

XA

Low Flow Air Atomizing

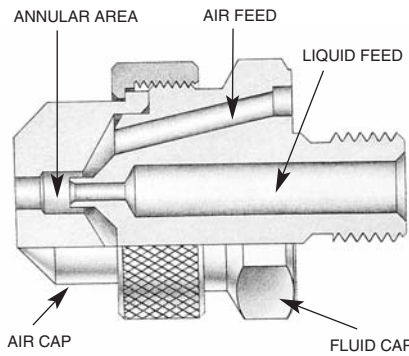
The XA nozzle system uses the energy in compressed air to produce highly atomized sprays at low flow rates. There are many interchangeable components that can be assembled to achieve a variety of spraying objectives.

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.

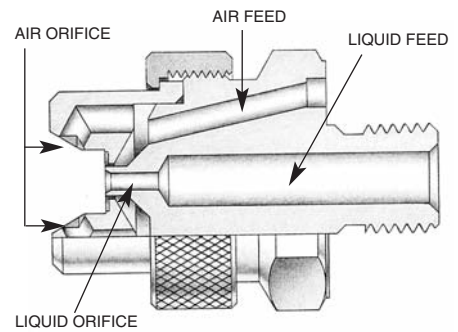


Cutaway View: Internal Mix Set-up

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 Engineering can provide guidance for spraying high viscosity liquids.



Cutaway View: External Mix Set-up

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 vessel. 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

AIR ATOMIZING

TO ORDER: specify pipe size, body style, spray set-up #, hardware and mounting assemblies, and material. See page 74.

A. End Plug

E. Air Operated Shut-off

B. Shut-off

D. Clean-out/Shut-off

Bold letters (A, B, C, D, E, F) refer to hardware assemblies shown on p. 74.

XA Components & Options

lowest flow rates available in the XA series (as low as 0.1 GPH). 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 diameter 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



FF Air Cap



SR Air Cap



ER Air Cap



EF Air Cap



XW Air Cap



PF Air Cap

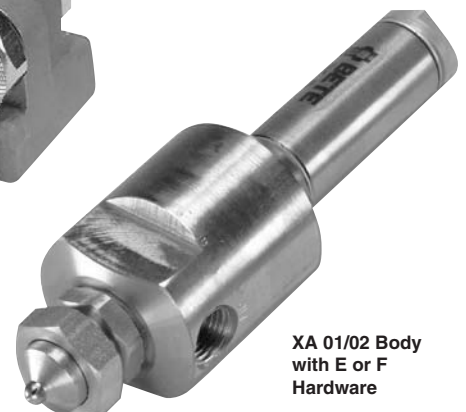
XA00 Body
with C Hardware



XA05 Body



XA03 Body



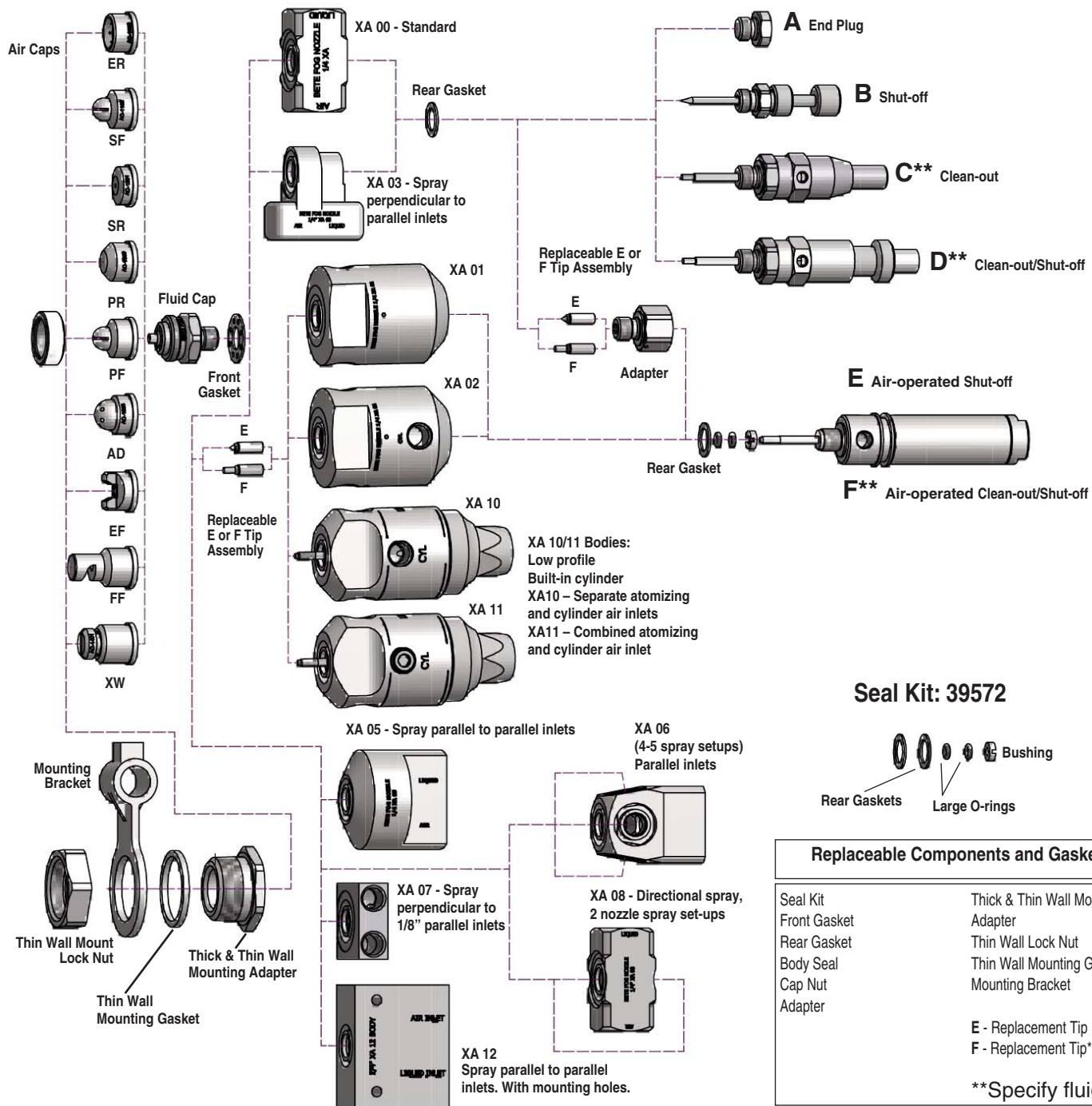
XA 01/02 Body
with E or F
Hardware

XA Components & Options

Spray Set-up

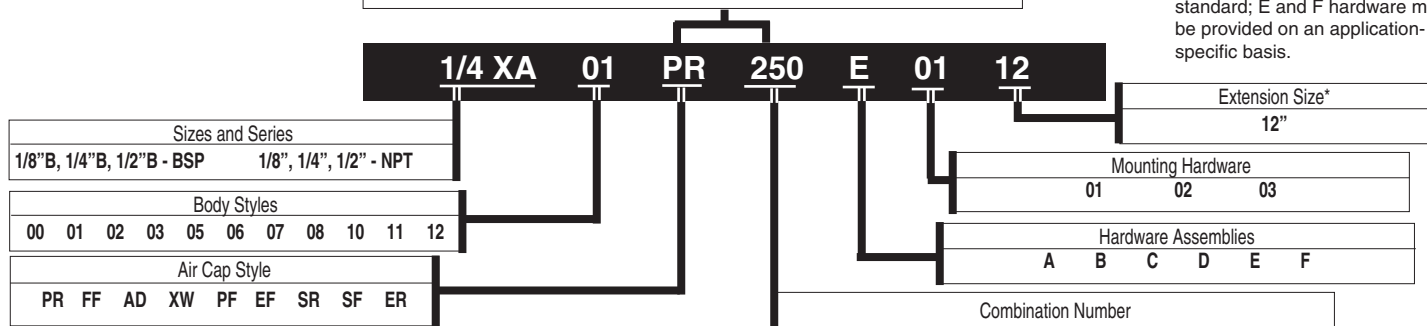
Body Styles and Seals

Hardware Assemblies



TO ORDER

Spray Set-up Number



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

AIR ATOMIZING

TO ORDER: specify pipe size, body style, spray set-up #, hardware and mounting assemblies, and material. See page 74.

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 80 PSI 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 30 PSI.*

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 30 PSI.

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.

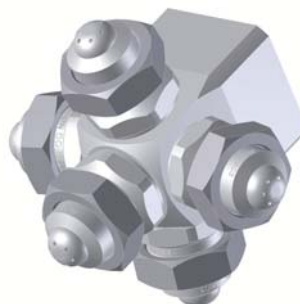
Two-way solenoid valves can be used to stop and start the flow of air and liquid to any non-automatic XA nozzle.

FILTERS, REGULATORS AND STRAINERS

For optimum reliability, every pressure-fed 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

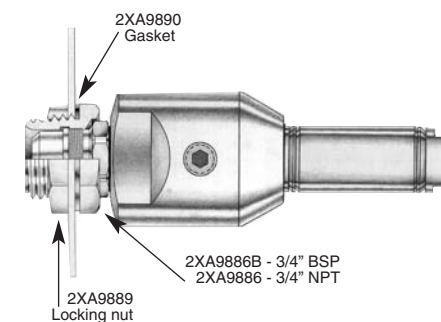
The spray set-up can be moved away from the nozzle body by using optional 6" or 12" extensions. These allow the spray to be moved closer to the target while keeping the nozzle body and associated piping at a distance.

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

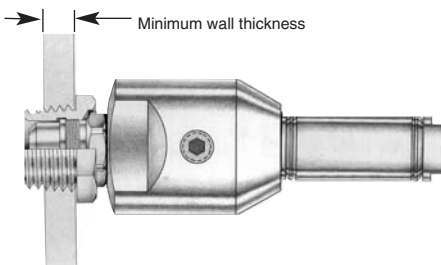
Three-piece adapter used to support an XA nozzle with the body located outside a tank or duct having a relatively thin (less than 3/8") wall and the spray directed into the interior. To use this adapter, a 1-1/16" diameter hole must be drilled through the wall. This adapter both secures the air cap and 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 (3/8" or over) to be drilled and tapped for a 3/4" 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 1/2"-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 13 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.

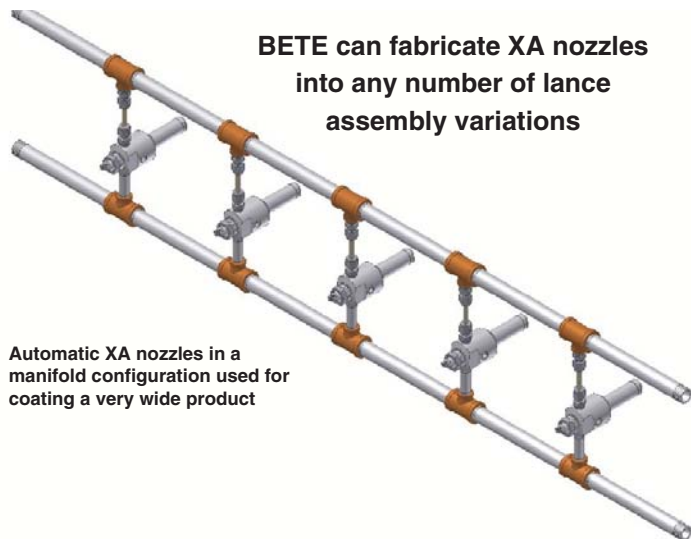
Seals

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 page 107) with a right angle XA and quick-connect fittings

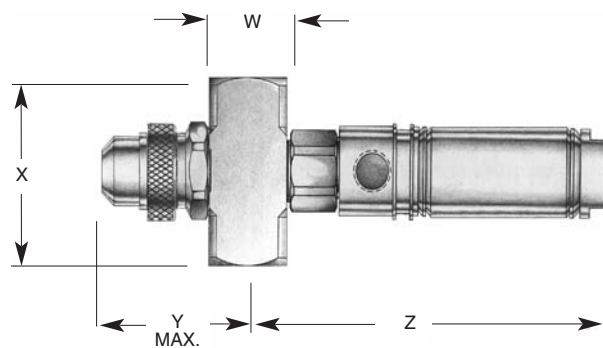
XA Components & Options

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

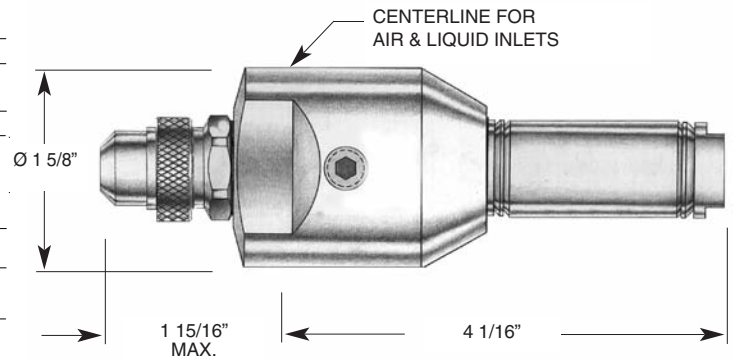
Spray Set-up Numbers							
SPRAY SET-UP	PIPE SIZE BSP or NPT	SET-UP NO.	FLUID CAP	AIR CAP			
EF	FLAT FAN (EXTERNAL MIX)	EF 050	FC7	AC1001			
		EF 100		AC1003			
		EF 150	FC4	AC1001			
		EF 200		AC1003			
		EF 250	FC3	AC1001			
		EF 300		AC1003			
		EF 350	FC6	AC1002			
		EF 400		AC1004			
		EF 450	FC2	AC1002			
		EF 500		AC1004			
		EF 550	FC1	AC1002			
		EF 600		AC1004			
		EF 650	FC8	AC1005			
		EF 700	FC9	AC1005			
EF 750	FC5	AC1005					
	1/2	EF 5050	FC501	AC5001			
SF	SIPHON FLAT FAN	SF 050	FC3	AC1101			
		SF 100	FC6	AC1102			
		SF 150	FC2	AC1103			
		SF 200	FC2	AC1104			
SR	SIPHON ROUND	SR 050	FC7	AC1201			
		SR 150	FC4	AC1201			
		SR 200	FC4	AC1202			
		SR 250	FC3	AC1202			
		SR 400	FC1	AC1204			
		SR 450	FC5	AC1205			
	1/2	SR 5050	FC501	AC5201			
PF	PRESSURE FLAT FAN	PF 050	FC4	AC1301			
		PF 100	FC3	AC1303			
		PF 150	FC3	AC1301			
		PF 200	FC3	AC1302			
		PF 250	FC2	AC1304			
		PF 300	FC1	AC1304			
		PF 350	FC1	AC1305			
PF 400	FC5	AC1306					
XW	EXTRA WIDE-ANGLE ROUND	PF 5050	FC501	AC5301			
		PF 5100	FC502	AC5302			
		XW 050	FC8	AC1401			
	1/2	XW 5050	FC502	AC5401			
PR	PRESSURE ROUND	PR 050	FC4	AC1501			
		PR 100	FC4	AC1502			
		PR 150	FC3	AC1502			
		PR 200	FC2	AC1503			
		PR 250	FC1	AC1503			
		PR 300	FC5	AC1504			
			1/2	PR 5050	FC501	AC5501	
		PR 5100	FC502	AC5502			
AD	WIDE ANGLE ROUND	AD 050	FC4	AC1601			
		AD 100	FC2	AC1603			
		AD 150	FC2	AC1602			
		AD 200	FC1	AC1603			
		AD 250	FC1	AC1604			
		AD 300	FC5	AC1605			
			1/2	AD 5050	FC501	AC5601	
				AD 5100	FC501	AC5602	
				AD 5150	FC501	AC5603	
				AD 5200	FC502	AC5604	
FF	DEFLECTED FLAT FAN	FF 050	FC10	AC1701			
ER	NARROW ANGLE ROUND	ER 050	FC7	AC1801			
		ER 150	FC4	AC1801			
		ER 250	FC3	AC1801			
		ER 350	FC6	AC1802			
		ER 450	FC2	AC1802			
		ER 550	FC1	AC1802			
		ER 650	FC3	AC1803			
		ER 750	FC9	AC1803			
ER 850	FC5	AC1803					

Dimensions with Hardware Options for XA00 Body, BSP or NPT

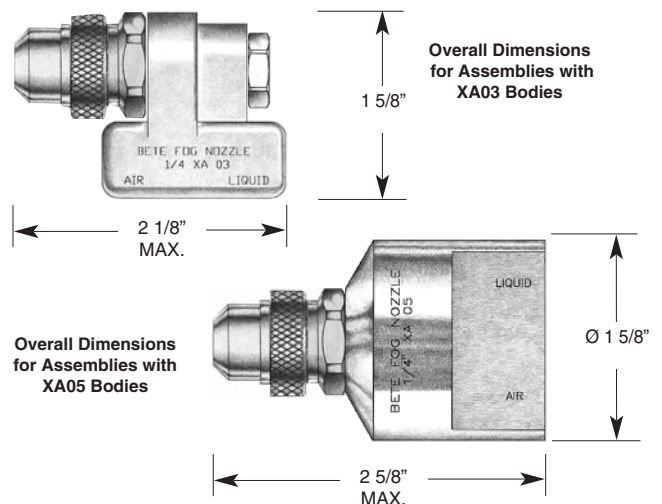
Pipe Size	Hardware Option	Dimensions in inches			
		W	X	Y	Max. "Z"
1/8 OR 1/4	A				9/16
	B				1 5/8
	C	7/8	1 11/16	1 15/16	2 5/8
	D				3 3/16
	E				4 1/16
	F				4 1/16
1/2	A	1 1/4	2 1/2	2 11/16	1



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



Overall Dimensions for Assemblies with XA01 or XA02 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 free of particulate.

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

Siphon System Set-up

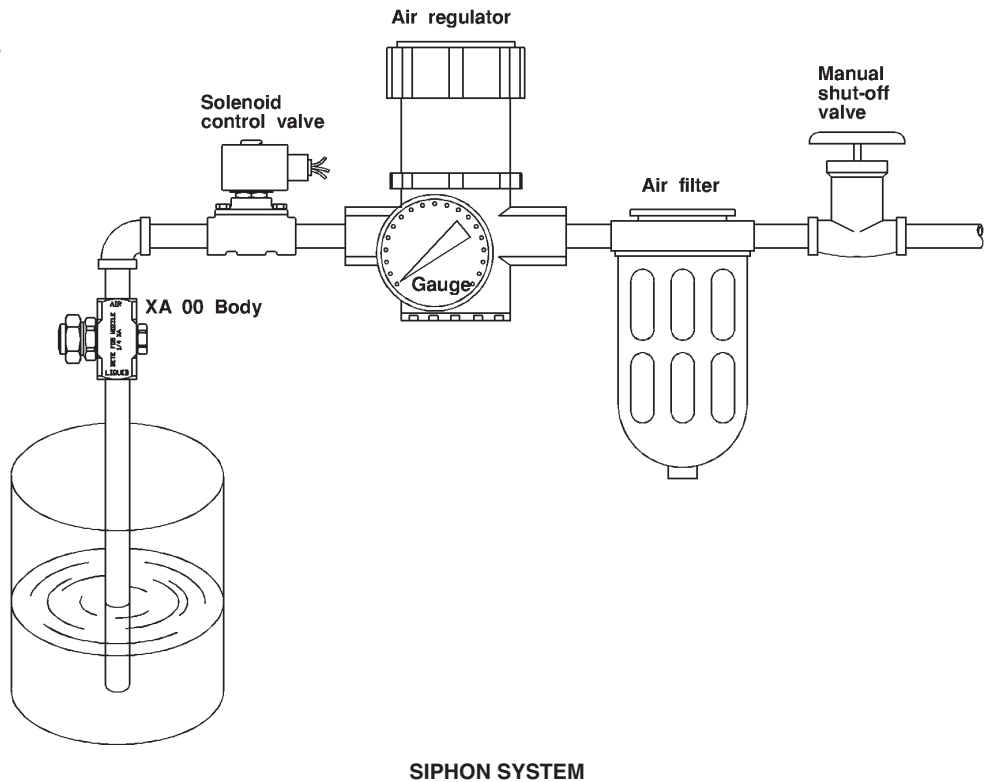
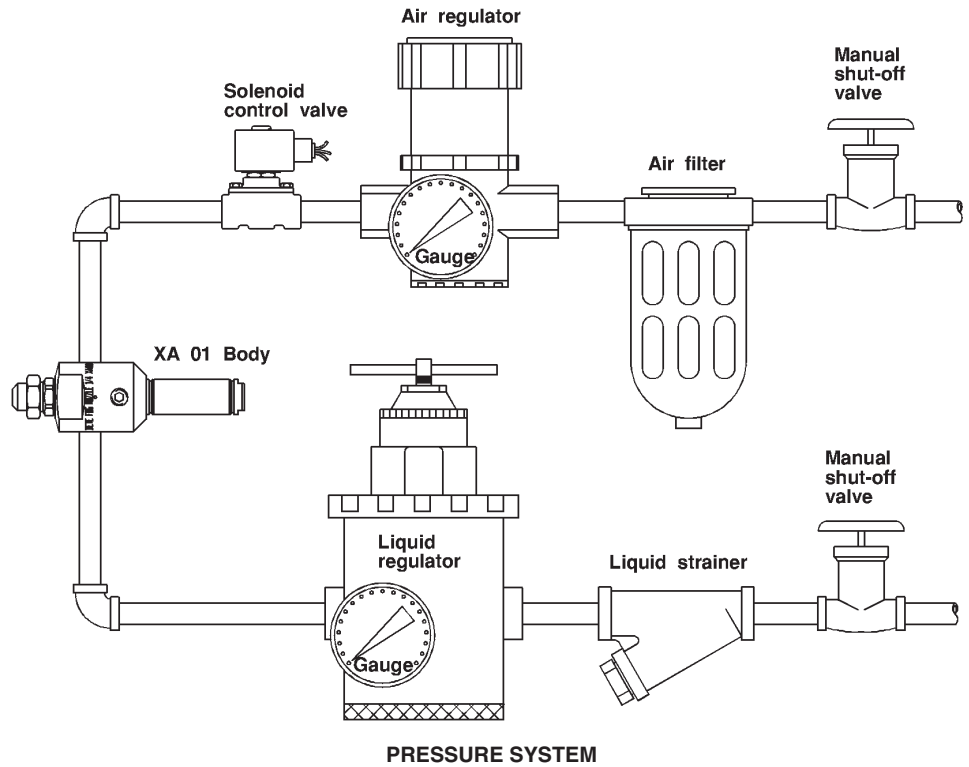
In a siphon-fed system, the liquid is supplied by either a siphon or gravity feed.

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.



AIR ATOMIZING

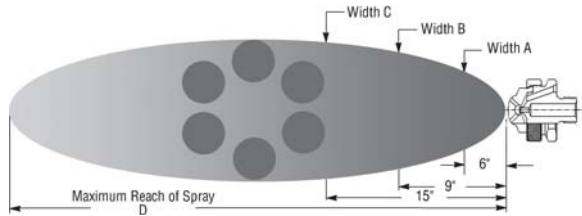
TO ORDER: specify pipe size, body style, spray set-up #, hardware and mounting assemblies, and material. See page 74.

XAAD

Pressure-fed/Int. Mix/Wide Angle Round

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- 70° Hollow Cone spray pattern
- Finest atomization
- 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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	10 PSI Liquid			20 PSI Liquid			30 PSI Liquid			40 PSI Liquid			60 PSI Liquid			Spray Dimensions						
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	PSI liquid	"A" in.	"B" in.	"C" in.	"D" feet	
1/8 or 1/4	AD 050	Fluid Cap FC4 & Air Cap AC1601	8	1.4	0.4	14	2.1	0.4	22	2.4	0.6	30	2.5	0.7	44	3.0	0.8							
			10	1.1	0.4	16	1.9	0.5	26	2.0	0.7	34	2.2	0.8	48	2.7	0.9	10	10	6	7	9	5'0"	
			12	0.8	0.5	18	1.7	0.6	30	1.6	0.8	38	1.9	0.9	55	2.3	1.2	20	20	6	8	10	6'0"	
			14	0.5	0.6	20	1.4	0.6	34	1.2	1.0	42	1.5	1.1	60	1.9	1.4	34	30	7	8	10	7'0"	
						22	1.2	0.7	36	0.9	1.1	46	1.1	1.3	65	1.5	1.6	42	40	7	8	11	9'0"	
						24	0.9	0.8	38	0.7	1.2	48	0.9	1.4	70	1.1	1.8	60	60	8	9	12	12'0"	
				26	0.6	0.9	40	0.4	1.3	50	0.7	1.5	75	0.7	2.1									
		AD 100	Fluid Cap FC2 & Air Cap AC1603	12	1.9	1.8	22	3.3	2.3	30	5.1	2.5	38	6.4	2.8	54	8.8	3.4						
	14			0.6	2.2	24	2.2	2.8	32	4.3	2.9	42	4.7	3.4	56	8.1	3.7	12	10	7	10	13	6'0"	
						26	1.2	3.1	34	3.4	3.2	44	3.9	3.7	58	7.4	4.0	24	20	8	10	13	8'0"	
						36	2.5	3.5	46	3.1	4.1	60	6.8	4.3	60	6.8	4.3	34	30	8	10	13	10'0"	
						38	1.6	3.9	48	2.3	4.4	65	5.1	5.1	66	5.1	5.1	46	40	8	11	14	13'0"	
						40	0.7	4.3	50	1.4	4.8	70	3.5	6.0	70	3.5	6.0	60	60	9	11	15	16'0"	
		AD 150	Fluid Cap FC2 & Air Cap AC1602	16	3.2	1.4	28	4.6	2.0	42	5.3	2.7	55	5.7	3.3	80	7.1	4.5						
	18			2.6	1.6	32	3.4	2.3	46	4.0	3.0	60	4.2	3.7	85	5.8	4.9	22	10	6	8	9	9'0"	
	20			2.1	1.8	36	2.5	2.6	48	3.5	3.1	65	3.2	4.1	90	4.7	5.3	40	20	7	8	10	15'0"	
	22			1.6	1.9	40	1.8	2.9	50	3.0	3.3	70	2.3	4.4	95	3.8	5.7	50	30	7	8	10	18'0"	
	24			1.3	2.1	42	1.5	3.0	55	2.1	3.6	75	1.7	4.8	100	3.0	6.0	70	40	7	9	10	22'0"	
	26			1.0	2.2	44	1.2	3.1	60	1.5	4.0	80	1.3	5.2				90	60	8	10	11	26'0"	
		AD 200	Fluid Cap FC1 & Air Cap AC1603	10	6.3	1.1	20	9.0	1.6	30	11.2	2.0	40	12.4	2.5	56	16.2	2.8						
	12			3.6	1.5	22	6.9	2.0	32	9.3	2.4	42	10.6	2.9	58	14.8	3.1	12	10	8	10	14	7'0"	
	14			2.0	2.0	24	5.1	2.4	34	7.4	2.8	44	8.8	3.3	60	13.8	3.5	22	20	8	11	15	10'0"	
						26	3.3	2.8	36	5.4	3.2	46	7.1	3.7	65	9.8	4.4	34	30	8	11	15	12'0"	
						38	3.6	3.6	48	3.6	3.6	48	5.4	4.1	70	6.5	5.4	46	40	8	11	15	15'0"	
					40	2.3	4.0	50	3.6	4.5	75	4.0	6.3	80	2.4	6.5	65	60	8	11	16	19'0"		
	AD 250	Fluid Cap FC1 & Air Cap AC1604	18	9.4	3.0	30	13.4	4.2	44	15.3	5.5	60	15.6	7.1	80	21.4	8.6							
22			7.7	3.6	34	11.9	4.7	48	13.8	5.9	70	12.5	8.3	85	19.5	9.2	28	10	8	10	13	18'0"		
26			6.0	4.1	38	10.3	5.1	55	11.3	6.8	80	9.3	9.5	90	17.9	9.8	42	20	8	11	14	21'0"		
28			5.2	4.4	42	8.9	5.6	65	7.8	8.0	85	7.8	10.1	95	16.5	10.4	65	30	9	11	15	22'0"		
30			4.4	4.7	46	7.3	6.1	70	6.1	8.6	90	6.2	10.7	100	15.1	11.0	85	40	9	12	15	24'0"		
32			3.7	5.0	50	5.8	6.7	75	4.5	9.3	95	4.8	11.3				90	60	10	13	16	28'0"		
	AD 300	Fluid Cap FC5 & Air Cap AC1605	24	6.7	5.5	38	10.7	7.4	48	16.5	8.8	60	18.6	10.4	85	29.2	13.7							
26			5.2	5.9	42	7.6	8.3	52	12.5	9.6	65	13.7	11.4	90	24.6	14.7	28	10	10	13	18	18'0"		
28			4.0	6.3	44	6.2	8.7	56	9.2	10.4	70	10.0	12.4	95	20.7	15.8	46	20	10	14	19	20'0"		
30			3.0	6.8	46	5.0	9.1	60	6.6	11.3	75	7.4	13.5	100	17.5	16.9	60	30	11	15	20	24'0"		
32			2.0	7.2	48	4.0	9.5	62	5.6	11.7	80	5.5	14.5				75	40	12	15	21	26'0"		
					50	3.0	9.9	65	4.4	12.3	85	4.0	15.5				90	60	13	17	23	28'0"		
			52	2.4	10.3	70	2.6	13.3	90	2.5	16.6													

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

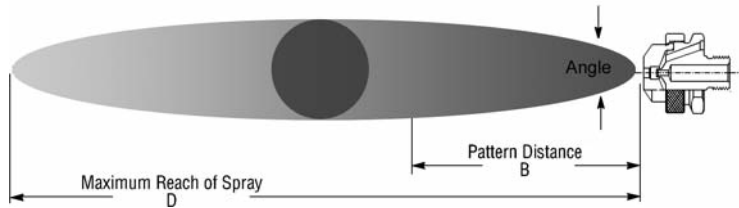
Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

XAPR

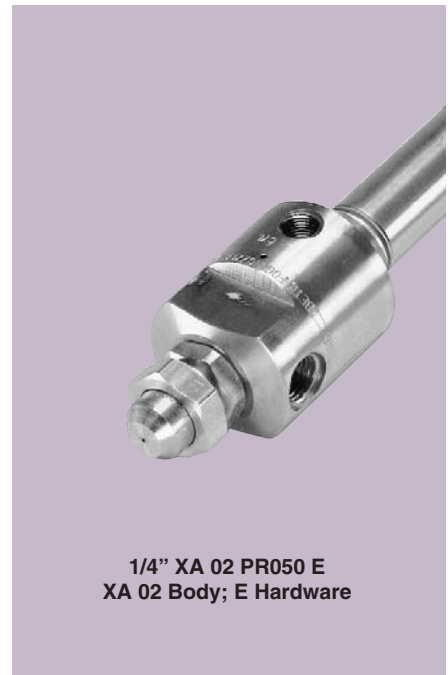
Pressure-fed/Int. Mix/Narrow Angle Round

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- Full cone pattern
- Finest atomization
- Large forward projection (up to 28 feet)
- Narrow spray angle (12° - 22°)



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



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

AIR ATOMIZING

XA PR Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	10 PSI Liquid			20 PSI Liquid			30 PSI Liquid			40 PSI Liquid			60 PSI Liquid			Spray Dimensions							
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	liquid	Angle deg.	"B" in.	"D" feet			
1/8	PR 050	Fluid Cap FC4 & Air Cap AC1501	10	0.7	0.6	14	1.5	0.4	24	1.7	0.6	32	1.9	0.7	50	2.3	1.0	12	10	13	13	14	9'0"		
			12	0.5	0.7	18	1.2	0.5	28	1.4	0.6	36	1.6	0.8	54	2.1	1.1								
			14	0.4	0.8	22	1.0	0.6	32	1.1	0.8	40	1.3	0.9	58	1.8	1.2								
			24	0.9	0.7	36	0.8	1.0	44	1.1	1.1	62	1.6	1.4	66	1.3	1.5								
			26	0.7	0.8	38	0.7	1.0	48	0.9	1.2	66	1.3	1.5	44	40	14							16	12'0"
			28	0.6	0.8	40	0.7	1.1	50	0.7	1.3	68	1.2	1.6	62	60	15							18	14'0"
	30	0.5	0.9	42	0.5	1.2	52	0.7	1.4	70	1.1	1.7													
	PR 100	Fluid Cap FC4 & Air Cap AC1502	10	0.7	0.7	18	1.4	0.9	24	2.0	1.0	30	2.4	1.1	40	3.3	1.4	12	10	12	17	18	12'0"		
			12	0.5	0.8	20	1.3	1.0	28	1.7	1.2	34	2.2	1.3	46	2.9	1.5								
			14	0.4	0.9	22	1.2	1.1	32	1.4	1.4	38	1.9	1.5	52	2.6	1.8								
			24	1.1	1.2	34	1.3	1.5	42	1.6	1.7	58	2.3	2.1	34	30	13							19	14'0"
			26	0.9	1.3	36	1.2	1.6	44	1.5	1.8	62	2.1	2.3	42	40	13							20	15'0"
38			1.1	1.7	46	1.4	1.9	66	1.9	2.5	58	60	15	22	17'0"										
40	1.0	1.8	48	1.3	2.0	70	1.7	2.7																	
OR	PR 150	Fluid Cap FC3 & Air Cap AC1502	12	1.3	0.7	22	2.2	1.1	30	2.9	1.2	36	4.3	1.3	48	5.8	1.5	22	10	12	19	13'0"			
			16	1.1	0.9	26	1.7	1.3	34	2.5	1.4	40	3.9	1.4	52	5.3	1.7								
			20	0.9	1.2	30	1.4	1.5	38	2.1	1.7	44	3.6	1.6	56	4.9	1.7								
			22	0.8	1.3	34	1.3	1.7	42	1.7	1.9	48	2.8	1.8	60	4.6	1.9								
			24	0.8	1.4	38	1.1	1.9	46	1.5	2.0	52	2.5	2.0	64	4.1	2.1								
			26	0.8	1.4	40	1.0	2.0	50	1.2	2.3	56	2.2	2.2	68	3.7	2.3								
	28	0.8	1.6	42	0.9	2.0	52	1.2	2.4	60	1.8	2.4	70	3.6	2.3	60	60	15	24	17'0"					
	PR 200	Fluid Cap FC2 & Air Cap AC1503	16	3.4	2.7	28	5.0	3.7	40	6.1	4.7	48	7.8	5.3	65	10.7	6.7	24	10	18	26	16'0"			
			20	2.4	3.2	32	3.7	4.2	44	5.0	5.2	55	6.0	6.1	75	8.7	7.7								
			22	1.9	3.5	36	2.6	4.7	48	4.0	5.7	65	3.6	7.3	80	7.7	8.3								
			24	1.5	3.7	40	1.9	5.1	55	2.3	6.5	75	2.0	8.5	85	6.7	8.8								
			26	1.2	4.0	44	1.3	5.6	60	1.6	7.1	80	1.4	9.1	90	5.6	9.4								
28			1.0	4.2	48	0.9	6.1	65	1.1	7.8	85	1.0	9.7	95	4.6	10.0									
30	0.7	4.5	50	0.8	6.4	70	0.7	8.4	90	0.7	10.3	100	3.6	10.6	85	60	21	38	28'0"						
1/4	PR 250	Fluid Cap FC1 & Air Cap AC1503	12	8.1	2.0	20	13.6	2.6	30	16.3	3.3	38	19.5	3.7	54	25.7	4.7	14	10	17	24	16'0"			
			14	6.6	2.3	22	12.0	2.9	34	13.1	3.8	42	16.5	4.2	60	21.8	5.3								
			16	4.9	2.7	24	10.2	3.2	38	9.9	4.3	46	13.6	4.7	65	18.5	6.0								
			18	3.4	3.0	26	8.6	3.5	40	8.7	4.6	50	10.8	5.3	70	15.2	6.7								
						28	7.2	3.8	42	7.6	4.9	52	9.6	5.6	75	12.2	7.8								
						30	5.9	4.1	44	6.6	5.2	54	8.6	5.9	80	10.0	8.1								
				32	4.6	4.4	46	5.6	5.5	56	7.6	6.1	85	8.0	8.9	70	60	21	36	25'0"					
	PR 300	Fluid Cap FC5 & Air Cap AC1504	14	11.7	3.1	20	27.5	3.0	28	36.6	3.6	32	49.4	3.3	42	70.6	3.2	14	10	19	35	20'0"			
			16	8.5	3.6	22	23.0	3.5	30	32.6	4.0	36	42.2	4.1	46	65.0	3.9								
						24	18.0	4.0	32	28.7	4.4	40	35.1	4.9	50	59.0	4.6								
						26	14.4	4.4	34	24.8	4.8	44	28.0	5.7	54	53.2	5.4								
						28	11.3	4.9	36	20.9	5.2	46	24.5	6.1	58	47.4	6.2								
					38	17.5	5.6	48	21.0	6.5	65	37.8	7.5	54	60	22	46						28'0"		
			40	14.6	6.0	50	18.4	6.9	58	18.4	6.9	70	30.0	8.6											

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

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

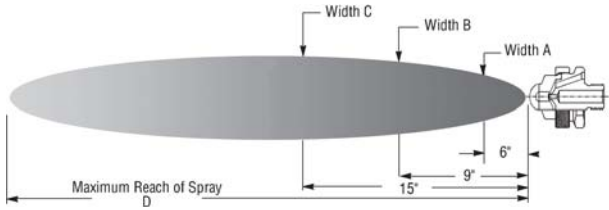
TO ORDER: specify pipe size, body style, spray set-up #, hardware and mounting assemblies, and material. See page 74.

XAPF

Pressure-fed/Internal Mix/Flat Fan

DESIGN/SPRAY CHARACTERISTICS

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



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

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

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	10 PSI Liquid			20 PSI Liquid			30 PSI Liquid			40 PSI Liquid			60 PSI Liquid			Spray Dimensions					
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	air	liquid	A (in.)	B (in.)	C (in.)	D (feet)
1/8 OR 1/4	PF 050	Fluid Cap FC4 & Air Cap AC1301	10	1.4	0.8	18	2.2	1.5	28	2.5	1.5	38	2.8	1.8	55	3.4	2.4	16	10	10	14	18	8
			12	1.3	1.0	22	1.8	1.6	32	2.2	1.6	42	2.5	2.0	65	2.8	2.9	30	20	14	20	26	9
			14	1.1	1.1	26	1.5	1.8	36	1.9	1.8	46	2.2	2.2	75	2.3	3.3	30	20	14	20	26	9
			16	0.9	1.2	30	1.2	2.0	40	1.6	2.0	50	1.9	2.4	85	1.7	3.7	40	30	14	20	30	10
			18	0.8	1.3	34	0.9	2.2	44	1.3	2.2	60	1.3	2.8	90	1.4	3.9	50	40	18	24	34	11
			20	0.7	1.4	38	0.7	2.4	48	1.0	2.4	65	0.9	3.0	95	1.1	4.1	50	40	18	24	34	11
	PF 100	Fluid Cap FC3 & Air Cap AC1303	20	0.8	1.2	34	1.1	1.6	44	1.8	1.9	60	1.6	2.4	80	2.7	2.9	22	10	10	14	18	6
			22	0.6	1.3	36	0.9	1.7	46	1.6	1.9	65	1.2	2.6	85	2.2	3.1	38	20	14	20	28	6
			24	0.5	1.4	38	0.7	1.8	48	1.4	2.0	70	0.8	2.9	90	1.8	3.4	46	30	23	28	36	7
			26	0.4	1.5	40	0.6	1.9	50	1.1	2.1							60	40	24	28	37	7
			28	0.3	1.6	42	0.5	2.0	55	0.7	2.4							80	60	25	30	38	8
	PF 150	Fluid Cap FC3 & Air Cap AC1301	12	2.2	0.7	20	3.4	1.0	30	4.0	1.3	38	4.7	1.5	65	4.8	2.4	16	10	14	18	28	7
			14	1.8	0.8	24	2.7	1.1	34	3.4	1.5	42	4.1	1.7	70	4.2	2.6	30	20	16	24	32	8
			16	1.5	1.0	28	2.1	1.3	38	2.9	1.6	46	3.6	1.9	75	3.6	2.9	30	20	16	24	32	8
			18	1.1	1.1	30	1.8	1.5	42	2.3	1.9	50	3.1	2.1	80	3.1	3.1	42	30	20	26	35	8
			20	0.8	1.2	32	1.4	1.6	46	1.7	2.1	60	1.8	2.6	85	2.5	3.4	50	40	22	28	38	9
	PF 200	Fluid Cap FC3 & Air Cap AC1302	14	2.4	0.9	22	3.2	1.1	34	3.4	1.6	40	4.4	1.8	60	5.0	2.5	20	10	4	5	7	10
			16	2.1	1.1	26	2.8	1.4	38	2.9	1.9	44	3.8	2.0	65	4.4	2.7	34	20	5	7	8	12
			18	1.7	1.1	30	2.1	1.6	42	2.3	2.1	48	3.3	2.2	70	3.9	3.0	34	20	5	7	9	13
			20	1.4	1.3	34	1.5	1.9	46	1.8	2.4	54	2.6	2.6	75	3.4	3.3	46	30	5	7	9	13
			24	0.8	1.5	38	1.2	2.1	50	1.4	2.6	60	1.9	3.0	80	3.0	3.6	54	40	6	9	11	14
	PF 250	Fluid Cap FC2 & Air Cap AC1304	16	3.0	1.9	28	4.5	2.7	38	5.9	3.2	46	7.5	3.7	65	9.7	4.8	20	10	6	7	8	9
			18	2.3	2.1	30	3.9	2.8	40	5.4	3.4	50	6.5	4.0	70	8.6	5.2	20	9	11	12	10	10
			20	1.7	2.3	32	3.3	3.0	42	4.9	3.6	52	5.9	4.2	72	8.0	5.6	32	20	9	11	12	10
			24	1.3	2.5	34	2.8	3.2	44	4.3	3.7	54	5.4	4.3	80	6.4	6.0	42	30	10	13	18	11
			24	1.0	2.7	36	2.3	3.4	46	3.8	3.9	56	4.9	4.5	85	5.3	6.5	54	40	12	15	18	12
	PF 300	Fluid Cap FC1 & Air Cap AC1304	12	7.0	1.2	22	11.5	1.7	34	12.4	2.2	46	13.7	2.8	65	18.3	3.6	16	10	7	9	12	10
			14	5.4	1.4	26	8.3	2.0	38	9.8	2.6	50	10.9	3.1	75	12.6	4.5	16	10	7	9	12	11
16			4.2	1.6	30	6.0	2.4	42	7.8	3.0	54	8.7	3.5	80	10.6	5.0	32	20	9	12	14	11	
18			3.3	1.7	32	5.1	2.6	46	5.9	3.3	56	7.8	3.7	85	8.7	5.4	46	30	10	13	16	12	
20			2.7	2.0	34	4.3	2.8	48	5.0	3.5	60	6.4	4.1	90	6.9	5.9	56	40	12	15	19	12	
PF 350	Fluid Cap FC1 & Air Cap AC1305	14	4.5	0.8	24	7.5	1.2	34	9.5	1.7	44	11.1	2.2	56	19.8	2.6	16	10	4	5	6	8	
		16	2.9	1.0	26	6.0	1.4	36	7.8	2.0	46	9.7	2.5	60	16.7	3.0	30	20	4	5	7	10	
		18	2.0	1.2	28	4.5	1.7	38	6.5	2.2	48	8.4	2.7	65	13.5	3.5	30	20	4	5	7	10	
		20	0.8	1.4	30	3.4	1.8	40	5.2	2.5	52	5.7	3.3	70	9.7	4.3	40	30	5	7	9	11	
		32	2.4	2.1	42	4.1	2.7	56	3.9	3.8	80	4.8	5.7	90	4.8	6.7	52	40	6	8	11	12	
PF 400	Fluid Cap FC5 & Air Cap AC1306	14	7.7	3.2	26	10.5	4.6	34	20.8	4.8	42	29.4	5.2	58	44.7	6.1	14	10	7	8	10	11	
		16	5.0	3.8	28	7.0	5.2	36	16.6	5.3	44	25.1	5.6	60	41.0	6.4	14	10	7	8	10	11	
		38	12.8	5.8	46	20.8	6.1	65	20.8	6.1	65	20.8	6.1	90	31.4	7.5	26	20	10	12	16	12	
		40	9.5	6.4	48	16.7	6.6	70	16.7	6.6	70	16.7	6.6	70	22.5	8.8	38	30	10	12	18	14	
		42	6.7	6.9	50	13.1	7.2	75	15.0	7.8	80	10.1	8.8	80	15.0	10.1	48	40	12	16	20	15	
52			52	7.3	8.3											70	60	14	17	23	16		

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

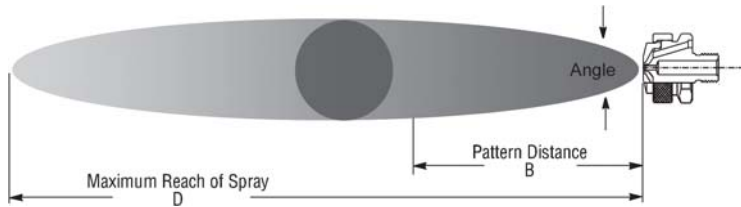
Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

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" XASR 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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	ATOMIZING AIR		Liquid Capacity in GPH (Gallons Per Hour)								Spray Dimensions at 8" Siphon Height			
			PSI air	Air Capacity SCFM	Gravity Head			Siphon Height					PSI air	Angle deg.	B in.	D feet
					18"	12"	6"	4"	8"	12"	24"	36"				
1/8 or 1/4	SR 050	Fluid Cap FC7 & Air Cap AC1201	10	0.4	0.4	0.4	0.3	0.2	0.2	0.1			10	18	11	6
			20	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.1		20	18	11	6
			40	1.0	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.2	40	18	12	7
			60	1.3	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.2	60	18	14	8
	SR 150	Fluid Cap FC4 & Air Cap AC1201	10	0.5	0.6	0.6	0.5	0.4	0.3	0.2			10	18	12	7
			20	0.7	0.7	0.7	0.6	0.5	0.5	0.4	0.2	0.1	20	18	13	8
			40	1.1	0.9	0.8	0.8	0.7	0.7	0.6	0.4	0.3	40	18	15	9
			60	1.5	1.0	0.9	0.9	0.8	0.8	0.7	0.6	0.4	60	19	17	10
	SR 200	Fluid Cap FC4 & Air Cap AC1202	10	0.8	0.7	0.6	0.5	0.4	0.4	0.3			10	18	12	8
			20	1.2	0.8	0.7	0.6	0.6	0.5	0.4	0.2		20	18	13	9
			40	1.9	0.9	0.9	0.8	0.8	0.7	0.7	0.5	0.3	40	19	15	11
			60	2.7	1.0	1.0	0.9	0.9	0.9	0.8	0.7	0.6	60	20	17	12
SR 250	Fluid Cap FC3 & Air Cap AC1202	10	0.7	1.2	1.1	0.9	0.6	0.5	0.4			10	21	15	10	
		20	1.0	1.4	1.3	1.1	0.9	0.8	0.7	0.5		20	21	16	11	
		40	1.7	1.6	1.5	1.3	1.2	1.1	0.9	0.6	0.3	40	21	18	12	
		60	2.4	1.5	1.4	1.3	1.1	1.0	0.9	0.7	0.5	60	22	20	14	
SR 400	Fluid Cap FC1 & Air Cap AC1204	20	1.9	5.8	5.2	4.2	3.1	2.7	1.9	0.6		20	17	18	12	
		40	3.0	6.5	6.0	5.1	4.3	3.7	3.0	1.7	0.7	40	18	20	13	
		60	4.1	6.8	6.4	5.6	4.9	4.2	3.5	2.2	1.3	60	18	21	15	
		80	5.2	6.8	6.4	5.8	5.2	4.5	3.9	2.6	1.6	80	19	23	16	
SR 450	Fluid Cap FC5 & Air Cap AC1205	30	5.3				7.2	6.0	4.6			30	20	20	22	
		40	6.5				7.8	6.8	5.3			40	20	21	23	
		60	8.8	11.6	11.4	10.6	8.3	7.4	6.2	3.2		60	21	23	25	
		80	11.1		11.0	10.3	8.3	7.5	6.4	3.6	2.2	80	22	25	27	

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

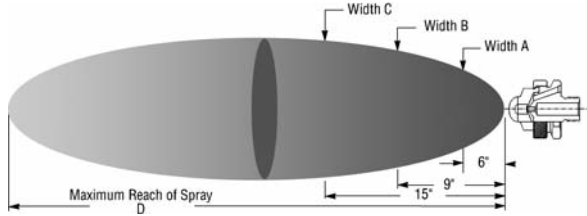
Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

XASF

Siphon-fed Flat Fan

DESIGN/SPRAY CHARACTERISTICS

- Lowest flow available
- Very fine atomization
- Flat fan spray pattern
- Moderate spray angle (60° - 85°)
- Moderate 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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	ATOMIZING AIR		Liquid Capacity in GPH (Gallons Per Hour)								Spray Dimensions at 8" Siphon Height					
			PSI air	Air Capacity SCFM	Gravity Head			Siphon Height					PSI air	"A" in	"B" in.	"C" in	"D" feet	
					18"	12"	6"	4"	8"	12"	24"	36"						
1/8 or 1/4	SF 050	Fluid Cap FC3 & Air Cap AC1101	10	1.0	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	10	8	11	15	7'0"
			20	1.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	20	9	12	15	7'0"
			30	1.8	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	30	9	12	15	6'0"	
	SF 100	Fluid Cap FC6 & Air Cap AC1102	20	1.9	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.6	20	9	13	15	8'0"	
			30	2.4	0.9	0.8	0.8	0.8	0.7	0.7	0.6	0.6	30	10	14	17	9'0"	
			40	3.0	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.5	40	11	15	18	10'0"	
	SF 150	Fluid Cap FC2 & Air Cap AC1103	20	2.3	1.4	1.3	1.2	1.0	1.0	0.9	0.8	0.6	20	8	9	11	10'0"	
			30	2.9	1.3	1.2	1.1	0.9	0.9	0.8	0.7	0.6	30	8	10	11	11'0"	
			40	3.5	1.0	0.9	0.9	0.7	0.6	0.5	0.4	40	9	11	12	10'0"		
	SF 200	Fluid Cap FC2 & Air Cap AC1104	20	2.1	2.0	1.9	1.7	1.5	1.4	1.3	1.2	0.9	20	7	9	11	10'0"	
			30	2.7	2.0	1.9	1.8	1.6	1.5	1.5	1.3	1.0	30	7	9	12	11'0"	
			40	3.3	1.8	1.7	1.6	1.4	1.3	1.2	1.0	40	8	11	13	11'0"		
	50	3.9	1.1	1.0	0.9	0.7												

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

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

AIR ATOMIZING

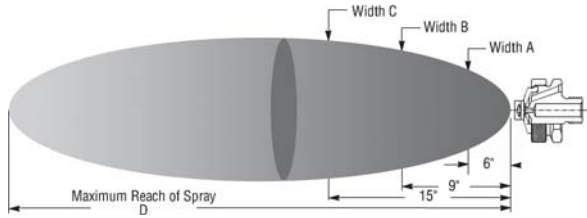
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Call for the name of your nearest BETE representative.

XAEF

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

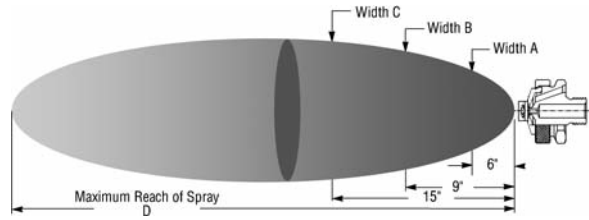
XA EF Set-up Flow Rates and Dimensions

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	3 PSI Liquid			5 PSI Liquid			10 PSI Liquid			20 PSI Liquid			40 PSI Liquid			Spray Dimensions								
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	"A" in.	"B" in.	"C" in.	"D" feet				
1/8 or 1/4	EF 050	Fluid Cap FC7 & Air Cap AC1001	5		0.8	5		0.8	6		0.9	8		1.0	10		1.2	10		1.6	6	5	8	11	13	4'0"
			6	0.8	0.9	6	1.0	0.9	8	1.4	1.2	10	2.0	1.6	15	2.8	2.2	20	2.8	15	8	10	9	12	16	6'0"
			7		1.0	8		1.0	10		1.2	12		1.4	15		1.6	20		1.9	15	20	11	14	18	6'0"
			8		1.0	10		1.2	12		1.4	14		1.6	20		1.9	35		2.8	20	20	10	12	16	8'0"
	EF 100	Fluid Cap FC7 & Air Cap AC1003	3		0.9	5		0.9	10		1.1	15		1.4	20		1.6	40		2.6	3	3	4	6	9	3'0"
			5	0.8	0.9	10	1.0	0.9	15	1.4	1.1	20	2.0	1.9	30	2.8	3.0	50	3.6	15	3	4	6	9	4'0"	
			10		1.1	15		1.4	20		1.6	25		1.9	40		2.1	60		3.6	20	5	4	6	9	4'0"
			15		1.4	20		1.6	25		1.9	30		2.1	40		2.6	70		4.2	20	20	5	7	10	5'0"
	EF 150	Fluid Cap FC4 & Air Cap AC1001	5		0.8	5		0.8	8		1.0	10		1.2	15		1.6	20		2.2	10	5	11	13	16	5'0"
			8	1.2	1.0	10	1.6	1.2	10	2.2	1.2	20	3.1	2.9	20	4.4	1.9	10	2.8	10	20	15	18	23	7'0"	
			10		1.2	15		1.6	20		1.9	30		2.5	30		2.5	25		2.8	25	20	13	16	20	9'0"
			15		1.6	20		1.9	30		2.5	35		2.8	35		2.8	35		2.8	25	30	15	18	23	10'0"
EF 200	Fluid Cap FC4 & Air Cap AC1003	5		0.9	10		1.1	15		1.4	20		1.6	25		1.9	45		2.9	5	3	3	6	9	4'0"	
		10	1.2	1.1	15	1.6	1.4	20	2.2	1.6	30	3.1	2.1	50	4.4	3.0	20	5.8	3.0	20	3	4	6	9	5'0"	
		15		1.4	20		1.6	25		1.9	30		2.1	40		2.6	60		3.6	25	5	4	7	9	6'0"	
		20		1.6	25		1.9	30		2.1	40		2.6	60		3.0	70		4.2	25	20	5	8	12	7'0"	
EF 250	Fluid Cap FC3 & Air Cap AC1001	6		0.9	6		0.9	6		0.9	10		1.2	10		1.2	20		1.9	8	5	14	19	24	5'0"	
		7	2.3	1.0	8	3.0	1.0	8	4.2	1.0	12	5.9	1.4	25	8.4	2.2	10	2.8	10	20	15	19	25	6'0"		
		8		1.0	9		1.1	10		1.2	15		1.6	30		2.5	20		2.8	20	20	17	21	26	8'0"	
		10		1.2	10		1.2	12		1.4	20		1.9	35		2.8	30		2.8	25	30	16	20	27	9'0"	
EF 300	Fluid Cap FC3 & Air Cap AC1003	10		1.1	15		1.4	20		1.6	35		2.4	50		3.0	10		3.0	10	3	5	7	10	4'0"	
		15	2.3	1.4	20	3.0	1.6	25	4.2	1.6	30	5.9	2.6	60	8.4	4.2	30	6.2	3.6	25	3	5	7	10	5'0"	
		20		1.6	25		1.9	30		2.1	50		3.0	70		4.2	80		4.9	40	10	6	8	13	8'0"	
		25		1.9	30		2.1	40		2.6	60		3.6	75		4.5	35		4.5	35	20	6	8	13	8'0"	
EF 300	Fluid Cap FC3 & Air Cap AC1003	30		2.1	40		2.6	50		3.0	70		4.2	80		4.9	90		5.6	60	20	6	8	14	10'0"	
		40		2.6	50		3.0	60		3.6	80		4.9	90		5.6	60		5.6	60	20	6	8	14	10'0"	
		50		3.0	60		3.6	70		4.2	90		5.6	100		6.2	75		6.2	75	40	7	8	12	12'0"	
		50		3.0	60		3.6	70		4.2	90		5.6	100		6.2	75		6.2	75	40	7	8	12	12'0"	

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

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.



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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	3 PSI Liquid			5 PSI Liquid			10 PSI Liquid			20 PSI Liquid			40 PSI Liquid			Spray Dimensions					
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	liquid	"A" in.	"B" in.	"C" in.	"D" feet
1/8 or 1/4	EF 350	Fluid Cap FC6 & Air Cap AC1002	8		3.2	10		3.6	20		5.5	30		7	45		10	20	5	13	15	19	10'0"
			10		3.6	15		4.6	30		7.4	40		9	60		13	30	10	13	16	22	12'0"
			15	3.6	4.6	25	4.7	6.5	35	8.3	50	9.3	11	75	15	60	20	15	19	25	15'0"		
	EF 400	Fluid Cap FC6 & Air Cap AC1004	10		3.0	15		3.6	20		4.1	25		6	45		8	10	3	5	8	10	6'0"
			15		3.6	20		4.1	25		4.9	30		8	55		9	30	5	6	8	11	7'0"
			20	3.6	4.9	30	4.7	5.5	35	6.3	60	9.3	9	60	10	35	10	6	9	11	11'0"		
	EF 450	Fluid Cap FC2 & Air Cap AC1002	8		3.2	10		3.6	15		4.6	25		8	50		11	15	3	13	15	20	11'0"
			15		4.6	20		5.5	25		6.5	35		10	65		14	35	20	15	18	25	12'0"
			20	4.8	5.5	25	6.2	6.5	35	8.3	55	12.3	12	85	17	60	20	12	17	23	16'0"		
	EF 500	Fluid Cap FC2 & Air Cap AC1004	10		3.0	15		3.6	20		4.9	25		7	50		8	10	3	6	8	11	7'0"
			15		3.6	20		4.1	25		5.5	30		8	60		10	25	3	6	8	11	10'0"
			20	4.8	4.9	30	6.1	5.5	35	6.3	40	8.7	9	75	12	40	10	6	9	14	12'0"		
EF 550	Fluid Cap FC1 & Air Cap AC1002	10		3.6	15		4.6	25		6.5	35		10	75		15	30	5	16	22	30	11'0"	
		15		4.6	20		5.5	30		7.4	40		11	85		17	45	10	18	23	32	13'0"	
		20	9.9	5.5	30	12.7	7.4	40	9.1	70	25.5	14	95	19	80	20	15	20	26	19'0"			
EF 600	Fluid Cap FC1 & Air Cap AC1004	15		3.6	25		4.9	35		6	45		8	55		9	15	3	6	8	10	8'0"	
		20		4.1	30		5.5	40		7	50		8	60		10	30	3	6	9	12	10'0"	
		25	9.9	4.9	35	12.7	6.3	45	8	55	25.5	9	65	11	40	5	7	10	14	11'0"			
EF 650	Fluid Cap FC8 & Air Cap AC1005	30		6.3	45		7.5	60		9	70		11	80		13	50	10	8	11	15	13'0"	
		40		6.9	50		8.0	70		11	80		13	90		15	60	20	8	11	16	14'0"	
		50	9.9	8.0	60	12.7	9.4	80	13	90	25.5	15	100	16	80	40	7	10	15	18'0"			
EF 700	Fluid Cap FC9 & Air Cap AC1005	25		8	25		8	35		11	55		15	70		18	25	3	6	8	12	10'0"	
		30		9	30		9	40		12	60		16	80		16	40	3	6	8	12	11'0"	
		35	10.0	11	35	12.9	11	45	13	65	25.5	17	85	18	50	10	7	9	13	14'0"			
EF 750	Fluid Cap FC5 & Air Cap AC1005	40		12	50		13	65		17	80		21	90		23	60	15	7	9	13	15'0"	
		45		13	55		15	70		18	85		21	95		23	70	20	7	9	14	16'0"	
		50	27.9	13	60	36.0	16	75	17	80	50.6	21	100	24	80	20	9	11	15	18'0"			

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

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

XAFF

Pressure-fed/Int. Mix/Deflected Flat Fan

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- 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

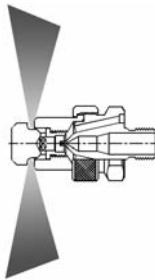
Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	10 PSI Liquid			20 PSI Liquid			30 PSI Liquid			40 PSI Liquid			60 PSI Liquid		
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM
1/8 or 1/4	FF 050	Fluid Cap FC10 & Air Cap AC1701	6	2.9	1.6	14	3.9	2.6	22	4.7	3.3	26	5.8	3.6	38	7.4	4.6
			8	2.5	1.9	16	3.5	2.8	24	4.3	3.6	32	4.8	4.4	46	6.4	5.5
			10	2.0	2.3	18	3.1	3.1	26	4.0	3.8	38	3.8	5.3	54	5.3	6.6
			12	1.5	2.7	20	2.8	3.5	30	3.3	4.5	44	2.8	6.2	62	4.2	7.8
			22	2.3	3.8	34	2.3	5.2	46	2.3	6.6	70	2.8	9.4			

XAxw

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

DESIGN/SPRAY CHARACTERISTICS

- Internal mix
- 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

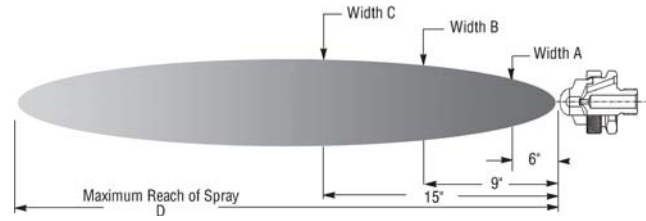
Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	10 PSI Liquid			20 PSI Liquid			30 PSI Liquid			40 PSI Liquid			60 PSI Liquid		
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM
1/8 or 1/4	XW 050	Fluid Cap FC8 & Air Cap AC1401	20	4.0	2.5	34	6.6	4.1	50	7.1	6.4	60	11.0	7.6	85	14.4	11.8
			22	2.8	2.7	38	4.4	4.8	52	6.2	6.8	65	8.3	8.6	90	12.0	13.0
			24	2.0	3.0	42	2.8	5.5	56	4.4	7.6	70	6.1	9.8	95	9.8	14.1
			26	1.5	3.3	46	1.7	6.3	60	3.2	8.4	80	3.1	12.4	100	7.8	15.4
			28	1.1	3.6	48	1.3	6.9	70	1.3	11.8	90	1.4	15.4			

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.

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 Sizes

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	5 PSI Liquid			15 PSI Liquid			25 PSI Liquid			35 PSI Liquid			55 PSI Liquid			Spray Dimensions							
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	liquid	A (in.)	B (in.)	C (in.)	D (feet)		
1/2	AD 5050	Fluid Cap FC 501 & Air Cap AC 5601							28	33.0	8.40	40	28.8	11.3	58	66.0	12.2	30	25	13.5	19.0	26.5	22		
								30	19.8	10.8	42	15.6	13.9	60	42.0	15.0	60	25.5	18.2	40	35	13.5	19.0	26.5	24
																			60	55	14.0	19.5	27.0	28	
	AD 5100	Fluid Cap FC 501 & Air Cap AC 5602	8	27.0	6.50	18	42.0	7.00	32	47.0	11.0	46	42.6	18.1	70	81.0	30.0	10	5.0	13.0	18.5	25.5	20		
			10	15.0	8.20	20	29.4	8.80	34	36.0	12.8	48	32.4	20.2	75	45.0	35.0	20	15	13.5	19.0	25.5	26		
			12	8.4	9.80	22	20.2	10.5	36	25.2	14.7	50	25.8	22.2	80	22.2	39.6	36	25	13.0	18.5	26.5	21		
						24	14.4	12.2	38	18.6	16.6	52	19.8	24.0				50	35	13.5	19.0	26.5	24		
	AD 5150	Fluid Cap FC 501 & Air Cap AC 5603	10	34.2	11.4	26	46.2	20.2	40	62.6	27.5	54	75.6	32.6	75	127	39.0	12	5.0	14.0	19.5	27.0	26		
			12	21.6	13.0	28	37.2	22.0	42	52.8	29.6	56	57.0	34.3	80	108	42.0	30	15	13.5	19.0	26.5	24		
			14	12.0	14.7	30	28.4	23.7	44	42.0	31.6	58	46.8	35.8	85	98	46.0	46	25	13.0	18.5	26.0	23		
						32	21.6	25.3	46	33.6	33.6	60	39.0	37.3				60	35	14.0	19.5	27.0	28		
						34	16.2	27.0	48	25.2	35.6	62	33.0	38.8				80	55	14.0	19.5	28.0	30		
AD 5200	Fluid Cap FC 501 & Air Cap AC 5604	10	35.4	11.1	18	103	15.4	26	155	17.7	36	180	23.0	54	222	29.1	10	5.0	13.0	25.0	36.0	11			
		12	26.4	13.4	20	81.6	17.6	28	135	20.0	38	162	25.4	56	204	31.2	20	15	11.0	26.0	36.0	16			
					22	63.6	19.8	30	115	22.5	40	147	27.8	58	192	34.0	32	25	11.0	22.0	32.0	20			
					24	49.3	22.6	32	100	25.1	42	131	30.2	60	180	36.3	44	35	11.0	21.0	29.0	22			
					34			34	84.0	27.5	44	116	32.6	62	166	38.9	64	55	11.0	22.0	31.0	25			
					36			36	69.5	30.0	46	101	35.1	64	154	41.6									
					38			38	56.4	32.6	48	85.0	37.6	66	142	44.1									
					40			40	45.7	35.3	50	75.0	40.2	68	130	46.6									
											52	62.4	42.7	70	119	49.3									
														72	108	51.6									
														74	97.4	54.2									
														76	87.5	57.1									

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

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	5 PSI Liquid			15 PSI Liquid			25 PSI Liquid			35 PSI Liquid			55 PSI Liquid			Spray Dimensions					
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	liquid	A (in.)	B (in.)	C (in.)	D (feet)
1/2	PR 5050	Fluid Cap FC 501 & Air Cap AC 5501	18	9.00	12.4	28	31.7	14.9	38	58.0	17.3	48	80.0	19.3				20	5.0				22
			20	6.70	13.7	32	22.5	17.0	44	37.7	20.8	54	55.2	23.6				36	15				24
			22	5.40	14.7	38	15.9	19.3	50	24.7	24.8	60	40.0	27.5				50	25	3.5	6.5	10	27
			24	4.10	15.7	36	13.2	20.4	54	19.5	27.5	66	30.0	32.1				60	35				30
						40	11.1	21.5	58	16.0	30.2	72	23.3	37.0									
				42	9.20	22.6	60	14.5	31.8	78	18.3	42.2											
	PR 5100	Fluid Cap FC 502 & Air Cap AC 5502	10	35.4	11.1	18	103	15.4	26	155	17.7	36	180	23.0	54	222	29.1	10	5.0	4.0	7.0	9.0	23
			12	26.4	13.4	20	81.6	17.6	28	135	20.0	36	162	25.4	56	205	31.2	20	15	6.0	10	13	21
						22	63.6	19.8	30	115	22.5	40	147	27.8	58	190	34.0	32	25	5.0	8.0	10	37
						24	49.3	22.6	32	100	25.1	42	131	30.2	60	178	36.3	44	35	4.0	7.0	10	41
						34			34	84.0	27.5	44	116	32.6	62	166	38.9	64	55	4.0	7.0	10	47
						36			36	69.5	30.0	48	101	35.1	64	154	41.6						
					38			38	56.4	32.6	48	85.0	37.6	66	142	44.1							
			40			40	45.7	35.3	50	73.0	40.2	68	130	46.6									
									52	62.4	42.7	70	119	49.3									
												72	108	51.6									
												74	97.4	54.2									
												76	87.5	57.1									

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

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

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 Sizes

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	3 PSI Liquid			5 PSI Liquid			7 PSI Liquid			10 PSI Liquid			15 PSI Liquid			Spray Dimensions							
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	liquid	A (in.)	B (in.)	C (in.)	D (feet)		
1/2	EF 5050	Fluid Cap FC501 & Air Cap AC5001	30	138	31.0	40	180	38.0	45	210	41.5	55	252	48.0	80	306	65	35	3	8.5	14.5	20.5	19		
			35		34.0	45		41.5	50		45.0	60		51.5	85		69	50	5	9.0	16.5	21.5	22		
			40		38.0	50		45.0	55		48.0	60		51.5	75		58.0	90	72	55	7	9.5	17.5	23.0	23
			45		41.5	55		48.0	60		51.5	65		55.0	80		62.0	95	75	70	10	9.5	18.5	24.0	25
						60		51.5	65		55.0	80		62.0	95		75	70	10	9.5	18.5	24.0	25		
				70	58.0	85	69.0									90	15	10	19.5	26.0	29				

PF

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

Pressure-fed, Internal Mix, Flat Fan Spray Pattern, 1/2" Pipe Sizes

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	5 PSI Liquid			15 PSI Liquid			25 PSI Liquid			35 PSI Liquid			55 PSI Liquid			Spray Dimensions							
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	liquid	A (in.)	B (in.)	C (in.)	D (feet)		
1/2	PF5050	Fluid Cap FC501 & Air Cap AC5301				28	39.0	22.4	44	44.1	31.5	58	53.0	40.0				20	10	17	28	35	18		
						30	31.8	24.0	46	37.2	33.5	60	45.6	42.0				30	15	18	29	36	19		
						32	24.6	25.9	48	31.2	35.1	62	38.0	44.0				40	20	19	30	37	21		
						34	19.8	27.5	50	26.0	36.9	65	31.0	47.0				50	25	20	31	38	23		
						36	15.0	29.1	60	20.6	38.7	70	21.0	52.5				60	35	24	36	43	27		
	PF 5100	Fluid Cap FC502 & Air Cap AC5302		10	35.4	11.1	18	103	15.4	26	155	17.7	36	180	23.0	54	222	29.1	10	5.0	20	34	47	13	
				12	26.4	13.4	20	81.6	17.6	28	135	20.1	36	162	25.4	56	205	31.2	20	15	34	62	83	15	
							22	63.6	19.8	30	115	22.5	40	147	27.8	58	190	34.0	20	15	34	62	83	15	
							24	49.3	22.6	32	100	25.1	42	131	30.2	60	178	36.3	32	25	34	62	82	17	
										34	84.0	27.5	44	116	32.6	62	166	38.9	44	35	36	66	85	19	
										36	69.5	30.0	46	101	35.1	64	154	41.6	64	55	36	67	89	21	
										38	56.4	32.6	48	85.0	37.6	66	142	44.1							
										40	45.7	35.3	50	73.0	40.2	68	130	46.6							
													52	62.4	42.7	70	119	49.3							
																72	108	51.6							
												74	97.4	54.2											
												76	87.5	57.1											

SR

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

Siphon-fed, External Mix, Round Spray Pattern, 1/2" Pipe Sizes

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	ATOMIZING AIR		Liquid Capacity in GPH (Gallons Per Hour)								Spray Dimensions at 8" Siphon Ht.							
			PSI air	Air Capacity SCFM	Gravity Head			Siphon Height					PSI air	B (in.)	D (feet)					
					18"	12"	6"	4"	8"	12"	24"									
1/2	SR 5050	Fluid Cap FC501 & Air Cap AC5201	10	12.7														20		20
			20	18.5						10.7								30		22
			30	24.0						22.8								40		24
			43	29.2						32.4								50	6	26
			50	34.8			79.8	67.6	58.8	38.8								60		29
			60	40.1			81.9	70.5	62.8	43.0								70		32
			70	46.1			83.2	72.1	63.5	45.4						9.50		80		35
			80	51.0			84.6	74.5	66.0	48.0						13.8				
					76.2	67.6	49.8						16.5							

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 Sizes

Pipe Size	Spray Set-up Number	Fluid and Air Cap Numbers	10 PSI Liquid			20 PSI Liquid			30 PSI Liquid			40 PSI Liquid			40 PSI Liquid		
			PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM	PSI air	GPH	SCFM
1/2	XW 5050	Fluid Cap FC502 & Air Cap AC5401	14	56.4	12.2	24	104	16.0	36	116	22.4	48	122	27.8	72	128	40.2
			16	38.4	14.8	26	85.8	18.6	38	98.4	24.8	50	110	29.8	74	116	42.3
			18	25.8	16.8	28	70.0	20.3	40	85.2	26.5	52	98.4	31.5	76	108	44.3
			20	15.6	19.0	30	54.6	22.7	42	73.2	28.9	54	85.8	33.8	78	96.6	46.3
						32	42.0	24.8	44	61.0	30.9	56	74.4	36.0	80	85.8	48.3
						34	30.6	26.8	46	49.8	35.0	58	66.0	38.3	82	78.6	50.5
						36	20.0	29.3	48	38.4	35.0	60	55.2	40.1	84	67.8	52.5
						38	7.20	31.8	50	30.0	37.8	62	44.4	42.0	86	60.0	54.8
												64	37.2	44.5	90	48.0	59.0
												66	20.4	45.8			

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

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.