AIR AMPLIFIERS

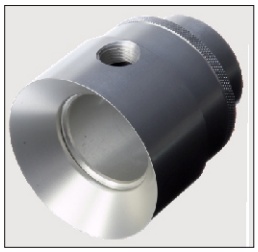
Blowoff, clean, cool and dry as well as vent and exhaust with no moving parts

WHAT ARE THEY - REASONS TO USE

Air Amplifiers or "Air Movers" are a simple, inexpensive device with virtually no maintenance that can convey fumes, smoke, light weight materials, and move a high volume of air for cooling, blowoff and drying applications. They use the "coanda effect" which entrains a large amount of surrounding air using only a small amount of compressed air. The effect is an amplification of up to 17 times the airflow or more (depending on the size) with reduced noise levels. Using only compressed air, the output flow and vacuum is easily controlled by adjusting or opening the air gap and/or inlet pressure. Either end of the amplifier may be ducted to address all kinds of applications from bringing in fresh air into an area to removing nasty fumes. Be wary of extremely high unrealistic or unsubstantiated amplification ratios claimed by some companies.

TYPES OF AIR AMPLIFIERS

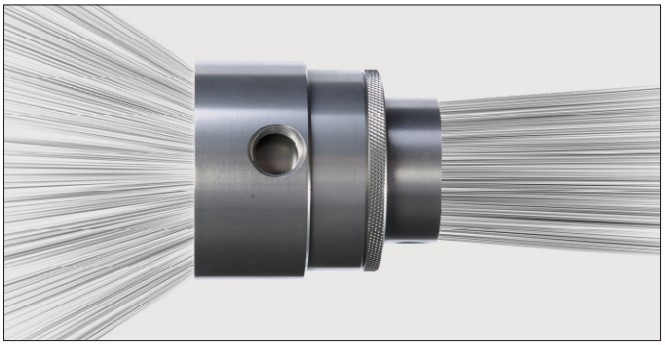
FIXED X-STREAM® AIR AMPLIFIER:
made of zinc die cast system is solid and perform as well or better than many supposedly patented designs when used in similar applications. The gap can be adjusted by adding shims. Five sizes are available.



ADJUSTABLE AIR AMPLIFIER:
made of anodized aluminum or stainless steel for high temperature or food applications. The customer can set the gap and lock it in place using a lock ring. Three sizes are available.

SPECIAL DESIGNS

Special designs are available to meet unique customer specifications. Specially treated stainless steel units have been made for a specific medical application and threaded adjustable versions have been made for a machine builder. Different materials can be provided as well as special sizes to fit any specific application.



AIR AMPLIFIER FEATURES:

- No moving parts.
- Compact design, simple, lightweight and portable.
- Driven by air not electricity.
- Replaces fans used for blowoff, cleaning, drying, cooling and conveying.
- High airflow amplification.
- Instant on-off, no electricity or explosion hazard.

AIR AMPLIFIER BENEFITS:

- Longer life in difficult environments than competitive models.
- Lower compressed air consumption than ejectors and venturi.
- Maintenance free with output easily controlled, safe to use.

AIR AMPLIFIER ADVANTAGES OVER FANS:

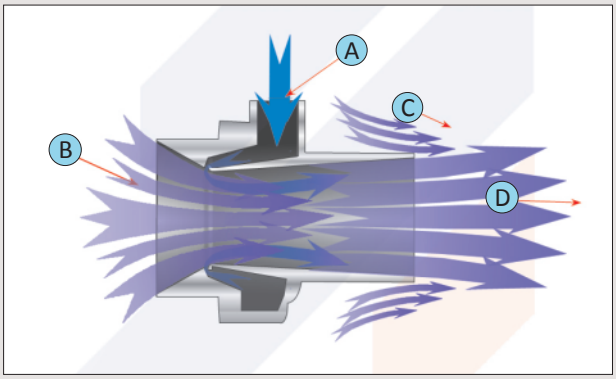
- Compact design, simple, lightweight and portable.
- Driven by air, not electricity for safety.
- No moving parts hence safer and maintenance free.
- Each end can be dusted for light conveying applications.

SELECTION

Whether you choose a fixed or adjustable unit depends on the application. The fixed unit being made of heavy duty zinc die cast is more ideal in rough environments where corrosion is not an issue. The aluminum Adjustable Air Amplifiers are light-weight and flexible because of being adjustable. Stainless steel adjustable units are meant for corrosive environments and for food/pharmaceutical applications.

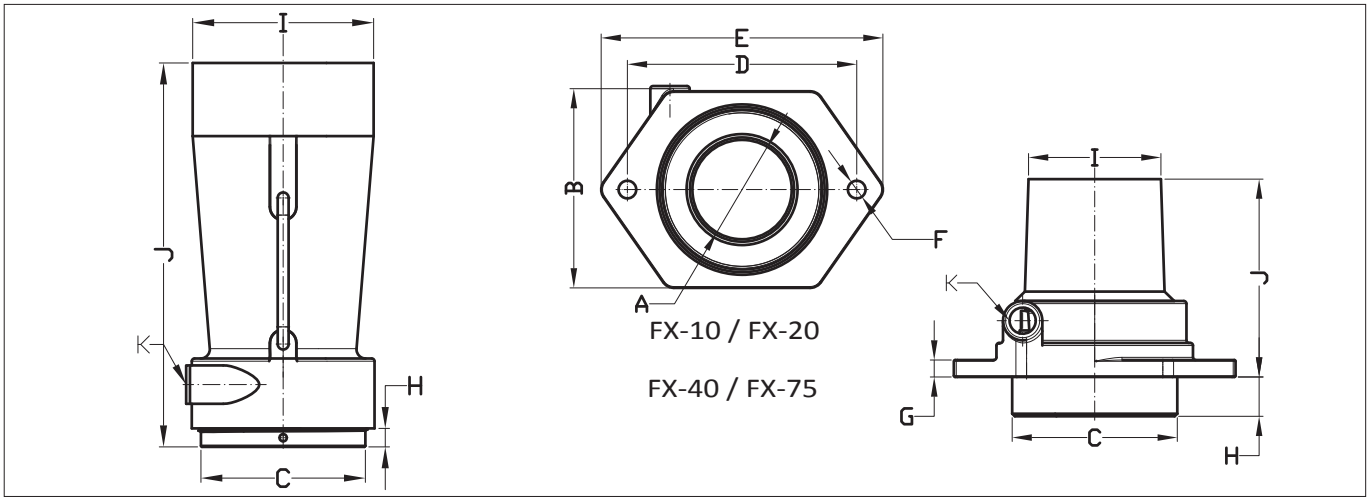
FIXED X-STREAM® AIR AMPLIFIERS - HOW IT WORKS:

A small amount of compressed air enters the annular chamber at point (A). That is then throttled through a small ring nozzle at high velocity and into the inside of the Amplifier over a "coanda" profile. The compressed air stream clings to the "coanda" profile as it enters the inside walls of the amplifier and thereby creating a vacuum that induces the outside air at point (B). Converting the pressure into amplified airflow. The amplified airflow leaves at the exit at point (C). Airflow is further amplified downstream at point (D). By entraining additional air from the surroundings at the exit.



AMPLIFIERS-RATIOS (APPROX.)	Sound Level (dBA) at 80 PSIG (5.5 BAR)
Model FX10: 6.5:1	Model FX10: 72 dBA
Model FX20: 14:1	Model FX20: 79 dBA
Model FX40: 15:1	Model FX40: 89 dBA
Model FX75: 15:1	Model FX75: 80 dBA

MODEL NO.	A Inches (MM)	B Inches (MM)	C Inches (MM)	D Inches (MM)	E Inches (MM)	F Inches (MM)	G Inches (MM)	H Inches (MM)	I Inches (MM)	J Inches (MM)	K (NPT)
FX10	0.40"	1.30"	0.99"	1.89"	2.24"	0.19"	0.16"	0.59"	0.75"	1.59"	1/8"
	(10.16)	(33.1)	(25.2)	(48)	(57)	(4.8)	(4)	(15)	(19)	(40.4)	
FX20	0.81"	1.86"	1.50"	2.39"	3.03"	0.27"	0.20"	0.59"	1.27"	2.16"	1/4"
	(20.6)	(47.2)	(38)	(60.8)	(76.9)	(6.8)	(5)	(15)	(32.2)	(54.8)	
FX40	1.59"	3.15"	2.93"	3.54"	4.18"	0.29"	0.24"	0.79"	2.03"	2.84"	3/8"
	(40.4)	(80)	(74.5)	(90)	(106.1)	(7.4)	(6.2)	(20)	(51.6)	(72.2)	
FX75	2.98"	5.91"	4.96"	6.89"	8.46"	0.53"	0.51"	1.18"	3.98"	5.94"	1/2"
	(75.8)	(150)	(126)	(175)	(215)	(13.5)	(13)	(30)	(101)	(151)	



PERFORMANCE CHARTS

Compressed Air Consumption (Based on gap of 0.002" (.05mm)*) Consumption in SCFM (SLPM)

MODEL	INLET PRESSURE						SOUND LEVEL @ 80 PSIG (5.5 BAR)
	20 PSIG (1.4 BAR)	40 PSIG (2.8 BAR)	60 PSIG (4.1 BAR)	80 PSIG (5.5 BAR)	100 PSIG (6.9 BAR)	120 PSIG (8.4 BAR)	
FX 10	2.2 (62.3)	3.4 (96.3)	4.3 (121.8)	4.9 (138.8)	5.8 (164.2)	6.1 (172.7)	72 dBA
FX 20	4.3 (121.8)	6.1 (172.7)	7.5 (212.4)	9.3 (263.3)	11.0 (311.5)	11.8 (334.1)	79 dBA
FX 40	8.0 (226.5)	11.3 (320.0)	15.0 (424.8)	19.3 (546.5)	25.1 (710.8)	26.0 (736.2)	79 dBA
FX 75	16.5 (467.2)	23.2 (657.0)	29.7 (841.0)	37.0 (1047.7)	44.0 (1245.9)	47.0 (1330.9)	80 dBA

PRESSURE vs. VELOCITY AT OUTLET Ft/min (m/sec)

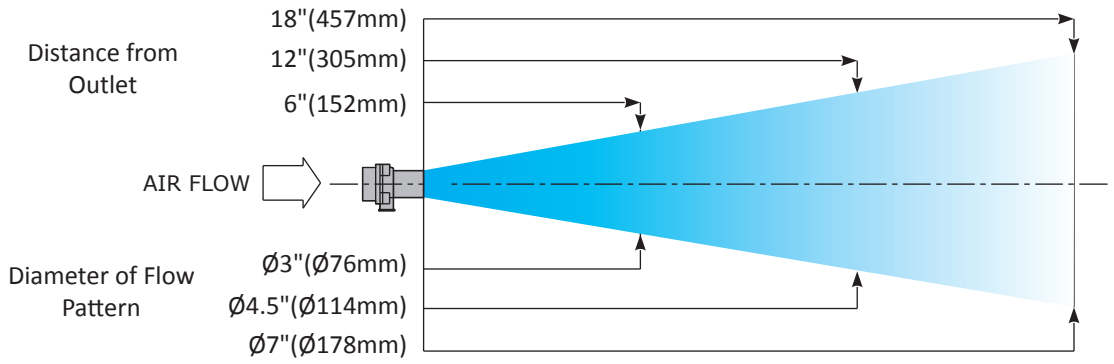
MODEL	INLET PRESSURE						SOUND LEVEL @ 80 PSIG (5.5 BAR)
	20 PSIG (1.4 BAR)	40 PSIG (2.8 BAR)	60 PSIG (4.1 BAR)	80 PSIG (5.5 BAR)	100 PSIG (6.9 BAR)	120 PSIG (8.4 BAR)	
FX 10	9000 (45.72)	14000 (71.12)	16500 (83.82)	18500 (93.98)	20300 (103.124)	22000 (111.76)	72 dBA
FX 20	9000 (45.72)	14500 (73.66)	18200 (92.456)	21000 (106.68)	23200 (117.856)	25000 (127)	79 dBA
FX 40	6000 (30.48)	10000 (50.8)	13500 (68.58)	16200 (82.296)	18400 (93.472)	20200 (102.616)	79 dBA
FX 75	2800 (14.224)	4600 (23.368)	5950 (30.226)	6850 (34.798)	7550 (38.354)	7900 (40.132)	80 dBA

PRESSURE vs. VELOCITY AT 12" FROM OUTLET for all sizes except FX10 which is 6" FROM OUTLET Ft/min (m/sec)

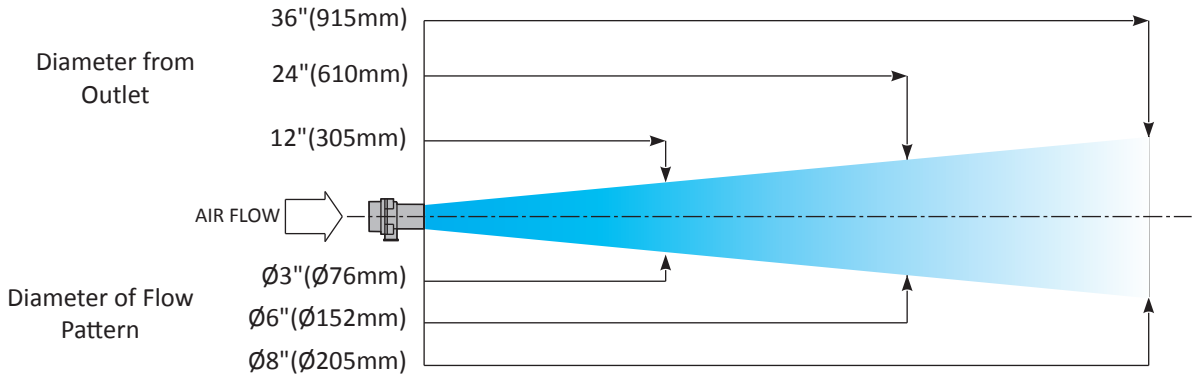
MODEL	INLET PRESSURE						SOUND LEVEL @ 80 PSIG (5.5 BAR)
	20 PSIG (1.4 BAR)	40 PSIG (2.8 BAR)	60 PSIG (4.1 BAR)	80 PSIG (5.5 BAR)	100 PSIG (6.9 BAR)	120 PSIG (8.4 BAR)	
FX 10	1000 (5.08)	1430 (7.2644)	1650 (8.382)	1800 (9.144)	1900 (9.652)	1980 (10.0584)	72 dBA
FX 20	1400 (7.112)	2350 (11.938)	2870 (14.5796)	3200 (16.256)	3400 (17.272)	3600 (18.288)	79 dBA
FX 40	1850 (9.398)	2850 (14.478)	3500 (17.78)	4000 (20.32)	4380 (22.2504)	4700 (23.876)	79 dBA
FX 75	1550 (7.874)	2300 (11.684)	2750 (13.97)	3150 (16.002)	3300 (16.764)	3450 (17.526)	80 dBA

FLOW PROFILES

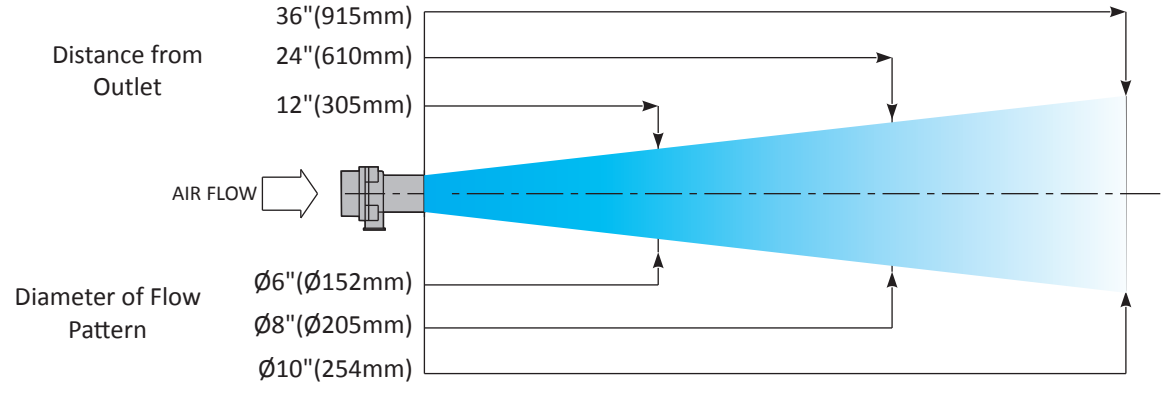
MODEL FX 10



MODEL FX 20

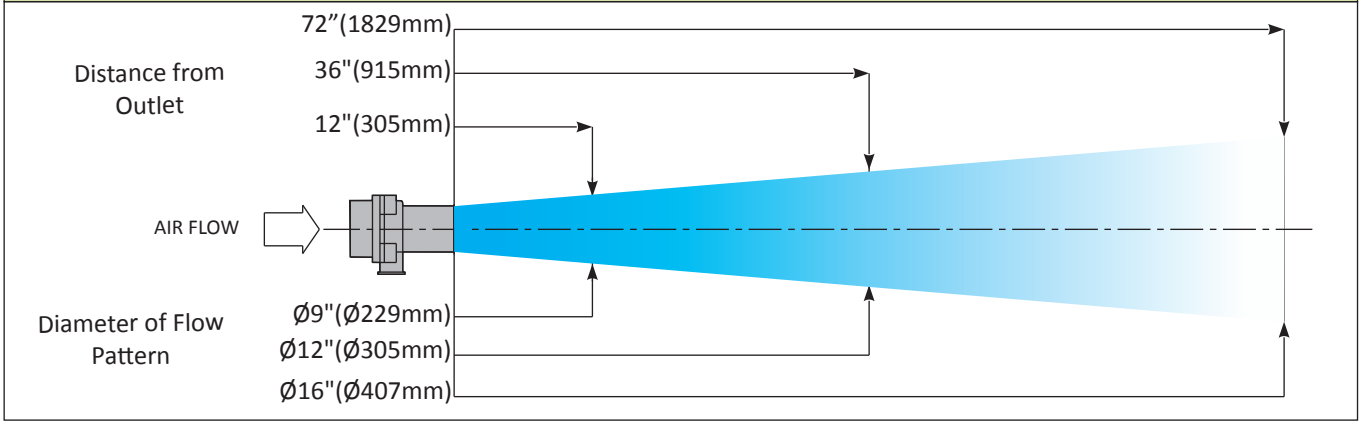


MODEL FX 40



FLOW PROFILES

MODEL FX 75



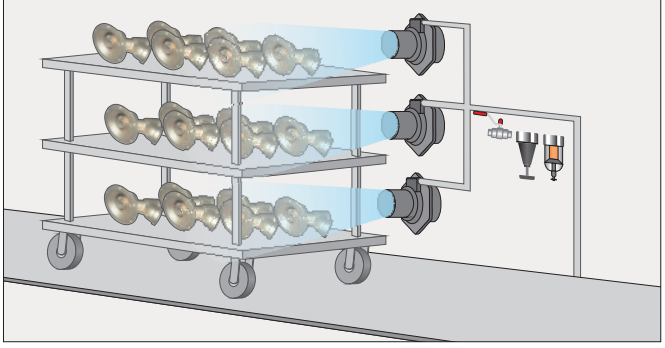
SOUND LEVELS

MODEL	FX 10	FX 20	FX 40	FX 75
SOUND LEVEL @ 80 PSIG (5.5 BAR)	72 dBA	79 dBA	79 dBA	80 dBA

FIXED X-STREAM™ AIR AMPLIFIERS

PART NO.	DESCRIPTION
FX10	3/4” Zinc Alloy Amplifier
FX20	1-1/4” Zinc Alloy Amplifier
FX40	2” Zinc Alloy Amplifier
FX75	4” Zinc Alloy Amplifier
FX125	8” Zinc Alloy Amplifier
FX10-1	3/4” Amplifier plus Filter with Auto Drain
FX20-1	1-1/4” Amplifier plus Filter with Auto Drain
FX40-1	2” Amplifier plus Filter with Auto Drain
FX75-1	4” Amplifier plus Filter with Auto Drain
FX10-2	3/4” Amplifier plus Filter with Auto Drain plus Regulator with Gauge
FX20-2	1-1/4” Amplifier plus Filter with Auto Drain plus Regulator with Gauge
FX40-2	2” Amplifier plus Filter with Auto Drain plus Regulator with Gauge
FX75-2	4” Amplifier plus Filter with Auto Drain plus Regulator with Gauge
SH10-2	Stainless Steel Shim, .002" for FX10
SH10-3	Stainless Steel Shim, .003" for FX10
SH20-2	Stainless Steel Shim, .002" for FX20
SH20-3	Stainless Steel Shim, .003" for FX20
SH40-2	Stainless Steel Shim, .002" for FX40
SH40-3	Stainless Steel Shim, .003" for FX40
SH75-2	Stainless Steel Shim, .002" for FX75
SH75-3	Stainless Steel Shim, .003" for FX75

Using Model FX20 Air Amplifiers to cool castings, cooling time was reduced by 20%



Two Model FX40 Air Amplifiers vent fumes from a tank quickly & efficiently