

# **AIR**MATIC®

**WE'LL HANDLE IT.**



## **SONIC HORN SOLUTIONS**

**PNEUMATIC ACOUSTIC CLEANERS**

**AIR**MATIC

284 Three Tun Rd. Malvern, PA 19355

215.333.5600

[infocenter@airmatic.com](mailto:infocenter@airmatic.com)

[airmatic.com](http://airmatic.com)

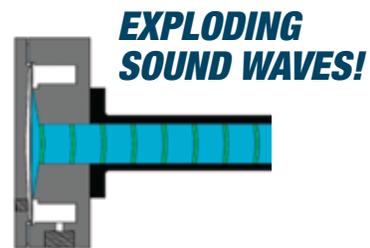
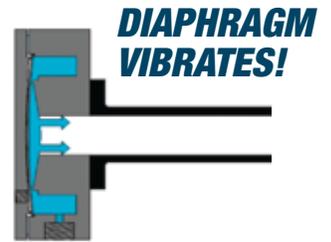
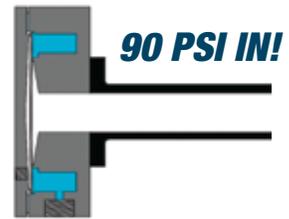
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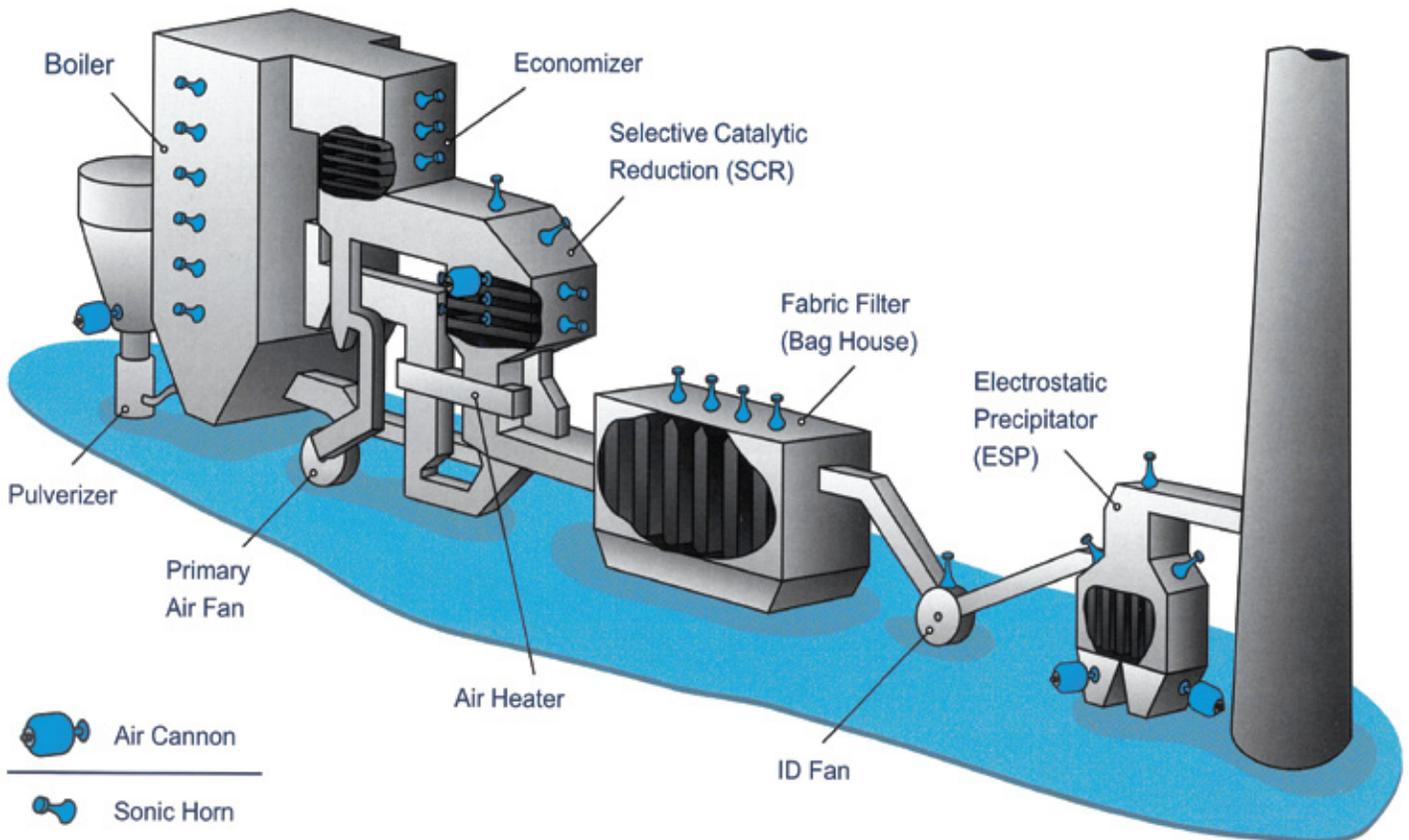
## ACOUSTIC CLEANER TECHNOLOGY

Sonic Horns produce and amplify timer controlled bursts of omnidirectional, low-frequency, high-intensity sound wave vibrations to remove the dust and particulate build-up that occurs in air pollution control equipment, food and sanitary spray, dryers, heat exchangers, ducts and conveying lines, as well as dislodge the bridging and side-wall buildup that occurs in bulk solids storage vessels.

ACS Sonic Horn Acoustic Cleaners use simple modular construction. There are two basic components: A Bell for maximum output efficiency and a Sound Generator for sound production. ACS Acoustic Cleaners are pneumatically operated. Compressed air is forced over a precision-machined, titanium diaphragm, causing it to flex. This produces low frequency, high energy sound waves which are amplified by the Bell. These sound waves cause particulate deposits to dislodge, which can then be removed by gravity and / or gas flow. The diagram on the right illustrates how the sound generator works:



Due to this simple yet effective design, Acoustic Cleaners are the ideal solution to material build-up **Boilers, Precipitators, SCR's, Economizers, Baghouses, Hoppers and Silos, Ductwork, Fans, and Air Pre-Heaters.**



## APPLICATIONS & ADVANTAGES

### HEAT TRANSFER APPLICATIONS

Boilers to include Generating Banks, Economizers and Air Heaters. The addition of Sonic Horns reduces ash accumulation on heat transfer surfaces. This, in turn, improves heat transfer efficiency while reducing pressure drop. Sonic cleaning can take place more frequently and will cause less erosion of the tubes than conventional steam soot blowers. This eliminates tube thinning from steam soot blower operation and also decreases spikes in tube opacity. The Sonic Horns also cost much less to maintain.

### SCR REACTORS

Sonic Horns are the method of choice and are typically specified when it comes to on-line cleaning in an SCR. Benefits include: Lower ammonia slip and pressure drop; reduced operational cost; and extension of catalyst life due to less erosion of the catalysts' modules.

### BAG HOUSES

Horns have been used in baghouses for over 40 years. Typical applications include sonic assist in reverse air and shaker type baghouses. The Horns improve bag cleaning which prolongs the life of the bags and prevents blinding of bags, while reducing pressure drop across the compartments. Users also tell of improved discharge of material in baghouse hoppers including pulse jet units.

### INDUCED DRAFT FANS

Horns reduce fan buildup, which reduces out of balance conditions and premature bearing failure.

### ELECTROSTATIC PRECIPITATORS (ESP'S)

Horns can be utilized as a rapper supplement and, in some cases have eliminated the need for conventional type rapping using sonic cleaning only. Benefits include cleaning of inlet distribution plates, cleaning of plates and wires, aiding in hopper pluggage issues, reduced maintenance costs, and causing less wear and tear on ESP internals.

### DRYERS

Horns reduce buildup in spray drying applications, and will aid in the discharge of Rotary Vacuum Dryers (RVD's) where discharge is sometimes an issue.

### ADVANTAGES:

- Low Initial Investment
- Easy Installation
- Low Installation Cost
- Low Maintenance Cost
- Low Operational Cost
- No Structural Damage
- No Mechanical Wear on Equipment Surfaces
- No Corrosion or Blockage
- Cleaning of Inaccessible Areas
- Continuous Plant Operation
- Application & Installation Expertise

### ELECTROSTATIC PRECIPITATOR

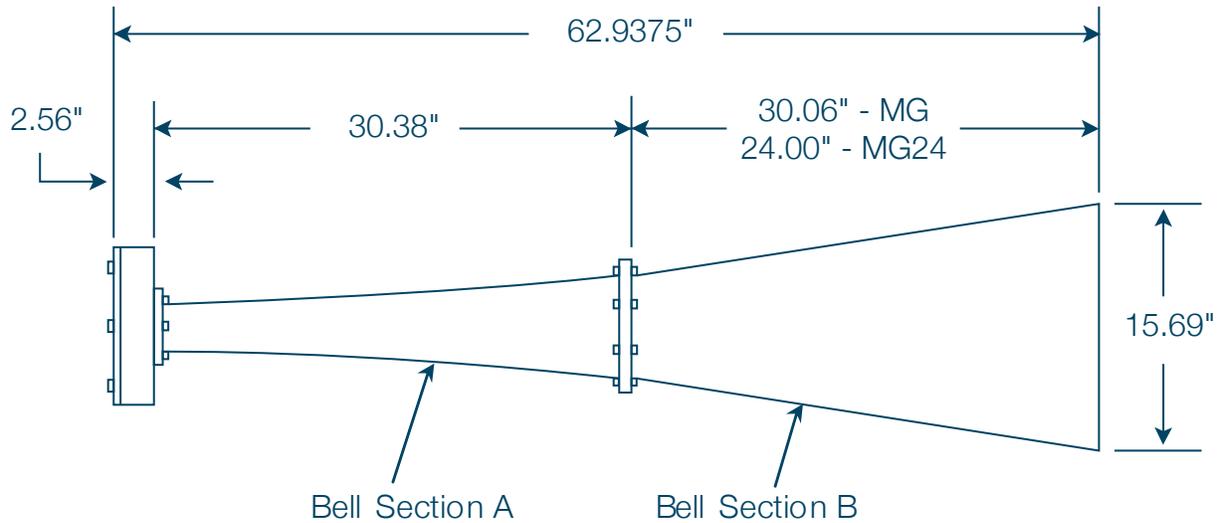


## MAGNUM SERIES

### AC-907MG & AC-907MG-24

Introducing the most power ACS Sonic Horn to date: The **Magnum Series**. For large SCR's where a larger than normal material load is present or a deeper one-wall installation is desired.

The Magnum design easily retrofits to any existing Sonic Horn installation regardless of brand. Simply remove the four bolts that fasten the A and B Bell sections and replace with the larger, more powerful Magnum sound generator!

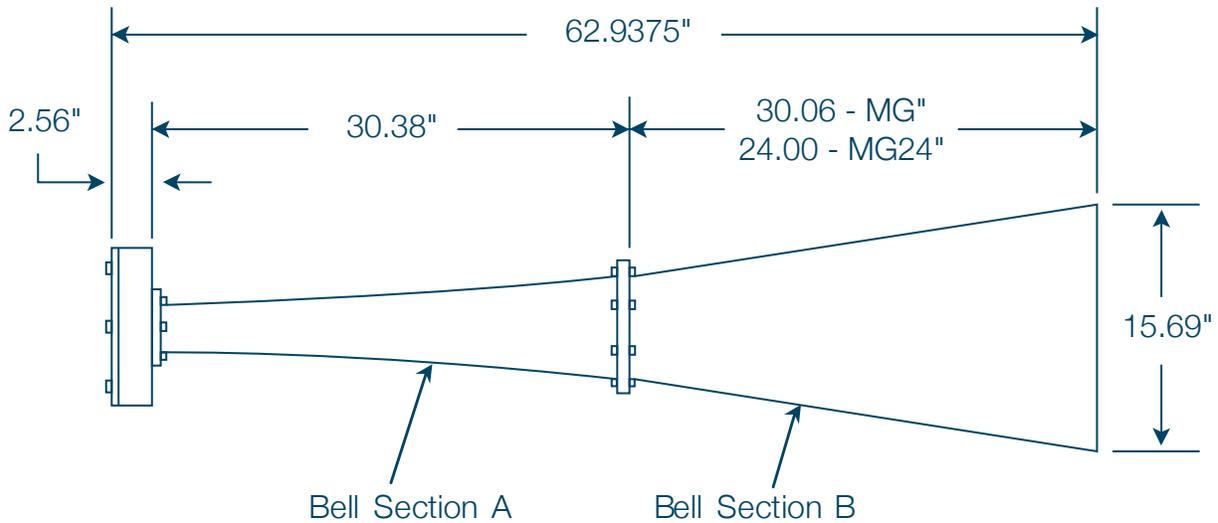


### SPECIFICATIONS

<b>Power Weighted Mean Frequency</b>	97 Hz (Freq. Range: 31.5 Hz to 315 Hz)	
<b>Fundamental Frequency</b>	60 Hz	
<b>Output Power Level</b>	142 dB	
<b>Material</b>	<b>Bell Section A</b>	<b>Bell Section B</b>
	Iron or Stainless Steel	Stainless Steel
<b>Diaphragm Material</b>	Titanium	
<b>Weight</b>	<b>AC-907MG</b>	<b>AC-907MG-24</b>
	98 lbs	90 lbs
<b>Air Requirements</b>	Pressure: 90 PSI Consumption: 73 SCFM	

## MAGNUM SERIES

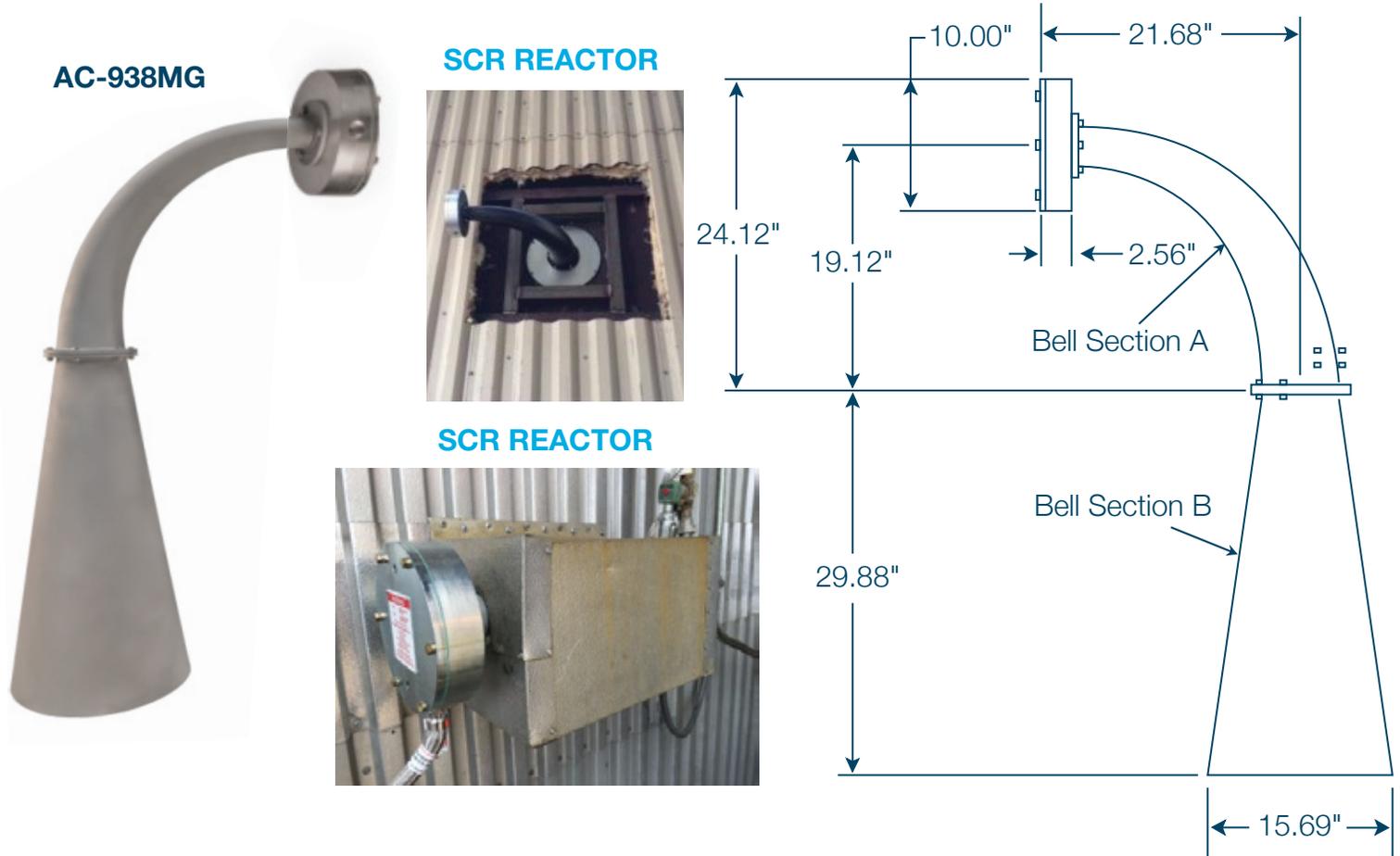
AC-943MG, & AC-943MG-24



### SPECIFICATIONS

<b>Power Weighted Mean Frequency</b>	160 Hz (Freq. Range: 31.5 Hz to 315 Hz)	
<b>Fundamental Frequency</b>	75 Hz	
<b>Output Power Level</b>	147 dB	
<b>Material</b>	<b>Bell Section A</b>	<b>Bell Section B</b>
	Stainless Steel	Stainless Steel
<b>Diaphragm Material</b>	Titanium	
<b>Weight</b>	<b>AC-943MG-24</b>	<b>AC-943MG</b>
	93 lbs	99 lbs
<b>Air Requirements</b>	Pressure: 70-90 PSI Consumption: 70-80 SCFM	

## MAGNUM SERIES

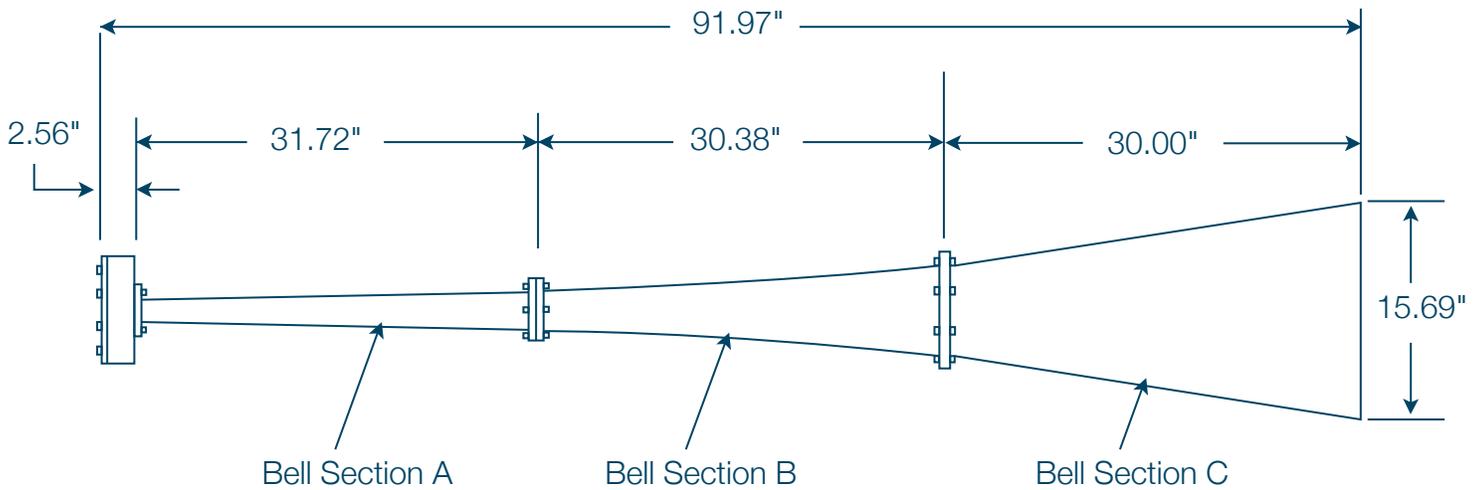


### SPECIFICATIONS

<b>Power Weighted Mean Frequency</b>	97 Hz (Freq. Range: 31.5 Hz to 315 Hz)	
<b>Fundamental Frequency</b>	60 Hz	
<b>Output Power Level</b>	142 dB	
<b>Material</b>	<b>Bell Section A</b>	<b>Bell Section B</b>
	Fabricated Stainless	Fabricated Stainless
<b>Diaphragm Material</b>	Titanium	
<b>Weight</b>	94 lbs	
<b>Air Requirements</b>	Pressure: 90 PSI Consumption: 70-80 SCFM	

## AC-75 SERIES

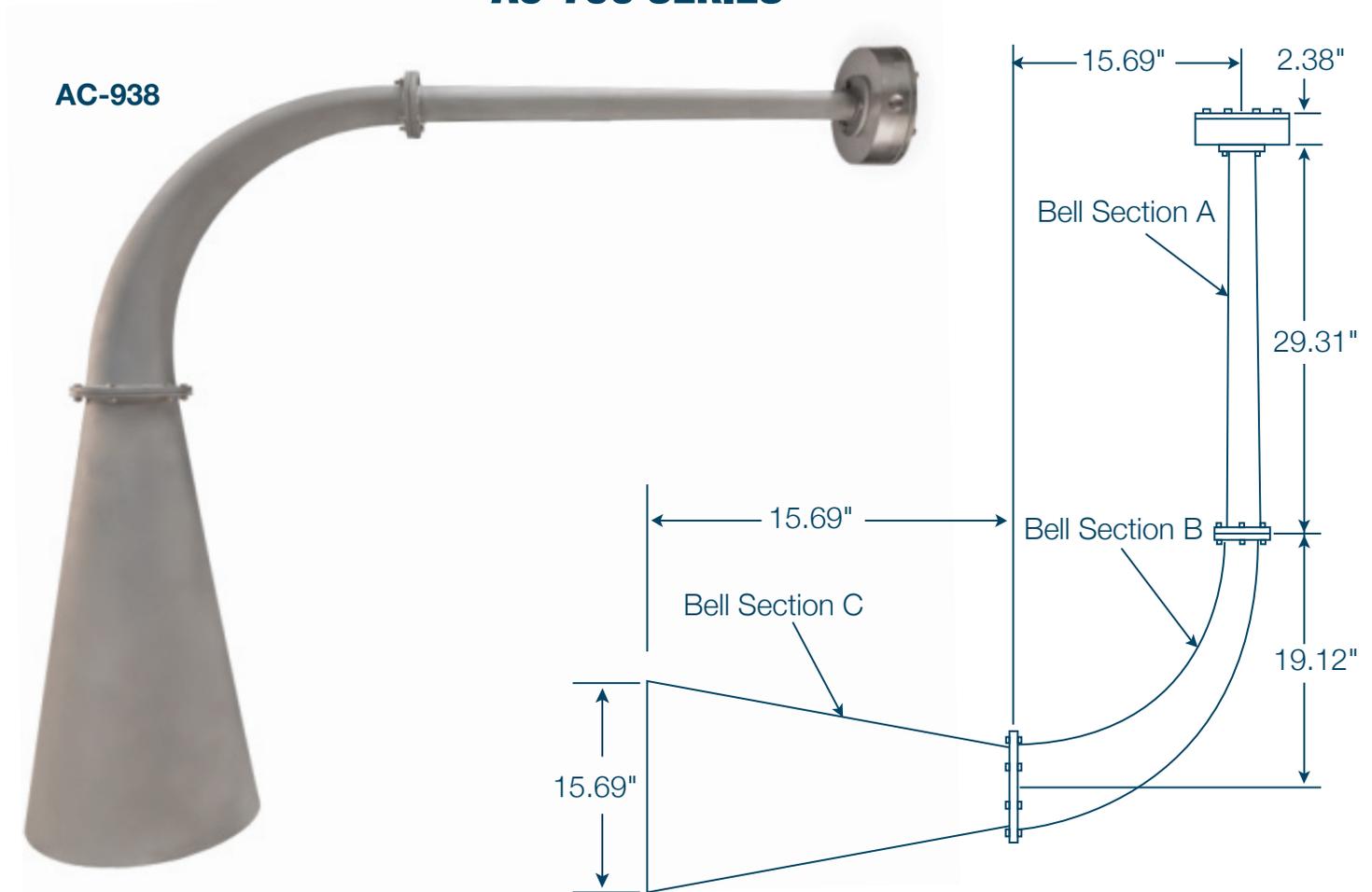
AC-907



### SPECIFICATIONS

<b>Power Weighted Mean Frequency</b>	160 Hz (Freq. Range- 31.5 Hz to 315 Hz)		
<b>Fundamental Frequency</b>	75 Hz		
<b>Output Power Level</b>	147 dB		
<b>Material</b>	<b>Bell Section A</b>	<b>Bell Section B</b>	<b>Bell Section C</b>
	Stainless Steel	Stainless Steel	Stainless Steel
<b>Diaphragm Material</b>	Titanium		
<b>Weight</b>	112 lbs		
<b>Air Requirements</b>	Pressure: 70-90 PSI Consumption: 70-80 SCFM		

## AC-75C SERIES

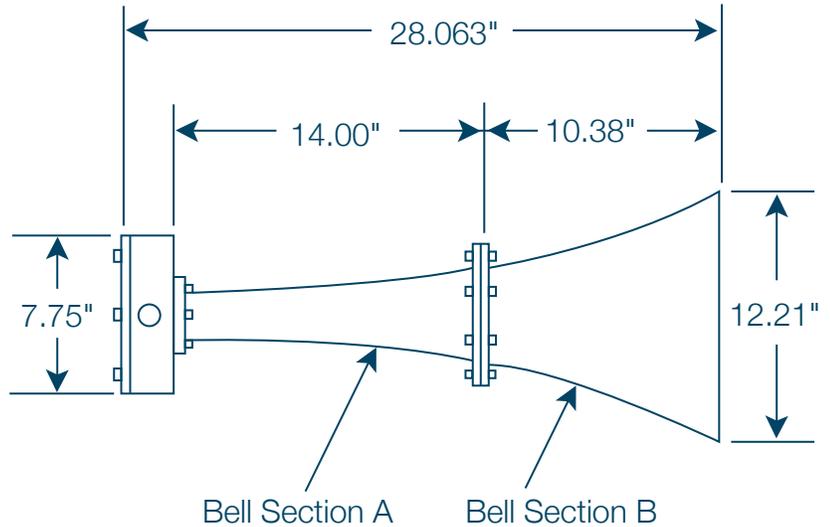


### SPECIFICATIONS

<b>Power Weighted Mean Frequency</b>	160 Hz (Freq. Range: 31.5 Hz to 315 Hz)		
<b>Fundamental Frequency</b>	75 Hz		
<b>Output Power Level</b>	147 dB		
<b>Material</b>	<b>Bell Section A</b>	<b>Bell Section B</b>	<b>Bell Section C</b>
	Stainless Steel	Stainless Steel	Stainless Steel
<b>Diaphragm Material</b>	Titanium		
<b>Weight</b>	81 lbs		
<b>Air Requirements</b>	Pressure: 70-90 PSI Consumption: 70-80 SCFM		



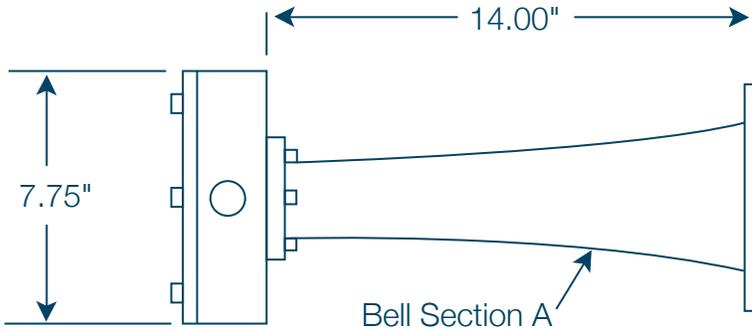
## AC-230 SERIES



### SPECIFICATIONS

<b>Fundamental Frequency</b>	230 Hz		
<b>Output Power Level</b>	150 dB		
<b>Material Per Model</b>	<b>Bell Section A</b>	<b>Bell Section B</b>	
<b>AC-939</b> <b>AC-948</b> <b>AC-948S</b>	Cast Iron Stainless Steel Stainless Steel	Cast Iron Stainless Steel Stainless Steel	
<b>AC-939</b> <b>AC-948</b> <b>AC-948S</b>	Plated Carbon Sound Generator Plated Carbon Sound Generator Cast Stainless Sound Generator		
<b>Diaphragm Material</b>	Titanium		
<b>Weight</b>	<b>AC-939</b>	<b>AC-948</b>	<b>AC-948S</b>
	57 lbs	52 lbs	52 lbs
<b>Air Consumption</b>	Pressure: 70-90 PSI Consumption: 70-80 SCFM		

## AC-220 SERIES



**AC-941**



**AC-946  
AC-946S**

### DUST COLLECTOR



### SCR REACTOR

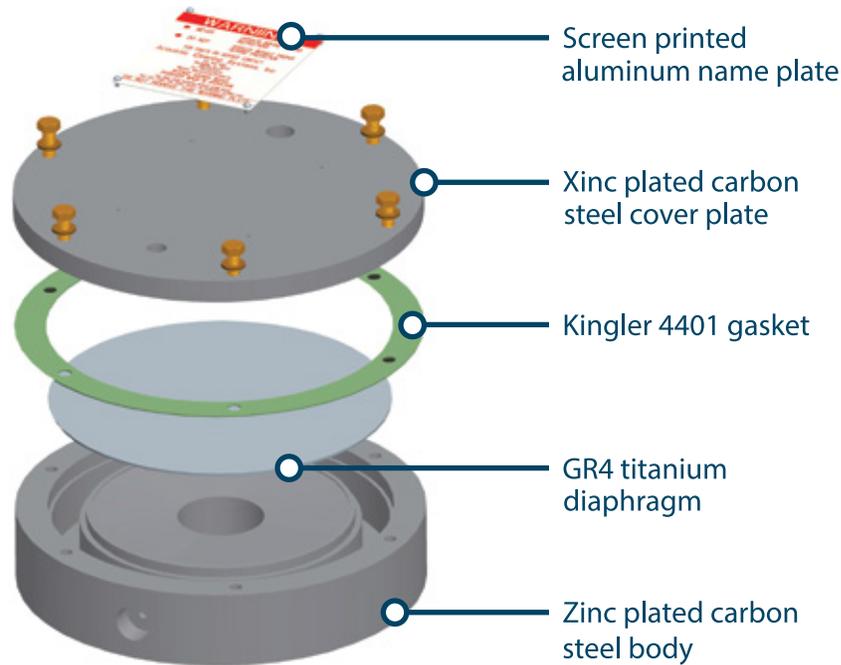


## SPECIFICATIONS

<b>Fundamental Frequency</b>	220 Hz		
<b>Output Power Level</b>	150 dB		
<b>Material Per Model</b>	<b>Bell Section A</b>		
<b>AC-941</b>	Cast Iron		
<b>AC-946</b>	Stainless Steel		
<b>AC-946S</b>	Stainless Steel		
<b>AC-941</b>	Plated Carbon Sound Generator		
<b>AC-946</b>	Plated Carbon Sound Generator		
<b>AC-946S</b>	Cast Stainless Sound Generator		
<b>Diaphragm Material</b>	Titanium		
<b>Weight</b>	<b>AC-941</b>	<b>AC-946</b>	<b>AC-946S</b>
	35 lbs	32 lbs	32 lbs
<b>Air Requirements</b>	Air Pressure: 70-90 PSI Air Consumption: 60-80 SCFM		

## SOUND GENERATION TECHNOLOGY

Air enters the Sound Generator through the 3/4" NPT inlet. This causes the titanium diaphragm to flex which creates a pressure pulse. The pressure pulse is then amplified by the Bell of the Sonic Horn. The frequency is determined by the shape and length of the Bell.



### LET US WORK FOR YOU!

With the latest in CAD technology, ACS can provide design solutions for any application. Sonic cleaning is a proven technology in many applications such as:

- Heat Transfer
- Boiler
- Dust Collection
- SCR Catalysts
- ESP
- Fabric Filter Systems
- Bulk Material Handling
- Spray Drying Systems

The ACS/AIRMATIC Team has Sonic Horn experience in a range of industries including:

- Power Generation
- Pulp and Paper
- Waste to Energy
- Material Handling
- Food Processing
- Refinery
- Cement
- Pharmaceutical
- Chemical

## SPARE PARTS & REPAIR

### REPLACEMENT PARTS:

Airmatic offers parts for any Acoustic Cleaner including parts for all other Sonic Horn manufacturers that includes:

- Sound Generators
- Diaphragm Kits
- Replacement Bell Sections
- Accessory items such as ball valves, hoses, and solenoid valves.
- Mounting Hardware

Not sure what you need? We'll review your system with you, and we'll work together to develop a maintenance program specific to your needs.



### SCR REACTOR



### ON-SITE CONSULTATION & TRAINING:

We'll visit your site and let you know if your application is right for Sonic Horn use. We can also advise proper Horn location and mounting.

We also offer onsite training for Sonic Horn installation, maintenance, and operation.

### SERVICE AND REPAIR:

We inspect and repair all makes of sound generators and diaphragms to keep your system operating at peak efficiency while saving you money.

**AIRMATIC** offers replacement parts for all major Acoustic Cleaner brands including AH-Series and D-Series Horns.

### ELECTROSTATIC PRECIPITATORS





**AIRMATIC** founded in 1944, is a woman-owned Industrial Distributor, with installation and maintenance capabilities, offering equipment, machinery, and shop supplies to the Industrial, Construction, Utility, Government, and Commercial Markets. Our products and services are sold through three business units:

The **MATERIALS MANAGEMENT GROUP** provides products and services to industries that convey, store, transport, and process powders and bulk solids from aggregates, cement, and chemicals to foods, grains, metals, power generation, and waste water treatment applications;

The **SERVICE GROUP** provides fabrication, installation, and maintenance services to improve bulk materials handling efficiency; mechanical clean-out services for silos and hoppers to eliminate material flow problems; and shop repair/rebuilding and modifications services of products sold by the Company.

The **TOOL GROUP** provides power tools, personal protective equipment, materials-handling equipment, shop equipment and MRO supplies used for production, fabrication, assembly, metal removal, maintenance, and storage in manufacturing, construction, utility, and commercial applications.

**Our Customers tell us that by choosing AIRMATIC to solve their problems, they gain increased productivity, decreased costs, and a safer, cleaner work environment.**



**Acoustic Cleaning Systems'** experience dates back to 1983 and the key personnel have over 70 years combined experience in the utility industry and the application of acoustic cleaners in a variety of applications. ACS can supply or design an acoustic cleaning system to suit your requirements. From design to repair and everything in between, we simply blow our competition away.

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