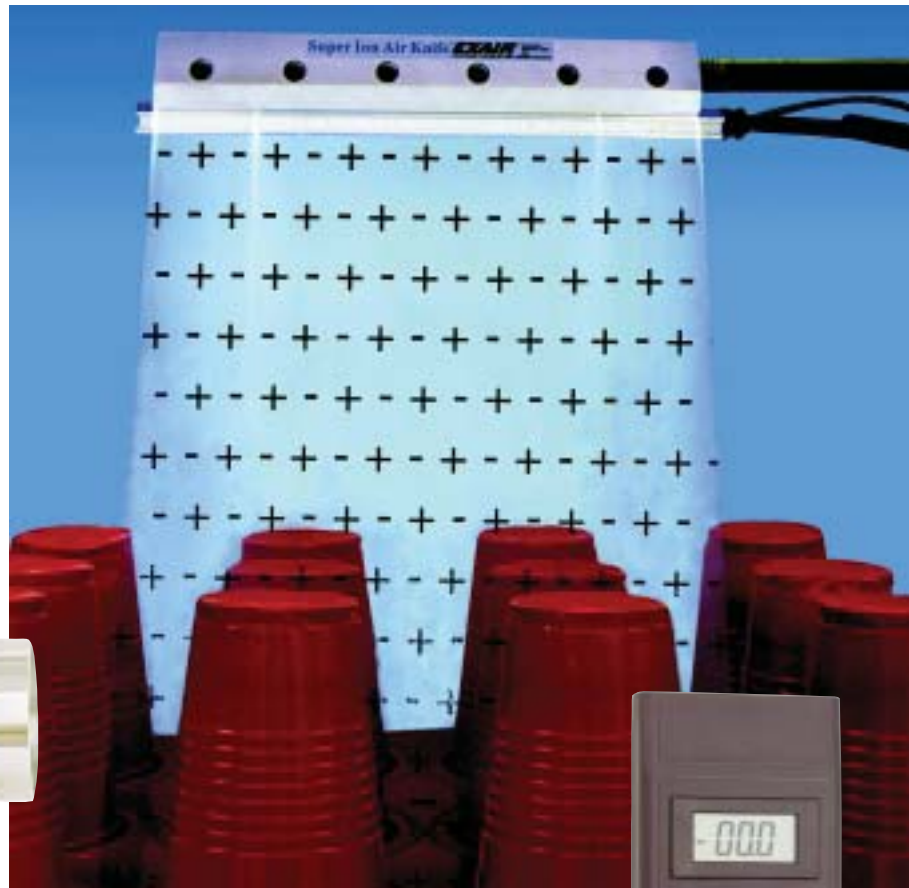


Static Eliminators

Eliminate static and dust!

Neutralize and clean at distances up to 20 feet!



What Is Static?

Material such as paper, plastic or textiles normally contain an equal number of positive and negative charges – that is, they are electrically balanced. Friction can disturb this balance, causing the material to become electrically charged.

The electrical charge (static) will exert a force on nearby charged objects or a grounded conductor. Among the problems caused by this force are:

- Dust clinging to product
- Product clinging to itself, rollers, machine beds or frames
- Materials tearing, jamming or curling
- Sheet feeding problems
- Hazardous sparks or shocks

Charged conductors (like metals) discharge completely when grounded. Insulators (like plastics)

don't conduct electricity and can't discharge when grounded. Grounded brushes or tinsel often have little effect on these surfaces.

When aiming EXAIR's Model 7905 Static Meter at a single plastic surface, it is common to measure many voltages across the same surface. The higher the voltage measured, the stronger the static charge or force at that point. It is also possible for some voltages to have opposite polarities (positive or negative) which determines if two insulators will attract or repel one another.

EXAIR's static eliminators (called ionizers) can eliminate the charge. These shockless ionizers are electrically powered and produce a bulk of positive and negative ions. The charged surface attracts the appropriate number of positive or negative ions from the ionizer to become neutral (discharge).

Static Eliminators

Selecting The Right Static Eliminator

EXAIR offers systems for total static control. When static is a problem on moving webs, sheet stock, three dimensional parts, extrusions or packaging, EXAIR has a solution.

Static Eliminators With Air

Combining our engineered airflow products with ionizers gives us the ability to eliminate the charge quickly and at great distances. Laminar flow airstreams produced make it possible to blow away any contaminants and the charge that attracts them. They are ideal for:

- Hard to reach places or obstructed surfaces
- Product moving at high speeds
- Surfaces with an extremely high charge

Compressed air consumption and noise are minimized while providing force that can be adjusted from a "blast" to a "breeze". Tests show these ionizers positioned two feet (61cm) away from a charged surface to be as effective as an Ionizing Bar without air delivery positioned one-half inch (13mm) from the surface.

The **Super Ion Air Knife** provides the best performance of all ionizers. It uses our Super Air Knife (40:1 air amplification) to deliver a uniform sheet of ionized air effective up to 20 feet (6.1m) away.

The **Standard Ion Air Knife** uses our Standard Air Knife (30:1 air amplification) to deliver a sheet of ionized air to the surface. Air consumption and noise are somewhat higher than the Super Ion Air Knife.

The **Ion Air Cannon** uses our Super Air Amplifier (22:1 air amplification) to provide a focused, conical airstream that is capable of removing the charge up to 15 feet (4.6m) away.

The **Ion Air Gun** uses our High Velocity Air Jet (5:1 air amplification) to provide a narrow beam of ionized airflow. This hand-held static eliminator is rugged for industrial use and has incredibly fast static decay rates.

The **Ion Air Jet** is an effective spot cleaner. Available for permanent mount or with flexible Stay Set Hose, this ionizer is the ideal way to focus an ionized airflow at confined areas.

Static Eliminators Without Air

In some situations, even the smallest amount of airflow can disturb the product. This is especially true for lightweight materials. EXAIR manufactures two styles of ionizers for these critical applications.

Ionizing Bars are ideal for relatively flat materials, where the bar can be mounted within a few inches of the product surface.

The new **Ionizing Point** is effective for spot neutralization. The compact size makes it ideal for winding or slitting operations. It can also be mounted through a duct to neutralize static charges due to moving air or materials.

Special Static Eliminators

EXAIR manufactures static eliminators suited to specific application requirements. The special ionizer (*shown bottom right*) was developed for the automotive industry. This air amplifier and ionizer combination is used to dry water based paints on car bodies while eliminating the possibility of a static charge that might attract dust or other contaminants.

If you have special requirements, please contact an Application Engineer to discuss the application.



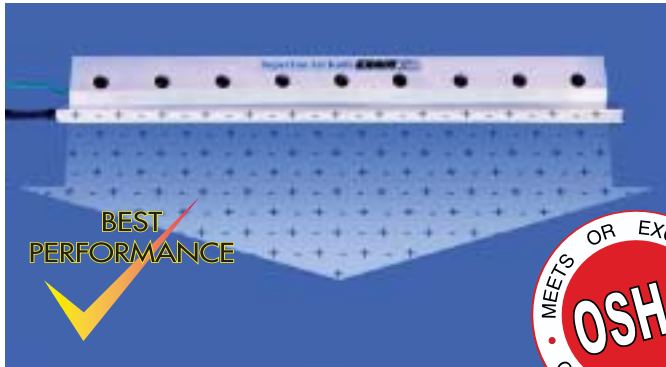
A Model 111118 18" (46cm) Super Ion Air Knife prevents jamming on a stacker.



A Model 7006 6" (15cm) Ionizing Bar eliminates the static charge that causes packing peanuts to cling.



This special ionizer dries water based paint on car bodies and eliminates any static problems.



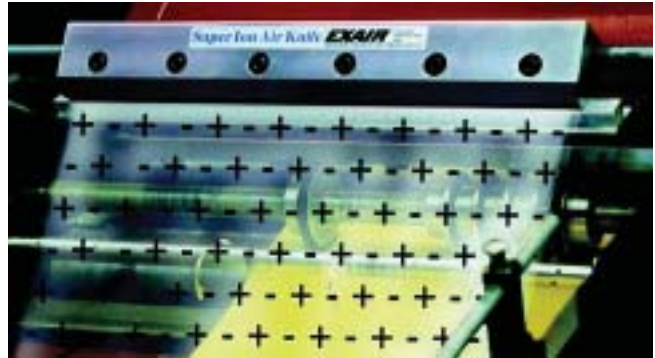
Super Ion Air Knife™

Powerful static eliminator prevents jamming, tearing, shocks and dust up to 20' away!



Uses The Super Air Knife

- ✓ **Low Air Consumption!**
- ✓ **Uniform Airflow!**
- ✓ **Surprisingly Quiet!**
- ✓ **End and Bottom Air Inlets!**

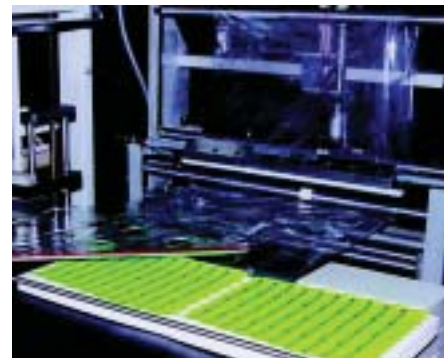


What Is The Super Ion Air Knife?

EXAIR's Super Ion Air Knife removes static electricity from plastics, webs, sheet stock and other product surfaces where tearing, jamming or hazardous shocks are a problem. The laminar sheet of air sweeps surfaces clean of static, particles, dust and dirt. Production speeds, product quality and surface cleanliness can improve dramatically.

Why The Super Ion Air Knife?

The Super Ion Air Knife floods an area or surface with static eliminating ions - up to 20 feet (6.1m) away. A uniform airflow across its length will not cause misalignments to critical surfaces such as webs. Force can be adjusted from a "blast" to a "breeze". The Super Ion Air Knife is electrically powered, is shockless and has no moving parts. **It also requires less than 2 SCFM of compressed air per foot of length at 5 PSIG (57 SLPM per 30cm of length at 0.3 BAR).** Sound level is surprisingly quiet at 50 dBA for most applications.



Materials stay in position on an "L" sealer when static electricity is neutralized.



Bumpers, car bodies and fascia are cleaned of dust and fibers prior to painting.

Applications

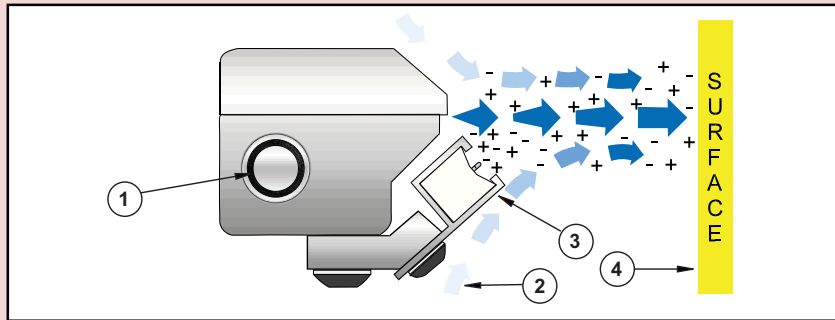
- Web cleaning
- Molding machinery
- Sheeters and trimmers
- Cleaning parts
- Pre-paint dust removal
- Shrink wrappers
- Package cleaning
- Bag opening/fill operations
- Printing equipment

Advantages

- Low air consumption
- Uniform airflow across entire length
- Quiet
- Effective up to 20 feet (6.1m)
- Shockless, non-radioactive
- Compact, rugged, easy to install
- Unlimited system lengths of uninterrupted airflow
- Low maintenance
- Variable force and flow

Super Ion Air Knife

How The Super Ion Air Knife Works



Compressed air flows through an inlet (1) into the plenum chamber of the Super Ion Air Knife. The flow is directed to a precise, slotted orifice. As the primary airflow exits, it creates

a uniform sheet of air across the entire length that immediately pulls in surrounding room air (2). An electrically powered ionizing bar (3) fills the curtain of air with positive and

negative charges. The airstream delivers these static eliminating ions to the product surface (4) where it is instantly neutralized and cleaned of dust and other particulates.

Enhanced Performance and Reliability

Ionizing bars are very ineffective without an air delivery system. When used by itself, a bar must be mounted within an inch of the charged surface to fully neutralize it. This close mounting is impossible when the static is generated in confined areas of a machine. Ion coverage is minimal on oddly configured parts or when high production speeds are involved.

The right type of air delivery is critical. Blowers produce an uneven, turbulent airstream that can cause the positive and negative ions to recombine before hitting the charged material. They are large, suffer mechanical wear and provide limited airflow control. (For more information on blowers, see page 5.) The compact Super Ion Air Knife uses a small amount of compressed air to produce a balanced, laminar sheet of air to carry the ions to the charged surface, even when it is far away. Flow and force are easily controlled and there are no moving parts to wear out.

Super Ion Air Knife Performance

Pressure Supply		Air Consumption*		Sound Level	Dissipates 5kV**
PSIG	BAR	SCFM	SLPM	dBA	SECONDS
5	0.3	1.7	48	39	0.55
10	0.7	2.6	74	45	0.40
20	1.4	11	311	50	0.25
40	2.8	18	509	60	0.20
60	4.1	25	708	67	0.18
80	5.5	32	906	69	0.18
100	6.9	38	1075	73	0.18

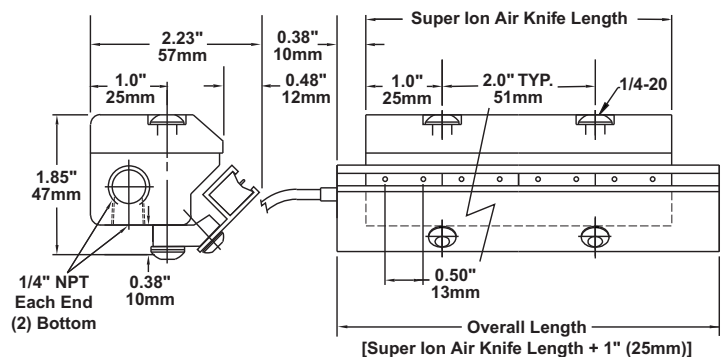
* per foot (30cm) of length

** 6" (15cm) from target

Added Features

- Compressed air inlets are provided on each end and the bottom of the Super Ion Air Knife. Multiple Super Ion Air Knives can be mounted end-to-end without an air gap.
- Shims can be installed easily if additional hard-hitting velocity is required.
- Primary air does not impact any surface of the Super Ion Air Knife which keeps the sound level low.
- Insertion molded emitter points eliminate potential dirt accumulation that could degrade performance or eventually short the ionizing bar.
- Emitter points are sharp, durable stainless steel.
- The power cable is shielded and has integral grounding. The threaded bayonet connector is fully assembled and ready to use.
- Super Ion Air Knife Kits which include all components necessary for operation are available .

Super Ion Air Knife Dimensions



Super Ion Air Knife Specifications

The Super Ion Air Knife is available in standard lengths of 3", 6", 12", 18", 24", 30", 36", 42" and 48" (8, 15, 30, 46, 61, 76, 91, 107 and 122cm). **Special lengths and unlimited system lengths are available (please contact our factory).** A 5' (1.52m) shielded power cable with ground and assembled bayonet connector are included.

EXAIR Model 7901 or 7907 Power Supply (5 kV) is required for bar operation. Power supplies are equipped with a 6' (1.83m) power cord, lighted power switch and (2) high voltage outlets.

Certifications: Ionizing Bars are UL Component Recognized to U.S. and Canadian safety standards.



Power supplies are UL Listed to U.S. and Canadian safety standards.



Compressed Air: 1/4" NPT inlets are provided on each end and the bottom.

Electrical: For use with 5 kVrms, 5 milliamperes (max.) power supply, Model 7901 (115V) or 7907 (230V).

Electrical Hazard: Ionizing bars are shockless (less than 40 microamperes short circuited). **Do not use near flammable materials or gases.**

Materials of Construction:

Super Air Knife: Aluminum
 Ionizing Bar Channel: Aluminum
 Plastic Parts: UL rated 94 HB
 Emitters: Stainless Steel

Maximum Ambient Temperature: 165°F (74°C)

Shims: Thicker shims can be installed easily if additional hard-hitting velocity is required.



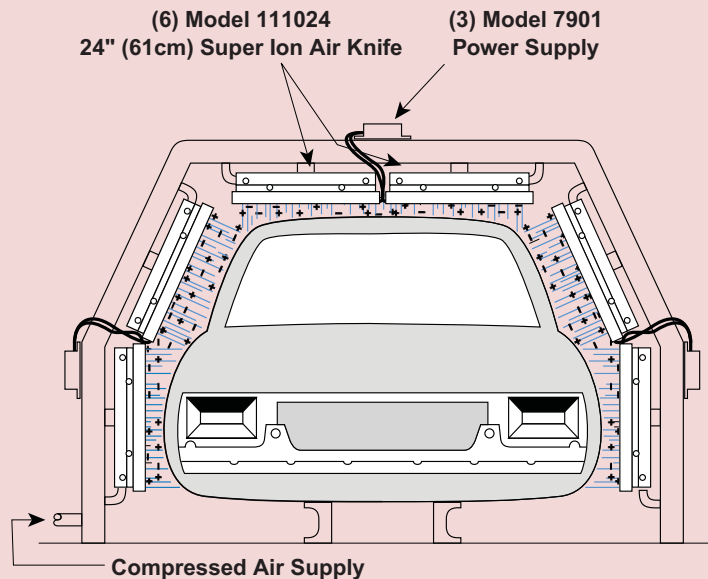
The Model 7901 or 7907 Power Supply has a lighted power switch and (2) 5kV outlets.

Dust Removal From Car Bodies

The Problem: Car bodies are primer coated, then sanded before entering the paint booth. Priming dust, attracted to the car body by a static charge, creates imperfections that are captured and magnified in the painting process.

The Solution: An "archway" of Model 111024 24" Super Ion Air Knives was installed upstream of the paint booth. As the car bodies pass through, a high velocity sheet of ionized air neutralizes the static charge to release the dust and blow it toward a collection system.

Comment: Non-turbulent airflow was the reason this cleaning system worked so well. The compact, Super Ion Air Knife has the ability to move the bulk of the static eliminating ions to the car surface. It can be adjusted from a gentle breeze of air, to a pounding blast with instant "on/off" capability. Uniform airflow across the entire length assures that all car body surfaces are neutralized and dust free. Best of all, the Super Ion Air Knife is easy on the compressed air system and workers ears. They use much less compressed air than standard blowoffs and are around 69 dBA in most applications.

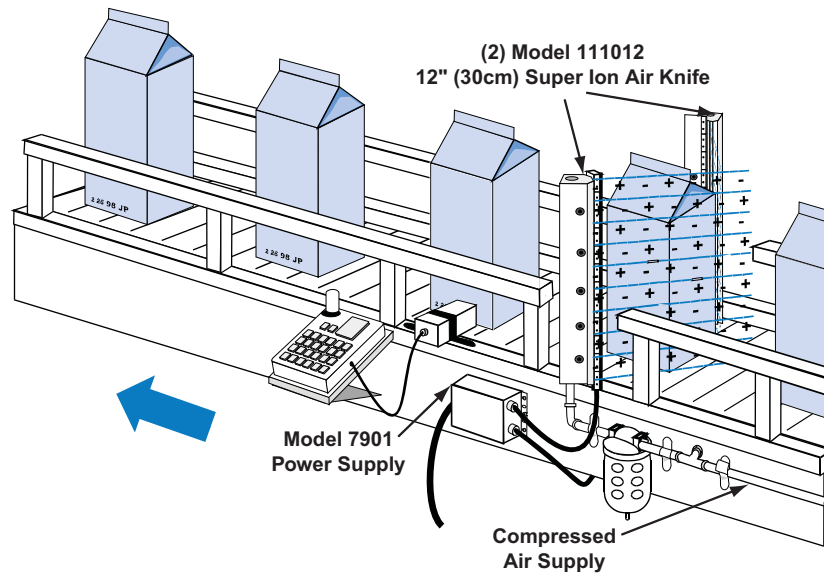


Super Ion Air Knife

Eliminating Poor Print Quality

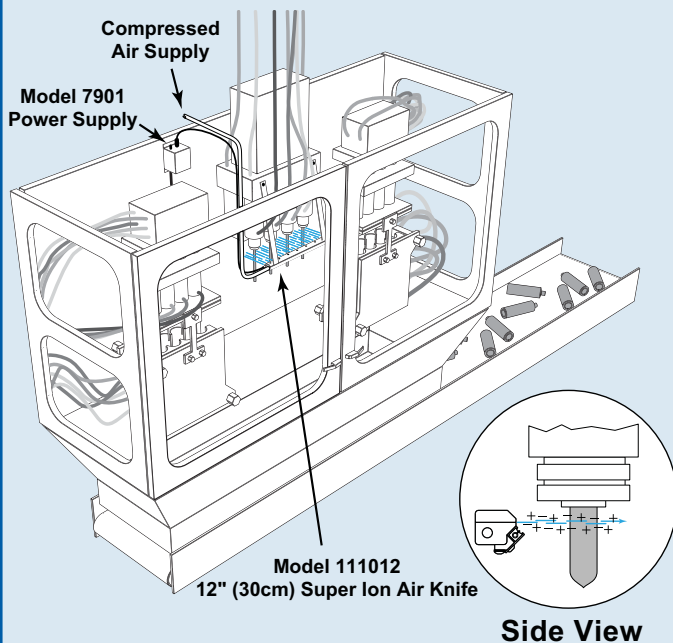
The Problem: A beverage manufacturer had problems with ink jet print quality on certain drink containers. Static electricity on the surface attracted the ink to other positions on the container, rather than straight across from the printhead. Printing was illegible.

The Solution: A Model 111012 12" (30cm) Super Ion Air Knife was installed on each side of the container. The airstream, filled with static eliminating ions, surrounded the container and removed the static charge from the surface. Print quality was crisp and clear.



Comment: In an earlier attempt to eliminate the static problem, ionizing bars **without** air delivery proved ineffective, as the ionized air could not reach the surface of the three dimensional containers. The Super Ion Air Knife, with its balanced, laminar airflow is capable of neutralizing the charge on any surface it touches. In addition to ink jet, screen, web and offset printing, it is ideal for cleaning parts, removing dust and eliminating potential shock hazards.

Eliminating Static On A Blow Molding Operation



parisons to the tie bars of their blow molding machines. As a result, the extrusions went off center and the molded bottles wound up with more plastic on one side than the other.

The Solution: The bottle manufacturer upfit their machines with the Model 111012 12" (30cm) Super Ion Air Knife powered by the Model 7901 Power Supply. As the plastic extruded from the blow pin, it was blanketed with a light flow of ionized air. The static charge on the plastic was eliminated and the bottles maintained uniform thickness. **Rejects were completely eliminated.**

Comment: When production rates and product quality suffer due to static, the powerful Super Ion Air Knife is the answer. The compact design with side and bottom compressed air inlets make mounting easy. Since the compressed air requirement is minimal, retrofitting all of the many blow molding machines in this plant was not an issue. The Super Ion Air Knife is the ideal way to keep plastic bottles, webs, shrink wraps, and other charged surfaces clean and static free.

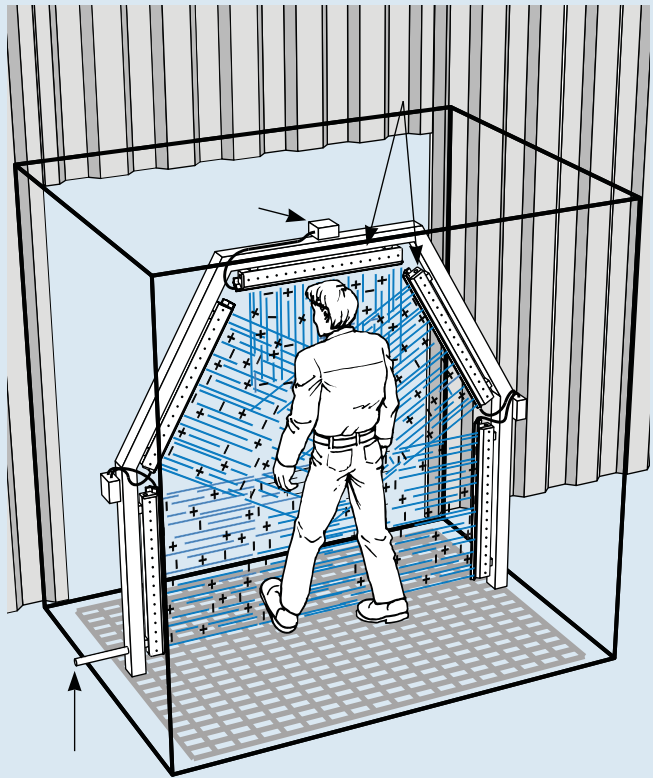
The Problem: A manufacturer of plastic bottles experienced a 50% reject rate every time the humidity dropped. A charge produced by the extrusion process attracted the tubular plastic

Personnel Blowoff In A Paint Booth

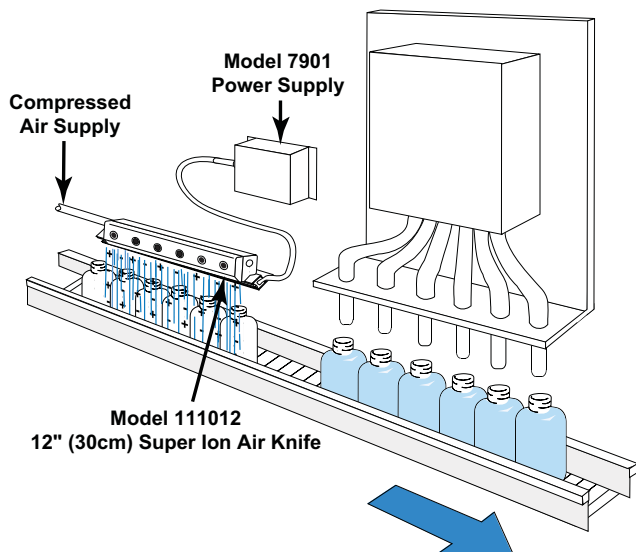
The Problem: Maintaining strict cleanliness in an auto paint booth is essential. However, airborne dust from the clothing of workers entering the booth settled on the car body. These tiny imperfections, magnified after painting, resulted in unacceptably high rejection levels.

The Solution: The entrance to the paint booth was surrounded with a series of Model 111036 36" (91cm) Super Ion Air Knives. This "ionized air shower" neutralized the static charge on the worker's clothing and directed the dust to a floor vent. **Paint booth contamination and finish related rejections were reduced dramatically.**

Comment: The ability of the ionized air to "reach out and touch someone" was the key to success in this application. The Super Ion Air Knife uses a small amount of compressed air to deliver a high volume flow of surrounding air to a charged surface. It can effectively eliminate static and the contaminant it attracts at distances up to 20 feet.



Killing Static On A Fill Line



The Problem: A pharmaceutical company fills mouthwash bottles at a rate of 200 per minute. Friction with the conveyor belt and guide rails produced a static charge on the bottle surface that resulted in two problems. First, the static electricity sent false signals to an encoder responsible for

monitoring material flow, causing it to shut the line down periodically. Second, the surface charge was so high that the liquid from the machines fill spout would divert sideways down the side of the bottle instead of flowing straight down into the mouth.

The Solution: A Model 111012 12" (30cm) Super Ion Air Knife and Model 7901 Power Supply was installed at the entrance to the fill table. The rapidly moving bottles passed under the sheet of ionized air and the surface static was completely neutralized. **The falsing problem was eliminated and the mouthwash went into the bottle where it belonged.**

Comment: Static electricity can bring production to a screeching halt as it did here! The speed of the filling operation required fast static decay over a large surface area - a situation a static bar alone could not remedy. The laminar airflow of the Super Ion Air Knife delivers a flood of static eliminating ions to any surface the airstream touches, making it ideal for oddly shaped parts like bottles, totes or trays as well as flat surfaces like webs, sheet stock or conveyors.

Super Ion Air Knife

Super Ion Air Knife

Super Ion Air Knife consists of the Super Air Knife and Ionizing Bar assembly.

Model #	Description
111003	3" (8cm) Super Ion Air Knife
111006	6" (15cm) Super Ion Air Knife
111012	12" (30cm) Super Ion Air Knife
111018	18" (46cm) Super Ion Air Knife
111024	24" (61cm) Super Ion Air Knife
111030	30" (76cm) Super Ion Air Knife
111036	36" (91cm) Super Ion Air Knife
111042	42" (107cm) Super Ion Air Knife
111048	48" (122cm) Super Ion Air Knife

Super Ion Air Knife Systems

The following systems include a Super Ion Air Knife and Model 7901 Power Supply (115V, 50/60 Hz).

Model #	Description
111103	3" (8cm) Super Ion Air Knife System
111106	6" (15cm) Super Ion Air Knife System
111112	12" (30cm) Super Ion Air Knife System
111118	18" (46cm) Super Ion Air Knife System
111124	24" (61cm) Super Ion Air Knife System
111130	30" (76cm) Super Ion Air Knife System
111136	36" (91cm) Super Ion Air Knife System
111142	42" (107cm) Super Ion Air Knife System
111148	48" (122cm) Super Ion Air Knife System

Super Ion Air Knife Kits

Super Ion Air Knife Kits include a Super Ion Air Knife, Model 7901 Power Supply, shim set, filter separator and pressure regulator.

Model #	Description
111203	3" (8cm) Super Ion Air Knife Kit
111206	6" (15cm) Super Ion Air Knife Kit
111212	12" (30cm) Super Ion Air Knife Kit
111218	18" (46cm) Super Ion Air Knife Kit
111224	24" (61cm) Super Ion Air Knife Kit
111230	30" (76cm) Super Ion Air Knife Kit
111236	36" (91cm) Super Ion Air Knife Kit
111242	42" (107cm) Super Ion Air Knife Kit
111248	48" (122cm) Super Ion Air Knife Kit

Special length Super Ion Air Knives and unlimited system lengths are available. Please contact our factory.



Kits include the Super Ion Air Knife, shim set, Model 7901 Power Supply, filter and regulator.

Accessories and Components

Model #	Description
7003	3" (8cm) Ionizing Bar Only (Does not include Super Air Knife)
7006	6" (15cm) Ionizing Bar Only (Does not include Super Air Knife)
7012	12" (30cm) Ionizing Bar Only (Does not include Super Air Knife)
7018	18" (46cm) Ionizing Bar Only (Does not include Super Air Knife)
7024	24" (61cm) Ionizing Bar Only (Does not include Super Air Knife)
7030	30" (76cm) Ionizing Bar Only (Does not include Super Air Knife)
7036	36" (91cm) Ionizing Bar Only (Does not include Super Air Knife)
7042	42" (107cm) Ionizing Bar Only (Does not include Super Air Knife)
7048	48" (122cm) Ionizing Bar Only (Does not include Super Air Knife)
7901	Power Supply Only, (115V, 50/60 Hz)
7907	Power Supply Only, (230V, 50/60 Hz)
7902	Extension Cable, 5' (1.52m) length
7905	Static Meter
9001	Auto Drain Filter Separator, 3/8 NPT, 65 SCFM (1841 SLPM)
9032	Auto Drain Filter Separator, 1/2 NPT, 90 SCFM (2548 SLPM)
9002	Auto Drain Filter Separator, 3/4 NPT, 220 SCFM (6230 SLPM)
9005	Oil Removal Filter, 3/8 NPT, 15 - 37 SCFM (425-1048 SLPM)
9006	Oil Removal Filter, 3/4 NPT, 50 - 150 SCFM (1415 - 4248 SLPM)
9008	Pressure Regulator with Gauge, 1/4 NPT, 50 SCFM (1416 SLPM)
9033	Pressure Regulator with Gauge, 1/2 NPT, 100 SCFM (2832 SLPM)
9009	Pressure Regulator with Gauge, 3/4 NPT, 220 SCFM (6230 SLPM)
9020	Solenoid Valve, 120V, 50/60Hz, 1/4 NPT, 40 SCFM (1133 SLPM)
9034	Solenoid Valve, 120V, 50/60Hz, 1/2 NPT, 100 SCFM (2832 SLPM)
9035	Solenoid Valve, 240V, 50/60Hz, 1/2 NPT, 100 SCFM (2832 SLPM)
9036	Solenoid Valve, 120V, 50/60Hz, 3/4 NPT, 200 SCFM (5664 SLPM)
9037	Solenoid Valve, 240V, 50/60Hz, 3/4 NPT, 200 SCFM (5664 SLPM)



Standard Ion Air Knife™

A sheet of ionized air is an effective way to eliminate static and clean parts or materials!

What Is The Standard Ion Air Knife?

EXAIR's Standard Ion Air Knife is an effective way to eliminate static. Like it's "super" counterpart, the Standard Ion Air Knife removes static electricity from plastics, webs, sheet stock and other surfaces where tearing, jamming or hazardous shocks are a problem.

This ionizer uses our original Standard Air Knife to carry ions from an ionizing bar to the charged surface - up to 20 feet (6.1m) away. Though not as efficient as our Super Ion Air Knife (40:1 air amplification), the Standard Ion Air Knife (30:1 air amplification) still provides fast static decay and strong blowoff force for cleaning. Force can be adjusted from a "blast" to a "breeze". The Standard Ion Air Knife is electrically powered, is shockless and has no moving parts.

Why The Standard Ion Air Knife?

When air consumption and noise level are not critical to the application, the lower cost makes the Standard Ion Air Knife a good choice. (To compare the Super Ion Air Knife and Standard Ion Air Knife, see the performance tables on pages 36 and 42.)

Compressed air inlets are provided on each end of the Standard Ion Air Knife. For long spans, multiple Standard Ion Air Knives can be connected end-to-end. This produces an air gap at the connection end of about 2" (5cm). (If no air gap is desired, use the Super Ion Air Knife.) Special length Ionizing Bars up to 120" (3.05m) are available for multiple air knife applications.



The Model 7218 18" (46cm) Standard Ion Air Knife System showers parts with static eliminating ions to prevent personnel shocks.



A Model 7212 12" (30cm) Standard Ion Air Knife System cleans metal frames prior to powder coating.



A Model 7103 3" (8cm) Standard Ion Air Knife removes dust from computer hard disks prior to assembly.

Applications

- Web cleaning
- Molding machinery
- Sheeters and trimmers
- Cleaning parts
- Pre-paint dust removal
- Shrink wrappers
- Package cleaning
- Bag opening/fill operations
- Printing equipment

Advantages

- Reduced air consumption
- 30:1 air amplification
- Low noise level
- Effective up to 20 feet (6.1m)
- Shockless, non-radioactive
- Compact, rugged, easy to install
- Unlimited system lengths
- Low maintenance
- Variable force and flow

Standard Ion Air Knife

Standard Ion Air Knife Performance

Pressure Supply		Air Consumption*		Sound Level	Dissipates 5kV**
PSIG	BAR	SCFM	SLPM	dBA	SECONDS
5	0.3	2.9	82	66	0.55
10	0.7	4.3	122	68	0.40
20	1.4	16	453	69	0.25
40	2.8	24	679	78	0.20
60	4.1	32	906	84	0.18
80	5.5	41	1160	87	0.18
100	6.9	49	1387	90	0.18

* per foot (30cm) of length

** 6" (15cm) from target

Standard Ion Air Knife Specifications

The Standard Ion Air Knife is available in seven standard lengths of 3", 6", 12", 18", 24", 30" and 36" (8, 15, 30, 46, 61, 76 and 91cm). **Special lengths up to 42" (107cm) and unlimited system lengths are available (please contact our factory).** A 5' (1.52m) shielded power cable with ground and assembled bayonet connector are included.

EXAIR Model 7901 or 7907 Power Supply (5 kV) is required for bar operation. Power supplies are equipped with a 6' (1.83m) power cord, lighted power switch and (2) high voltage outlets.

Certifications: Ionizing Bars are UL Component Recognized to U.S. and Canadian safety standards.



Power supplies are UL Listed to U.S. and Canadian safety standards.



Compressed Air: 1/4" NPT inlets are provided on each end.

Electrical: For use with 5 kVrms, 5 milliamperes (max.) power supply, Model 7901 (115V) or 7907 (230V).

Electrical Hazard: Ionizing bars are shockless (less than 40 microamperes short circuited). **Do not use near flammable materials or gases.**

Materials of Construction:

Standard Air Knife: Aluminum

Ionizing Bar Channel: Aluminum

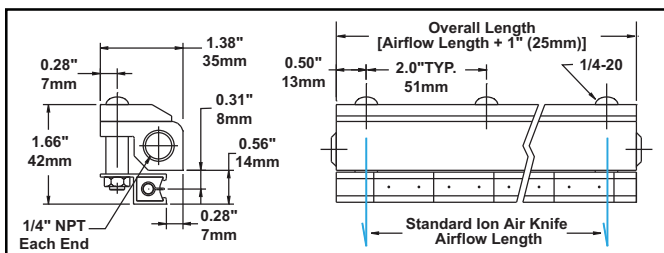
Plastic Parts: UL rated 94 HB

Emitters: Stainless Steel

Maximum Ambient Temperature: 165°F (74°C)

Shims: Thicker shims can be installed easily if additional hard-hitting velocity is required.

Standard Ion Air Knife Dimensions



Standard Ion Air Knife

Standard Ion Air Knife consists of the Standard Air Knife and Ionizing Bar assembly.

Model # Description

7103	3" (8cm) Ion Air Knife
7106	6" (15cm) Ion Air Knife
7112	12" (30cm) Ion Air Knife
7118	18" (46cm) Ion Air Knife
7124	24" (61cm) Ion Air Knife
7130	30" (76cm) Ion Air Knife
7136	36" (91cm) Ion Air Knife

Standard Ion Air Knife Systems

The following systems include a Standard Ion Air Knife and Model 7901 Power Supply (115V, 50/60 Hz).

Model # Description

7203	3" (8cm) Ion Air Knife System
7206	6" (15cm) Ion Air Knife System
7212	12" (30cm) Ion Air Knife System
7218	18" (46cm) Ion Air Knife System
7224	24" (61cm) Ion Air Knife System
7230	30" (76cm) Ion Air Knife System
7236	36" (91cm) Ion Air Knife System

Standard Ion Air Knife Kits

Standard Ion Air Knife Kits include a Standard Ion Air Knife, Model 7901 Power Supply, shim set, filter separator and pressure regulator.

Model # Description

7403	3" (8cm) Ion Air Knife Kit
7406	6" (15cm) Ion Air Knife Kit
7412	12" (30cm) Ion Air Knife Kit
7418	18" (46cm) Ion Air Knife Kit
7424	24" (61cm) Ion Air Knife Kit
7430	30" (76cm) Ion Air Knife Kit
7436	36" (91cm) Ion Air Knife Kit

Special length Ion Air Knives and unlimited system lengths are available. Please contact our factory.

Accessories and Components

See *"Accessories and Components"* on page 40.



Kits include the Standard Ion Air Knife, shim set, Model 7901 Power Supply, filter and regulator.



Ionizing Bars

Low cost Ionizing Bars eliminate static cling.

Compact, rugged design for industrial applications.

What Is The Ionizing Bar?

EXAIR's Ionizing Bar eliminates static electricity on paper, film and plastics that can attract dust and foreign materials, ruin product appearance, produce tearing or jamming, and zap personnel. The electrically powered Ionizing Bar is compact, allowing it to fit in the confined spaces of machinery, where the charge is generated. A high concentration of positive and negative ions produce fast static decay, neutralizing any surface within 2" (5cm) of the bar.

Why The Ionizing Bar?

The unique design of the shockless Ionizing Bar offers improved performance and reliability in industrial applications. Life expectancy has been extended by insertion molding the stainless steel ion emitters into a durable plastic. There are no openings or grooves to accumulate dirt that could cause shorting or arcing. A 5kV power source provides high performance, eliminating frequent burnouts commonly associated with traditional 7kV bars.

The Ionizing Bar includes a five foot shielded cable with ground. A mounting flange is provided for easy installation and all components are fully assembled. Standard lengths up to 48" (122cm) are available from stock and special lengths up to 120" (3.05m), are available by special order. EXAIR Model 7901 or 7907 Power Supply (5kV) is required for bar operation.

The ability to eliminate static can be greatly improved when attaching the Super Air Knife to the Ionizing Bar (*see Super Ion Air Knife*). The Super Ion Air Knife propels the static neutralizing ions over a larger area which is ideal for high speed, high charge applications. Air delivery can also remove dust and clean the product surface.

Applications

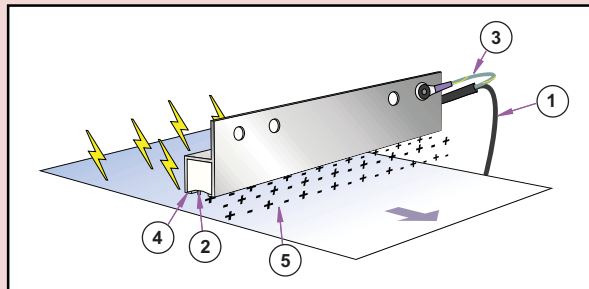
- Labeling
- Bag making - form and fill
- Neutralizing shrink wrap
- Sheet fed and web presses
- Packaging
- Converting machinery
- Neutralizing slitting operations
- Textiles
- Screen printing

Advantages

- Low cost
- Rapid static decay
- Compact
- Effective up to 2" (5cm)
- Shockless, non-radioactive
- Rugged design for industrial environments
- Easy to install, equipped with mounting flange
- Low maintenance
- Fully assembled

Ionizing Bars

How The Ionizing Bar Works



The shielded power cable (1) carries the 5kVrms power supply output to each capacitively coupled stainless steel emitter point (2) of the ionizing Bar. A ground wire (3) attached to the bar creates a discharge path to the emitter points to the bar channel (4). The discharge at each emitter charges the molecules of the gases of the surrounding room air, resulting in a shower of ions that are positively and negatively charged (5). If the material surface has a negative charge, it will attract the positive ions from the ionizing bar and become balanced or neutralized. If the material surface has a positive charge, it will attract the negative ions from the ionizing bar to become balanced or neutralized. **The voltage potential at each emitter is high enough to ionize the surrounding air without generating a shock when any of the emitters are touched.**

Ionizing Bar Performance

	Distance From Charged Surface		
	0.5" (13mm)	1.0" (25mm)	2.0" (51mm)
Dissipates 5kV* (seconds)	0.12	0.18	0.30

* Model 7006 6" (15cm) Ionizing Bar tested

Ionizing Bars

All Ionizing Bars include a 5' (1.52m) length of shielded cable and assembled connector. For other cable lengths, please contact the factory.

Model #	Description
7003	3" (8cm) Ionizing Bar
7006	6" (15cm) Ionizing Bar
7012	12" (30cm) Ionizing Bar
7018	18" (46cm) Ionizing Bar
7024	24" (61cm) Ionizing Bar
7030	30" (76cm) Ionizing Bar
7036	36" (91cm) Ionizing Bar
7042	42" (107cm) Ionizing Bar
7048	48" (122cm) Ionizing Bar

Special Ionizing Bar lengths up to 120" (3.05m) are available (please contact the factory).

Accessories and Components

Model #	Description
7901	Power Supply Only (115V, 50/60Hz)
7902	Extension Cable, 5' (1.52m) length
7905	Static Meter
7907	Power Supply Only (230V, 50/60Hz)

Ionizing Bar Specifications

EXAIR Model 7901 or 7907 Power Supply (5 kV) is required for operation. Power supplies are equipped with a 6' (1.83m) power cord, lighted power switch and (2) high voltage outlets.

Certifications: Ionizing Bars are UL Component Recognized to U.S. and Canadian safety standards.



Power supplies are UL Listed to U.S. and Canadian safety standards.



Materials of Construction:

Ionizing Bar Channel: Aluminum

Plastic Parts: UL rated 94 HB

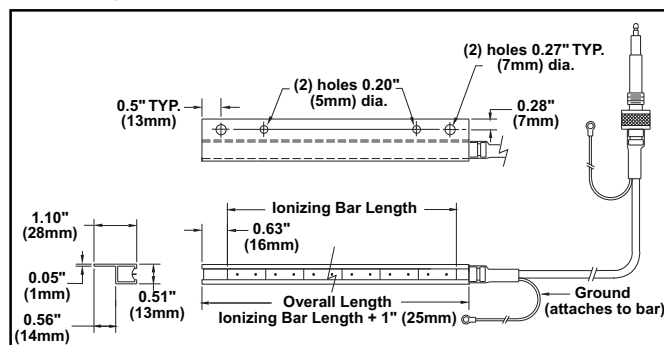
Emitters: Stainless Steel

Electrical: For use with 5 kVrms, 5 milliamperes (max.) power supply, Model 7901 (115V) or 7907 (230V).

Electrical Hazard: Shockless (less than 40 microamperes short circuited). **Do not use near flammable materials or gases.**

Maximum Ambient Temperature: 165°F (74°C)

Ionizing Bar Dimensions



**Model 7006
6" (15cm)
Ionizing Bar and
Model 7901
Power Supply.**

Ion Air Cannon™

Concentrated flow of ionized air removes static and dust!



What Is The Ion Air Cannon?

EXAIR's Ion Air Cannon neutralizes static electricity and cleans at distances up to 15 feet (4.6m) with no moving parts. It is ideal for those hard to reach spaces or confined areas that require a concentrated flow of static eliminating ions. With an optional pressure regulator, the air volume and velocity are infinitely adjustable over a wide range, for light to heavy duty applications.

Why The Ion Air Cannon?

The Ion Air Cannon will **maximize ionized airflow while minimizing compressed air consumption**. A small amount of compressed air is used to entrain a high volume flow of surrounding air. This combined stream is ionized by an emitter point (shockless) and delivered to the charged surface. A hose or tube can be connected to the air intake of the Ion Air Cannon to draw quality air from another area. It requires only 10 PSIG (0.7 BAR) for most applications.

The compact design saves bench space and allows mounting in confined areas. The sturdy stand is pre-drilled and can be wall, bench or machine mounted. It incorporates a swivel adjustment for directing the airflow.



A Model 7292 Ion Air Cannon System removes static and dust from glove box inserts prior to flocking or painting.

Static Eliminators

Applications

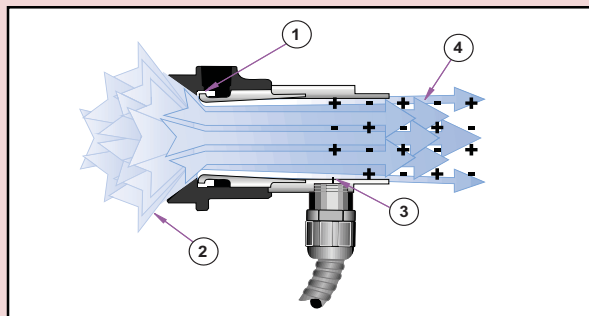
- Bag opening - form and fill
- Clean and neutralize three dimensional parts
- Neutralizing shrink wrap
- Cleaning molded parts
- Removing static on electronic assemblies
- Pre-paint dust removal
- Neutralizing slitting operations
- Package cleaning
- Container neutralization

Advantages

- Low air consumption
- Rapid static decay
- Quiet
- Effective up to 15 feet (4.6m)
- Shockless, non-radioactive
- Compact, rugged, easy to install
- Intake can be ducted
- No moving parts - low maintenance
- Variable force and flow

Ion Air Cannon

How The Ion Air Cannon Works



The Ion Air Cannon incorporates a Super Air Amplifier* and ionizing collar, energized by a power supply. A small amount of compressed air is injected into the barrel of the cannon (1) inducing a high volume flow of surrounding air to flow through it (2). An emitter point at the discharge end of the cannon (3) ionizes the entire airstream. The result is a high volume, conical flow of ionized air (4) capable of eliminating static and cleaning at distances up to 15 feet (4.6m). Because more than 90% of the ionized air is induced, the **Ion Air Cannon produces maximum airflow at minimum air consumption.**

Ion Air Cannon Performance

Pressure Supply		Air Consumption		Sound Level	Dissipates 5kV*
PSIG	BAR	SCFM	SLPM	dBA	SECONDS
20	1.4	5.7	161	58	0.75
40	2.8	9.0	255	64	0.60
60	4.1	12.2	345	70	0.50
80	5.5	15.5	439	72	0.43
100	6.9	18.7	529	74	0.37

* 12" (30cm) from target

Ion Air Cannon

Model #	Description
7192	Ion Air Cannon includes Super Air Amplifier, Emitter, Stand, and 5' (1.52m) length of shielded cable
7292	Ion Air Cannon and Power Supply
7492	Ion Air Cannon Kit

Accessories and Components


Model #	Description
7901	Power Supply Only (115V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum.
7902	Extension Cable, shielded, 5' (1.52m) length (1 male and 1 female fitting)
7905	Static Meter
7907	Power Supply Only (230V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum.
9001	Auto Drain Filter Separator, 3/8 NPT, 65 SCFM (1841 SLPM)
9008	Pressure Regulator with Gauge, 1/4 NPT, 50 SCFM (1416 SLPM)

*Patent #5402938

Ion Air Cannon Specifications

EXAIR Model 7901 or 7907 Power Supply (5 kV) is required for operation. Power supplies are equipped with a 6' (1.83m) power cord, lighted power switch and (2) high voltage outlets.

Certifications: The Ion Air Cannon is UL Component Recognized to U.S. and Canadian safety standards. 

Power supplies are UL Listed to U.S. and Canadian safety standards. 

Compressed Air: 3/8" NPT inlet provided

Materials of Construction:

- Air Cannon: Aluminum
- Ionizing Collar: Aluminum
- Plastic Parts: UL rated 94 HB
- Emitter: Stainless Steel

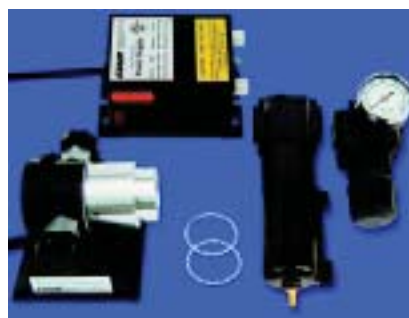
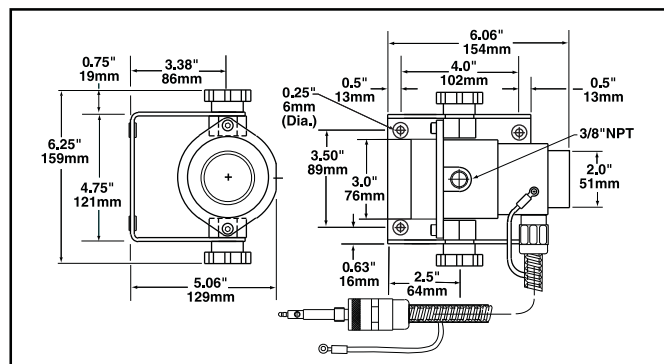
Electrical: For use with 5 kVrms, 5 milliamperes (max.) power supply, Model 7901 (115V) or 7907 (230V).

Electrical Hazard: Shockless (less than 40 microamperes short circuited). **Do not use near flammable materials or gases.**

Maximum Ambient Temperature: 165°F (74°C)

Shims: Thicker shims can be installed easily if additional hard-hitting velocity is required.

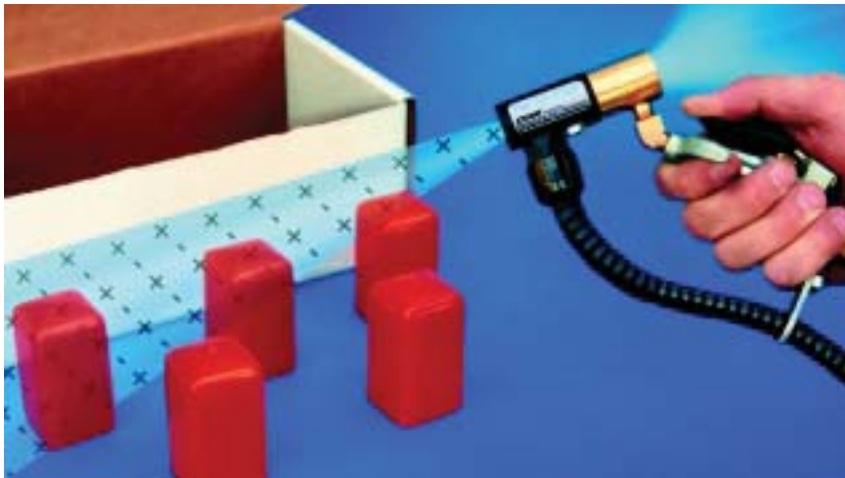
Ion Air Cannon Dimensions



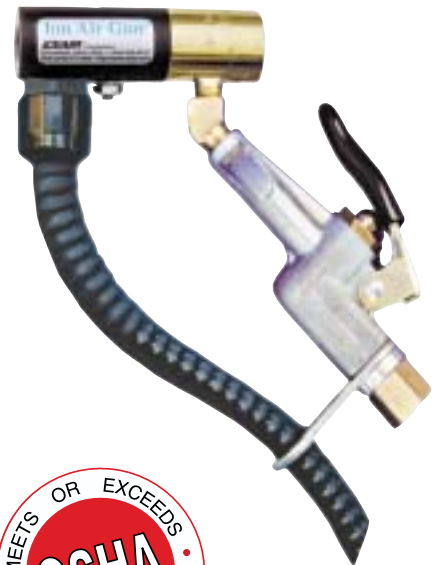
Model 7492 Ion Air Cannon Kit includes the Ion Air Cannon, shim set, Model 7901 Power Supply, filter and pressure regulator.

Ion Air Gun[™]

Rugged, ergonomic gun is a lightweight, effective spot cleaner!



The Model 7293 Ion Air Gun System neutralizes and cleans plastic parts prior to packaging.



What Is The Ion Air Gun?

EXAIR's Ion Air Gun combines incredibly fast static decay rates with low compressed air consumption. It is the ideal way to remove static, contaminants and dust from three dimensional parts prior to assembly, packaging, painting or finishing. The Ion Air Gun neutralizes static electricity and cleans at distances up to 15 feet (4.6m).

Why The Ion Air Gun?

The Ion Air Gun induces surrounding airflow through the gun at a ratio of 5:1, minimizing compressed air use and maximizing ionized airflow. The force can be adjusted from a "blast" to a "breeze". A comfortable grip and hand position allows hours of continuous use without fatigue.

The Ion Air Gun is quiet, lightweight and features a hanger hook for easy storage. The 10 foot (3m) shielded power cable is extremely flexible, designed for rugged industrial use.

Applications

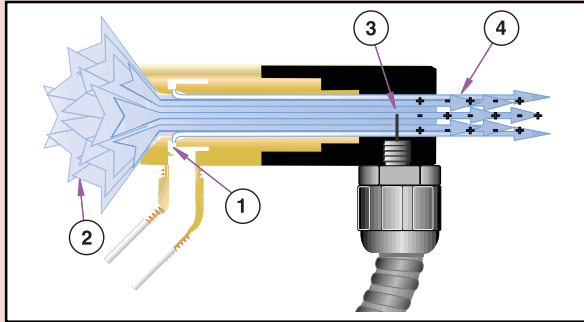
- Pre-paint dust removal
- Clean and neutralize three dimensional parts
- Optics
- Cleaning molded parts
- Photo finishing
- Lens cleaning
- Furniture finishing
- Package cleaning
- Container neutralization

Advantages

- Rugged, lightweight, easy to use
- Rapid static decay
- Low air consumption
- Quiet
- Effective up to 15 feet (4.6m)
- Shockless, non-radioactive
- Strong blowoff force and flow
- Low maintenance
- Meets OSHA pressure and noise level requirements

Ion Air Gun

How The Ion Air Gun Works



The Ion Air Gun incorporates a High Velocity Air Jet and electrically energized emitter point. A small amount of compressed air is injected into the air jet (1) inducing a high volume flow of surrounding air (2) to pass through it. The emitter point (shockless) at the discharge end of the gun (3) ionizes the entire airstream. **The result is a high volume flow of ionized air (4) capable of neutralizing high static charges in fractions of a second.** An optional filter and regulator cleans the compressed air and allows infinite adjustment of airflow and velocity.

Ion Air Gun Specifications

EXAIR Model 7901 or 7907 Power Supply (5 kV) is required for operation. Power supplies are equipped with a 6' (1.83m) power cord, lighted power switch and (2) high voltage outlets.

Certifications: The Ion Air Gun is UL Component Recognized to U.S. and Canadian safety standards.



Power supplies are UL Listed to U.S. and Canadian safety standards.



Compressed Air: 1/4" NPT inlet provided

Materials of Construction:

Metal Parts: Brass, Zinc and Stainless Steel

Plastic Parts: UL rated 94 HB

Emitter: Stainless Steel

Electrical: For use with 5 kVrms, 5 milliamperes (max.) power supply, Model 7901 (115V) or 7907 (230V).

Electrical Hazard: Shockless (less than 40 microamperes short circuited). **Do not use near flammable materials or gases.**

Maximum Ambient Temperature: 165°F (74°C)

Ion Air Gun Performance

Pressure Supply		Air Consumption		Sound Level	Dissipates 5kV*
PSIG	BAR	SCFM	SLPM	dBA	SECONDS
20	1.4	4.8	136	67	0.45
40	2.8	7.5	212	74	0.33
60	4.1	10.3	291	79	0.24
80	5.5	13	368	82	0.18
100	6.9	15.7	444	85	0.18

* 6" (15cm) from target

Ion Air Gun

Model #	Description
7193	Ion Air Gun Only includes 10' (3m) shielded cable*
7293	Ion Air Gun and Power Supply
7493	Ion Air Gun Kit

* For special length cables, please contact the factory.

Accessories and Components

Model #	Description
7901	Power Supply Only (115V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum
7905	Static Meter
7907	Power Supply Only (230V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum
9001	Auto Drain Filter Separator, 3/8 NPT, 65 SCFM (1841 SLPM)
9005	Oil Removal Filter, 3/8 NPT, 15 - 37 SCFM (425 - 1048 SLPM)
9008	Pressure Regulator with Gauge, 1/4 NPT, 50 SCFM (1416 SLPM)



80% of the delivered air is induced, minimizing air consumption of the Ion Air Gun.



Model 7493 Ion Air Gun Kit includes the Ion Air Gun, Model 7901 Power Supply, filter and pressure regulator.



Ion Air Jet



Ion Air Jet™

Air saving Ion Air Jet is an effective spot cleaner!

Choose permanent mount or flexible hose with base!

What Is The Ion Air Jet?

EXAIR's new Ion Air Jet delivers a concentrated airflow that can cover a precise spot without disturbing other areas. This quiet, focused airstream provides incredibly fast static decay rates and cleaning ability. The Ion Air Jet is the ideal way to remove static and dust from small parts prior to shrink wrapping, packaging, printing, painting or finishing.

Why The Ion Air Jet?

The Ion Air Jet induces surrounding airflow at a ratio of 5:1, minimizing compressed air use and maximizing ionized airflow. Force can be adjusted from a "blast" to a "breeze".

Your Choice Of Permanent Mount or Flexible Stay Set™ Hose

For permanent mount applications, the compact Ion Air Jet is the best choice since it is lightweight and easy to install using the 1/8 NPT male inlet. For applications where frequent repositioning is required, the flexible Stay Set Ion Air Jet is ideal. This version can be placed in close proximity and the hose bent to aim the ionized airstream at the localized area. Since the hose has "memory" it will not creep or bend, always keeping the aim until physically moved to the next position.

The Stay Set Ion Air Jet comes complete with a magnetic base that allows easy mounting and portability on a machine, a bench or other surface. A shutoff valve on the base provides infinite control of the force and flow. For hands free operation, an optional Model 9040 Foot Pedal (requires floor or machine mounting) is available.



The Model 7294 Ion Air Jet and Power Supply neutralize and clean mouthwash bottles before installing the tamper-proof seal.



The Model 7494-9362 Stay Set Ion Air Jet Kit cleans dust from a glass lens prior to installation on a gauge.



The optional Model 9040 Foot Pedal provides convenient hands free operation.

Applications	Advantages
<ul style="list-style-type: none"> • Three dimensional parts • Bottle cleaning • Screen printing • Shrink bands • Ink jet printing • Part cleaning • Package cleaning 	<ul style="list-style-type: none"> • Low cost • Rapid static decay • Quiet • Shockless, non-radioactive • Compact, rugged, easy to install • Stay Set Hose for accurate positioning • Low air consumption



Static Eliminators

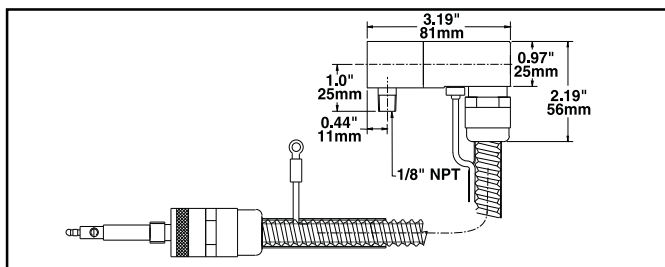
Ion Air Jet

Ion Air Jet Performance

Pressure Supply		Air Consumption		Sound Level	Dissipates 5kV*
PSIG	BAR	SCFM	SLPM	dBA	SECONDS
20	1.4	4.8	136	67	0.45
40	2.8	7.5	212	74	0.33
60	4.1	10.3	291	79	0.24
80	5.5	13	368	82	0.18
100	6.9	15.7	444	85	0.18

* 6" (15cm) from target

Ion Air Jet Dimensions



Ion Air Jet

Model #	Description
7194	Ion Air Jet Only includes 5' (1.52m) shielded cable*
7294	Ion Air Jet and Power Supply includes Ion Air Jet and Model 7901 Power Supply (115V, 50/60 Hz).
7494	Ion Air Jet Kit includes Ion Air Jet, Model 7901 Power Supply (115V, 50/60 Hz), filter and pressure regulator.

Stay Set Ion Air Jet

Model #	Description
7194-9362	Stay Set Ion Air Jet includes 5' (1.52m) shielded cable*, one outlet magnetic base with shutoff valve, and 12" (30cm) Stay Set Hose.
7294-9362	Stay Set Ion Air Jet and Power Supply includes the same as above and Model 7901 Power Supply (115V, 50/60 Hz).
7494-9362	Stay Set Ion Air Jet Kit includes Stay Set Ion Air Jet, Power Supply (115V, 50/60 Hz), filter and pressure regulator.

* For special length cables, please contact the factory.

Accessories and Components

Model #	Description
7901	Power Supply Only (115V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum
7905	Static Meter
7907	Power Supply Only (230V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum
9001	Auto Drain Filter Separator, 3/8 NPT, 65 SCFM (1841 SLPM)
9008	Pressure Regulator with Gauge, 1/4 NPT, 50 SCFM (1416 SLPM)
9040	Foot Pedal, 1/4 NPT, 60 SCFM (1698 SLPM)

How The Ion Air Jet Works

The Ion Air Jet functions the same as the Ion Air Gun without the blowgun handle. For details on how it works, see page 48 "How The Ion Air Gun Works".

Ion Air Jet Specifications

EXAIR Model 7901 or 7907 Power Supply (5 kV) is required for operation. Power supplies are equipped with a 6' (1.83m) power cord, lighted power switch and (2) high voltage outlets.

Certifications: The Ion Air Jet is UL Component Recognized to U.S. and Canadian safety standards.



Power supplies are UL Listed to U.S. and Canadian safety standards.



Compressed Air: 1/8" NPT inlet provided

Materials of Construction:

- Metal Parts: Brass and Stainless Steel
- Plastic Parts: UL rated 94 HB
- Emitter: Stainless Steel

Electrical: For use with 5 kVrms, 5 milliamperes (max.) power supply, Model 7901 (115V) or 7907 (230V).

Electrical Hazard: Shockless (less than 40 microamperes short circuited). **Do not use near flammable materials or gases.**

Maximum Ambient Temperature: 165°F (74°C)



Model 7494 Ion Air Jet Kit includes the Ion Air Jet, Model 7901 Power Supply, filter and pressure regulator.



Model 7494-9362 Stay Set Ion Air Jet Kit includes the Stay Set Ion Air Jet, Model 7901 Power Supply, filter and pressure regulator.



Ionizing Point™

Single point ionizer for spot neutralization!

What Is The Ionizing Point?

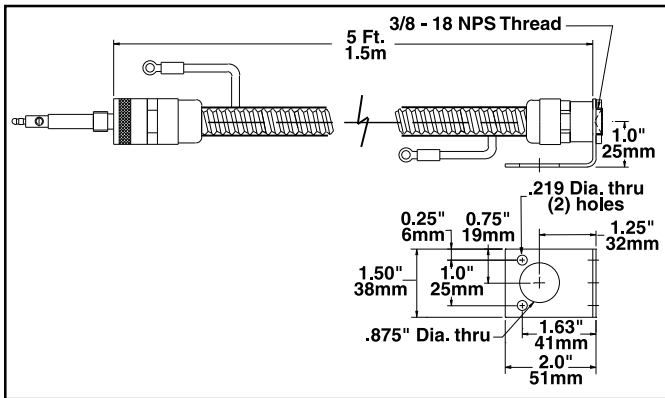
EXAIR's new **Ionizing Point** is a compact, single point ionizer ideal for winding, rewinding or slitting operations. It can also be mounted through a duct to neutralize static charges due to moving air or materials.

The shockless Ionizing Point delivers a high concentration of positive and negative ions for fast static decay. It can neutralize any surface within 2" (5cm).

Ionizing Point Performance

	Distance From Charged Surface		
	0.5" (13mm)	1.0" (25mm)	2.0" (51mm)
Dissipates 5kV (seconds)	0.12	0.18	0.24

Ionizing Point Dimensions



Ionizing Point

Model #	Description
7199	Ionizing Point includes 5' (1.52m) shielded cable*
7299	Ionizing Point and Power Supply

* For special length cables, please contact the factory.

Accessories and Components

Model #	Description
7901	Power Supply Only (115V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum
7905	Static Meter
7907	Power Supply Only (230V, 50/60 Hz, 2 outlets) Output: 5 kVrms, 5 milliamperes maximum



Ionizing Point Specifications

EXAIR Model 7901 or 7907 Power Supply (5 kV) is required for operation. Power supplies are equipped with a 6' (1.83m) power cord, lighted power switch and (2) high voltage outlets.

Certifications: The Ionizing Point is UL Component Recognized to U.S. and Canadian safety standards.



Power supplies are UL Listed to U.S. and Canadian safety standards.



Materials of Construction:

- Metal Parts: Steel (bracket) and Stainless Steel
- Plastic Parts: UL rated 94 HB
- Emitter: Stainless Steel

Electrical: For use with 5 kVrms, 5 milliamperes (max.) power supply, Model 7901 (115V) or 7907 (230V).

Electrical Hazard: Shockless (less than 40 microamperes short circuited). **Do not use near flammable materials or gases.**

Maximum Ambient Temperature: 165°F (74°C)



Model 7299 Ionizing Point System includes the Ionizing Point, Model 7901 Power Supply and mounting bracket.

Applications

- Winding
- Rewinding
- Slitting
- Neutralizing ducted air

Advantages

- Low cost
- Rapid static decay
- Shockless, non-radioactive
- Compact

Static Meter and AC Sensor

Static Meter

Locate the source of the static problem!



Digital Static Meter Locates The Source!

The **Model 7905 Digital Static Meter** allows easy one-hand static measurements. In most cases, the highest voltage reading will indicate the source of the static problem. Sensitive and responsive, it indicates the surface voltage and polarity on objects up to ± 20 kV when measured one inch (25mm) away.

The Digital Static Meter features a push button "hold" for readings, a low battery indicator and an automatic "power off". A "zero" button to zero the instrument ensures an accuracy of $\pm 5\%$ of the reading when it is one inch (25mm) from the charged surface.



The Model 7905 Digital Static Meter comes complete with a hard-shell plastic case and a 9 volt battery. Certification of the accuracy and calibration traceable to NIST (National Institute of Standards) is also included.

AC Sensor

Verify the presence of voltage!



Locate energized circuits, defective grounds and induced voltages!



Detect The Presence Or Absence Of Voltage!

The **Model 7929 AC Sensor** provides non-contact verification that a voltage is present. The tip glows bright red when voltage is detected.

The AC Sensor is an ideal way to make sure there is power going to your ionizer. It can also be used to test wall receptacles, switches, fuses, junction boxes and more. It is even possible to locate electricity through insulation, making it ideal for finding breaks in power cords and wires. *(Batteries included)*

