21.3	3.2		21.3	3.9		24.6	5.3		30.9	3.9		1.5	170	220	340	4.6			
		3.5		22.8	3.5		22.8	4.2		26.7	5.6		36.0	4.2		1.0	170	230	330	4.7			
EF 700	Fluid Cap FC9 & Air Cap AC1005	2.1	64	15.6	2.8	78	19.8	3.9	119	24.6	4.9	175	31.2		175		2.1	0.2	170	240	340	3.5	
		2.5		18.0	3.2		21.3	4.2		26.7	5.3		33.9	3.2		0.2	180	240	360	4.3			
		2.8		19.8	3.5		22.8	4.6		28.8	5.6		36.0	3.9		0.3	180	250	360	4.9			
		3.2		21.3	3.9		24.6	4.9		31.2	6.0		38.4	4.9		0.7	180	250	360	5.5			
EF 750	Fluid Cap FC5 & Air Cap AC1005	4.2	102	26.7	4.9	125	31.2	6.0	192	38.4	6.3	280	41.1		280		5.3	0.7	220	270	380	5.2	
		4.6		28.8	5.3		33.9	6.3		41.1	5.6		1.0	220		270	410	5.5					
		4.9		31.2	5.6		36.0	6.3		44.1	6.0		1.5	220		270	410	5.8					

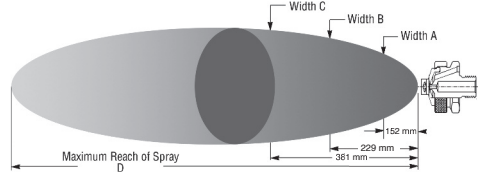
Standard Materials: Nickel-plated Brass, 303 Stainless Steel, and 316 Stainless Steel

XAER

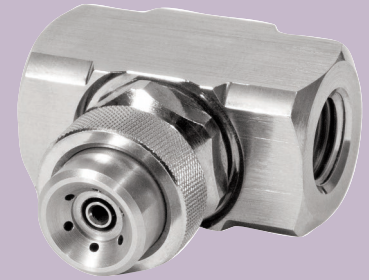
Pressure-fed/Ext. Mix/Narrow Angle

DESIGN/SPRAY CHARACTERISTICS

- External mix: allows spraying of viscous liquids
- Variable atomization
- Narrow spray angle (10°- 30°)
- Precise metering of liquid flow rate



Dimensions are approximate. Check with BETE for critical dimension applications.



1/4" XAER850A
XA 00 Body; A Hardware

XA ER Set-up Flow Rates and Spray Dimensions

Pressure-fed, External Mix, Narrow Round Spray Pattern, 1/8" and 1/4" Pipe Sizes

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.2 BAR Liquid			0.3 BAR Liquid			0.7 BAR Liquid			1.5 BAR Liquid			3 BAR Liquid			Spray Dimensions									
			BAR air	L/h	Nm³/h	BAR air	L/h	Nm³/h	BAR air	L/h	Nm³/h	BAR air	L/h	Nm³/h	BAR air	L/h	Nm³/h	BAR air	L/h	Nm³/h	BAR Liquid		Air	A mm	B mm	C mm	D mm
1/8"	ER 050	Fluid Cap FC7 & Air Cap AC1801	0.3	2.7	1.3	0.3	1.3	0.3	1.3	0.7	1.3	0.7	1.9	1.4	2.9	1.4	2.9	1.4	2.9	0.2	0.7	50	90	130	2.3		
			0.7		1.9	0.7	1.9	1.4	2.9	1.4	2.9	0.3	1.4	60	90	110	3										
			1.4		2.9	1.4	2.9	2.1	3.7	2.8	4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	60	80	130	4.9				
	ER 150	Fluid Cap FC4 & Air Cap AC1801	2.1	3.7	3.7	2.1	2.8	4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	60	80	100	5.5							
			2.8		4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	70	90	100	6.1										
			2.8		4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	140	6.1										
	ER 250	Fluid Cap FC3 & Air Cap AC1801	0.4	7.7	1.4	0.7	1.9	0.7	2.9	1.4	3.7	2.1	4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	90	100	3		
			1.4		1.9	0.7	2.9	1.4	3.7	2.1	4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	80	130	4.3				
			2.1		3.7	2.8	4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	90	130	5.2								
	ER 350	Fluid Cap FC6 & Air Cap AC1802	2.8	12	4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9										
			3.4		5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9												
			3.4		5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9												
1/4"	ER 450	Fluid Cap FC2 & Air Cap AC1802	0.7	19	1.0	5.5	0.7	5.5	1	7.2	1.4	8.8	2.1	11.6	2.8	14.3	3.4	17.0	4.1	19.6	0.2	0.7	100	140	210	4.3	
			1.4		7.2	1	8.8	1.4	11.6	2.1	14.3	3.4	17.0	4.1	19.6	0.2	0.7	100	140	210	4.3						
			2.1		11.6	2.1	14.3	3.4	17.0	4.1	19.6	0.2	0.7	100	140	210	4.3										
	ER 550	Fluid Cap FC1 & Air Cap AC1802	2.8	39	4.6	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9										
			3.4		5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9												
			3.4		5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9												
	ER 650	Fluid Cap FC8 & Air Cap AC1803	1.0	39	1.4	11.6	1.4	11.6	2.1	14.3	3.4	17.0	4.1	19.6	0.2	0.7	100	140	210	4.3							
			1.4		14.1	1.7	16.6	2.1	18.8	2.8	23.2	3.4	27.7	4.1	31.9	4.8	36.1	5.5	40.5	6.2	44.8	0.2	1.4	130	150	200	5.2
			1.7		16.6	2.1	18.8	2.8	23.2	3.4	27.7	4.1	31.9	4.8	36.1	5.5	40.5	6.2	44.8	0.2	1.4	130	150	200	5.2		
	ER 750	Fluid Cap FC9 & Air Cap AC1803	2.1	65	2.8	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9										
			2.8		3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9											
			3.4		5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9												
ER 850	Fluid Cap FC5 & Air Cap AC1803	4.1	95	4.5	3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9											
		4.5		3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9												
		4.5		3.4	5.6	4.1	6.5	4.8	7.6	1.5	2.8	80	100	130	4.9												

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

AIR ATOMIZING

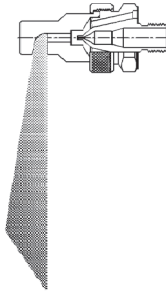
TO ORDER: specify pipe size, body style, spray set-up #, hardware and mounting assemblies, and material. See page 84.

XAFF

Pressure-fed/Int. Mix/Deflected Flat Fan

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- Very fine atomization
- Deflected flat fan spray pattern



1/4"XA 01 FF050 F
XA01 Body; F Hardware

XA FF Set-up Flow Rates

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

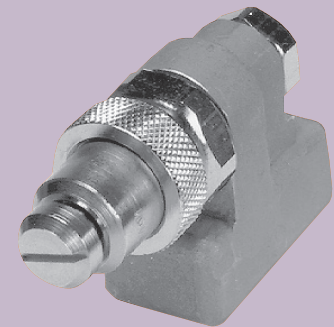
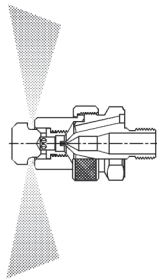
Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid		
			Air (bar)	l/hr	Nm ³ /hr	Air (bar)	l/hr	Nm ³ /hr	Air (bar)	l/hr	Nm ³ /hr	Air (bar)	l/hr	Nm ³ /hr	Air (bar)	l/hr	Nm ³ /hr
1/8	FF 050	Fluid Cap FC10 & Air Cap AC1701	0.4	11.0	2.70	1.1	14.5	4.74	1.5	15.7	5.76	2.1	20.0	6.84	2.7	26.0	7.98
			0.6	9.5	3.24	1.3	13.2	5.16	1.7	14.3	6.24	2.2	19.2	7.26	3.2	22.0	9.60
			0.7	7.6	3.90	1.4	11.8	5.70	1.8	12.9	6.72	2.7	15.8	8.76	3.8	17.7	11.2
or			0.8	5.7	4.62	1.5	10.0	6.18	2.1	9.8	7.80	3.1	11.8	10.4	4.4	13.1	13.8
1/4						1.7	8.7	6.78	2.2	8.3	8.52	3.2	10.3	11.0	4.6	10.2	15.0

XAxw

Pressure-fed/Int. Mix/Extra-wide Angle

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- Very fine atomization
- 180° Extra-wide Hollow Cone



1/4"XA 03 XW050 A
XA 03 Body; A Hardware

XA XW Set-up Flow Rates

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

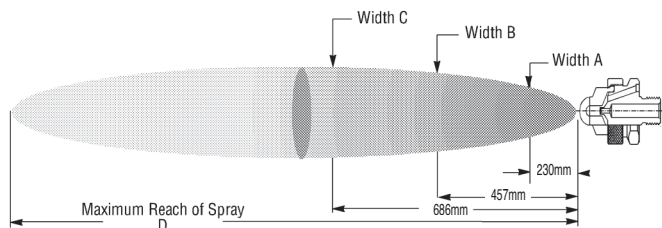
Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.7 Bar Liquid			1.5 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid		
			Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h
1/8	XW 050	Fluid Cap FC8 & Air Cap AC1401	1.4	15.1	4.14	2.8	19.5	8.52	3.5	21.0	11.1	4.2	48.0	12.6	6.0	45.0	20.4
			1.5	10.6	4.62	3.0	16.1	9.18	3.7	17.6	11.8	4.6	37.0	14.4	6.3	37.0	22.5
			1.7	7.6	5.04	3.1	13.2	9.90	3.8	14.8	12.6	4.9	28.0	16.5	6.7	30.0	24.3
or			1.8	5.7	5.58	3.2	10.6	10.6	3.9	12.5	13.2	5.6	15.5	20.4	7.0	24.0	26.4
1/4			2.0	4.2	6.18	3.4	8.3	11.3	4.2	8.1	14.7	6.3	7.8	25.5			

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

AIR ATOMIZING

CALL 413-772-0846
Call for the name of your nearest BETE representative.

1/2 XA



Air Atomizing

Dimensions are approximate. Check with BETE for critical dimension applications.

AD 1/2" XA AD Set-up Flow Rates and Dimensions Pressure-fed, Internal Mix, Wide Angle Round Spray Pattern, 1/2" Pipe Size, BSP or NPT

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.35 Bar Liquid			1.0 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions									
			Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	bar		A	B	C	D				
																	air	liquid	(mm)	(mm)	(mm)	(m)					
1/2	AD 5050	Fluid Cap FC501 & Air Cap AC5601							2.1 2.3	213 127	10.6 14.9	3.1 3.2 3.4	316 195 107	12.8 17.5 22.3	4.2 4.3 4.5	238 154 100	21.1 26.3 31.3	2.1 3.2 4.3	2.0 3.0 4.0	360 360 360	480 480 480	690 690 690	6.7 7.3 8.5				
			AD 5100	Fluid Cap FC501 & Air Cap AC5602	0.6 0.7 0.85	102 57 32	11.0 13.8 16.8	1.1 1.3 1.4	215 124 84	9.18 13.8 16.8	2.5 2.7 2.8 3.0 3.1	185 146 112 86 65	21.3 24.6 27.9 31.2 34.8	3.7 3.9 4.0 4.2 4.6	192 150 119 86 51	33.6 37.2 40.8 46.2	5.0 5.3 5.6	230 158 108	49.8 56.4 64.8	0.7 1.3 2.8 4.0 5.3	0.35 1.0 2.0 3.0 4.0	330 340 330 340 360	470 480 470 480 480	650 670 650 670 690	6.1 7.9 6.4 7.3 8.2		
					AD 5150	Fluid Cap FC501 & Air Cap AC5603	0.7 0.85 1.0	129 82 45	19.5 22.2 24.9	1.7 1.8	182 143	32.4 35.4	3.1 3.2 3.4 3.5 3.6	265 215 173 136 120	48.6 51.6 54.6 57.0 58.8	4.3 4.6 5.0	350 260 186	60.0 64.8 72.0				0.85 1.7 3.4 4.6	0.35 1.0 2.0 3.0	360 330 330 360	500 480 470 500	690 660 660 690	7.9 7.3 7.0 8.5
	AD 5200	Fluid Cap FC502 & Air Cap AC5604					0.7 0.85	134 100	18.9 22.8	1.3 1.4 1.5 1.7	320 255 200 154	26.4 31.2 35.4 40.2	2.1 2.2 2.4 2.5 2.7 2.8 3.0 3.1	575 505 440 380 330 275 235 195	34.2 38.4 43.2 47.4 51.6 55.8 60.6 64.8	3.0 3.1 3.2 3.4 3.5 3.7 3.8 3.9 4.1	740 690 630 570 520 470 420 345 325	42.6 46.2 50.4 54.6 58.8 63.0 67.2 71.4 75.6	3.9 4.1 4.2 4.4 4.5 4.6 4.8 4.9 5.1 5.2 5.3 5.5	840 790 740 690 650 600 550 510 465 425 390 350	51.6 55.8 59.4 64.2 68.4 72.6 76.8 81.0 85.8 89.4 93.6 98.4	0.7 1.4 2.5 3.4 4.5	0.35 1.0 2.0 3.0 4.0	330 330 280 280 280	640 660 560 530 560	910 910 810 740 790	3.4 4.9 6.1 6.7 7.6

PR 1/2" XA PR Set-up Flow Rates and Dimensions Pressure-fed, Internal Mix, Round Spray Pattern, 1/2" Pipe Size, BSP or NPT

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.35 Bar Liquid			1.0 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions					
			Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	bar air	bar liquid	A (mm)	B (mm)	C (mm)	D (m)
1/2	PR 5050	Fluid Cap FC501 & Air Cap AC5501	1.3	34	21.0	1.7	146	21.9	3.0	230	30.6							1.4	0.35				6.7
			1.4	25	23.4	1.8	121	23.7	3.1	200	33.0							2.0	1.0				7.3
			1.5	20	24.9	2.0	102	25.8	3.2	176	35.4							3.2	2.0	90	160	250	8.2
						2.1	86	27.6	3.4	154	37.2												
						2.3	72	29.4	3.5	135	39.6												
				2.4	60	31.2	3.6	118	42.0														
	PR 5100	Fluid Cap FC502 & Air Cap AC5502	0.7	134	18.9	1.3	320	26.4	2.1	575	34.2	3.0	740	42.6	3.9	840	51.6	0.7	0.35	100	180	230	7.0
			0.85	100	22.8	1.4	255	31.2	2.2	505	38.4	3.1	690	46.2	4.1	790	55.8	1.4	1.0	150	250	330	6.4
						1.5	200	35.4	2.4	440	43.2	3.2	630	50.4	4.2	740	59.4	2.5	2.0	130	200	250	11.3
						1.7	154	40.2	2.5	380	47.4	3.4	570	54.6	4.4	690	64.2	3.4	3.0	100	180	250	12.5
									2.7	330	51.6	3.5	520	58.8	4.5	650	68.4	4.5	4.0	100	180	250	14.3
									2.8	275	55.8	3.7	470	63.0	4.6	600	72.6						
									3.0	235	60.6	3.8	420	67.2	4.8	550	76.8						
									3.1	195	64.8	3.9	345	71.4	4.9	510	81.0						
												4.1	325	75.6	5.1	465	85.8						
															5.2	425	89.4						
															5.3	390	93.6						
															5.5	350	98.4						

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

Dimensions are approximate. Check with BETE for critical dimension applications.

EF

1/2" XA EF Set-up Flow Rates and Dimensions

Pressure-fed, External Mix, Flat Fan Spray Pattern, 1/2" Pipe Size, BSP or NPT

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.2 Bar Liquid			0.35 Bar Liquid			0.5 Bar Liquid			0.7 Bar Liquid			1.0 Bar Liquid			Spray Dimensions					
			Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	air	liquid	A (mm)	B (mm)	C (mm)	D (m)
1/2	EF 5050	Fluid Cap FC501 & Air Cap AC5001	2.1		52.6	2.8		64.5	3.2		70.4	3.9		81.5	5.6		110	2.5	0.2	216	368	520	5.80
			2.5		57.7	3.2		70.4	3.5		76.4	4.2		87.4	6.0		117	3.5	0.4	229	420	550	6.71
			2.8		64.5	3.5		76.4	3.9		81.5	4.9		98.4	6.3		122	3.9	0.5	241	445	580	7.02
			3.2	522	70.4	3.9	681	81.5	4.2	795	87.4	5.3	953	105	6.6	1158	127	4.9	0.7	241	460	610	7.63
						4.2		87.4	4.6		93.3	5.6		110	7.0		132	6.3	1.0	254	480	660	8.85
								4.9		98.4	6.0		117										

PF

1/2" XA PF Set-up Flow Rates and Dimensions

Pressure-fed, Internal Mix, Flat Fan Spray Pattern, 1/2" Pipe Size, BSP or NPT

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.35 Bar Liquid			1.0 Bar Liquid			2.0 Bar Liquid			3.0 Bar Liquid			4.0 Bar Liquid			Spray Dimensions					
			Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	Air (bar)	l/h	$\frac{Nm^3}{h}$	bar air	liquid	A (mm)	B (mm)	C (mm)	D (m)
1/2	PF 5050	Fluid Cap FC501 & Air Cap AC5301				1.8	154	35.4	3.4	184	57.0							2.0	1.0	460	740	910	5.8
						2.0	119	38.4	3.5	157	60.6							3.5	2.0	510	790	970	7.0
						2.1	93	41.4	3.7	133	63.6												
									3.8	112	66.6												
	PF 5100	Fluid Cap FC502 & Air Cap AC5302	0.7	134	18.9	1.3	320	26.4	2.1	575	34.2	3.0	740	40.8	3.9	840	51.6	0.7	0.35	510	860	1190	4.0
			0.85	100	22.8	1.4	255	31.2	2.2	505	38.4	3.1	690	43.2	4.1	790	55.8	1.4	1.0	860	1570	2110	4.6
						1.5	200	35.4	2.4	440	43.2	3.2	630	46.1	4.2	740	59.4	2.5	2.0	860	1570	2080	5.2
						1.7	154	40.2	2.5	380	47.4	3.4	570	50.8	4.4	690	64.2	3.4	3.0	910	1680	2160	5.8
									2.7	330	51.6	3.5	520	54.1	4.5	650	68.4	4.5	4.0	910	1700	2260	6.4
									2.8	275	55.8	3.7	470	59.3	4.6	600	72.6						
									3.0	235	60.6	3.8	420	63.3	4.8	550	76.8						
									3.1	195	64.8	3.9	345	69.2	4.9	510	81.0						
												4.1	325	74.1	5.1	465	85.8						
															5.2	425	89.4						
															5.3	390	93.6						
															5.5	350	98.4						

SR

1/2" XA SR Set-up Flow Rates and Dimensions

Siphon-fed, External Mix, Round Spray Pattern, 1/2" Pipe Size, BSP or NPT

Pipe Size	Set-up Number	Fluid and Air Cap Numbers	ATOMIZING AIR		Liquid Capacity in l/h (Liters Per Hour)							Spray Dimensions at 200 mm Siphon Ht.		
			Air (bar)	Air Capacity (Nm ³ /h)	Gravity Head			Siphon Height				Air (bar)	B (mm)	D (m)
					450 mm	300 mm	150 mm	100 mm	200 mm	300 mm	600 mm			
1/2	SR 5050	Fluid Cap FC501 & Air Cap AC5201	0.7	21.6				40				1.5		6.1
			1.5	34.2				97	64			2.0		6.7
			2.0	39.6				117	90			3.0		7.3
			3.0	52.2				150	123			3.5	150	7.9
			3.5	59.4	300	260	225	163	133	104		4.0		8.8
			4.0	66.0	305	270	240	170	143	115		5.0		9.8
			5.0	78.0	315	280	250	183	157	129	53	5.6		10.7
			5.6	87.0	320	290	255	188	164	136	62			

XW

1/2" XA XW Set-up Flow Rates and Dimensions

Pressure-fed, Internal Mix, Extra-wide Angle, Hollow Cone Spray Pattern, 1/2" Pipe Size, BSP or NPT

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	0.7 Bar Liquid			1.4 Bar Liquid			2.1 Bar Liquid			2.8 Bar Liquid			4.2 Bar Liquid		
			Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h	Air (bar)	l/h	Nm ³ /h
1/2	XW 5050	Fluid Cap FC502 & Air Cap AC5401	1.0	213	20.7	1.7	394	27.2	2.5	439	38.0	3.4	462	47.2	5.0	484	68.3
			1.1	145	25.1	1.8	324	31.6	2.7	372	42.1	3.5	416	50.6	5.2	439	71.8
			1.3	98	34.5	2.0	275	34.4	2.8	322	45.0	3.7	372	53.4	5.3	409	75.2
			1.4	59	32.3	2.1	207	38.5	3.0	277	49.1	3.8	325	57.3	5.5	366	78.6
						2.3	159	42.1	3.1	272	52.4	3.9	282	61.1	5.6	325	82.0
						2.4	116	45.5	3.2	188	55.8	4.1	250	65.0	5.8	297	85.7
						2.5	93	49.7	3.4	145	59.4	4.2	209	68.1	5.9	257	89.1
						2.7	27	54.0	3.5	114	63.0	4.4	168	71.3	6.0	232	93.0
												4.5	141	75.5	6.3	182	100
												4.6	77	77.7			

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