EXAIR® Corporation
MANUFACTURING INTELLIGENT COMPRESSED AIR® PRODUCTS SINCE 1983
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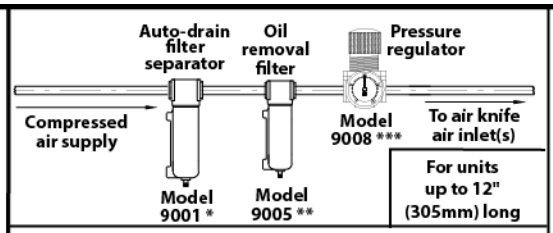
SUPER ION AIR KNIFE™ INSTALLATION & MAINTENANCE

ACCESSORIES

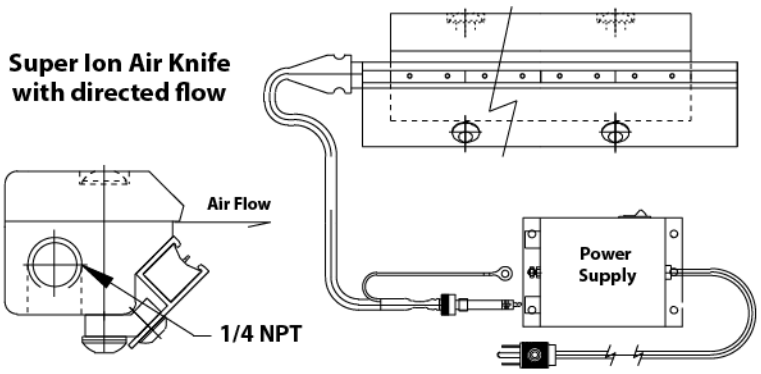


* Use Model 9032 for 18" (457mm) & 24" (610mm) units, Model 9002 for 30" (762mm) to 54" (1372mm) and Model 9066 for units larger than 54" (1372mm).

** Use Model 9006 Oil Removal Filter for units 18" (457mm) to 54" (1372mm) and Model 9010 for units longer than 54".

*** Use Model 9033 Pressure Regulator for 18" (457mm) and 24" (610mm) lengths, Model 9009 for 30" (762mm) to 54" (1372mm) and Model 9067 for units longer than 54" (1372mm).

SUPER ION AIR KNIFE



COMPRESSED AIR LINE SIZES

Compressed air lines should be sized to hold pressure drops to a minimum. Do not use restrictive fittings or undersized lines that can "starve" the Super Ion Air Knife.

The following chart shows the recommended infeed pipe sizes. If compressed air hose is used, always go one size larger than the recommended pipe size due to the smaller I.D. of hose. (Example: Consider 1/2" I.D. hose the equivalent of 3/8" pipe.)

Super Ion Air Knife Length	Model Number	Infeed Pipe Size Length of Run		
		10' (3m)	50' (15.2m)	100' (30.5m)
3" (76mm)	111003	1/4"	3/8"	1/2"
6" (152mm)	111006	1/4"	3/8"	1/2"
9" (229mm)	111009	3/8"	1/2"	3/4"
12" (305mm)	111012	3/8"	1/2"	3/4"
18" (457mm)	111018	1/2"	3/4"	1"
24" (610mm)	111024	1/2"	3/4"	1"
30" (762mm)	111030	3/4"	1"	1"
36" (914mm)	111036	3/4"	1"	1"
42" (1067mm)	111042	3/4"	1"	1-1/4"
48" (1219mm)	111048	3/4"	1"	1-1/4"
54" (1372mm)	111054	3/4"	1"	1-1/4"
60" (1524mm)	111060	1"	1-1/4"	1-1/4"
72" (1829mm)	111072	1"	1-1/4"	1-1/2"
84" (2134mm)	111084	1"	1-1/4"	1-1/2"
96" (2438mm)	111096	1-1/4"	1-1/4"	1-1/2"
108" (2743mm)	1110108	1-1/4"	1-1/2"	2"

EXAIR Super Ion Air Knife is UL Component Recognized to U.S. and Canadian safety standards.

Power supplies are UL Listed to U.S. and Canadian safety standards. There are no user serviceable parts inside.

Power Supplies meet the requirements of applicable European Directive(s).

COMPRESSED AIR SUPPLY

The Super Ion Air Knife has compressed air inlets on each end and on the bottom. Lengths 24" (610mm) and longer should be supplied at two inlets (opposite ends) to maintain a balanced airflow. An additional center inlet is provided on the bottom of the 48" (1219mm) and 54" (1372mm) lengths. With proper filtration and separation of dirt, moisture and oil from the compressed air supply, the Super Ion Air Knife will operate for years with no maintenance required. Use a 5 micron or smaller filter separator on the compressed air supply. Use Model 9001 Automatic Drain Filter Separator for units up to 12" (305mm), Model 9032 for 18" (457mm) & 24" (610mm) units, Model 9002 for 30" (762mm) to 54" (1372mm) units and Model 9066 for all other units larger than 54" (1372mm). To prevent problems associated with oil, use an oil removal filter. Use a 0.03 micron or smaller oil removal filter on the compressed air supply. Use Model 9005 Oil Removal Filter for units up to 12" (305mm), Model 9006 for units 18" (457mm) to 54" (1372mm) and Model 9010 for units longer than 54" (1372mm). The oil removal filter should be used downstream from the automatic drain filter separator. Filters should be used close to each Super Ion Air Knife, within 10 to 15' (3 to 4.6m) is best. The Super Ion Air Knife is designed to use normal shop air supplies up to 100 PSIG (6.9 BAR, 689 kPa). For infinite control of flow and force, pressure may be regulated. Use Model 9008 Pressure Regulator for lengths up to 12" (305mm), Model 9033 for 18" (457mm) and 24" (610mm) lengths, Model 9009 for 30" (762mm) to 54" (1372mm) and Model 9067 for units longer than 54" (1372mm). Super Ion Air Knives are designed for 250 PSIG (17.2 BAR, 1.72 MPa) Max.

USING THE SUPER ION AIR KNIFE

The Model 9060 Universal Air Knife Mounting System (included in deluxe kits or sold separately) can be articulated into any position to provide secure, precise positioning for any air knife. The air knife can also be supported by the compressed air pipe or by using the ¼-20 threaded holes on the bottom.
Connect the ground terminal to the power supply. Screw power cable into power supply. Upon installation, the ionizer cable should be isolated from grounded metal surfaces by using non-conductive stand-offs/wire ties by at least 1″ of air gap. Alternatively, the ionizer cable can be shielded in plastic conduit with dielectric strength equivalent to at least 1″ of air (approximately 75kV/inch).

The Super Ion Air Knife should be located at a point after the material has received its static charge. If the treated material is subjected to additional friction, it may build up another static charge and additional Super Ion Air Knives may be needed. The Super Ion Air Knife should be placed so that the sheet of air flows across the material to be treated. The ionized air will eliminate the static charge from the surface it touches. Mounting the Super Ion Air Knife close to the surface gives the best static elimination. It may be located above or below the material. When the static charge is extremely high or the material is moving at high speeds, it may be necessary to place a Super Ion Air Knife on both sides of the material. The ionizing bar is shockless and may be touched without injury.

The Super Ion Air Knife and Power Supply Should Not Be Used In An Explosive Or Flammable Area.

ELECTRICAL SUPPLY

The Model 7901 Power Supply (two outlet) and Model 7940 Power Supply (four outlet) require a 115V, 50/60Hz source. The Model 7907 Power Supply (two outlet) and Model 7941 Power Supply (four outlet) require a 230V, 50/60Hz source. For proper operation, the Super Ion Air Knife and power supply must be properly grounded. If the unit is not grounded, the Super Ion Air Knife will produce a shock and will not function properly. The ground terminal must be connected to the grounding wire of the Super Ion Air Knife. A common ground to a machine can be obtained by attaching the metal of the Super Ion Air Knife and power supply to the metal frame of the machine.

TROUBLESHOOTING & MAINTENANCE

If There Is A Reduction In Flow Or Force From The Super Ion Air Knife, check the pressure by installing a gauge in one of the unused inlets. Large pressure drops are possible due to undersized lines, restrictive fittings and clogged filter elements.

For replacement or repair filter and regulator parts, contact EPUTEC at +49 8191 91 51 19 0 or info@eputec.de.

SUPER ION AIR KNIFE SHIM SET

Force and flow through the Super Ion Air Knife may be easily increased by adding shims to open the air gap. The Super Ion Air Knife is supplied with a .002" (.05mm) thick shim installed. It sets the air slot to a .002" (.05mm) opening. To increase the air gap, use a shim set (included with Super Ion Air Knife Kits). A shim set includes 3 shims, 1 each of .001", .003" and .004" (.03, .08 and .10mm) thicknesses. By changing and stacking them, gaps may be set from .001" to .010" (.03 to .25mm). Individual shims are available.

To change shims, remove the assembly bolts. Inspect the Super Ion Air Knife and shim(s) to assure no dust, dirt or chips are on matching surfaces or in the plenum chamber. Replace or add a shim(s), and re-tighten bolts. Note that mating parts (body & cap) do not align flush. The flat surface of the cap extends past the body to direct the airflow in a perfectly straight line. The air opening cannot be dead-ended, which meets OSHA requirements.

CLEANING

If contaminants have clogged the Super Ion Air Knife, inspect the unit by disassembling. The Super Ion Air Knife consists of an ionizing bar attached to a Super Air Knife. Between the two component parts of the Super Air Knife is a shim that sets the gap the compressed air exhausts through. This shim is usually .002" (.05mm) thick although thicker shims can be used. Inspect each part for dust or dirt contamination and a possible oil film in the area of the slotted nozzle. Clean each part and re-tighten bolts to 7.5 ft/lbs. Tighten bolts in sequence starting from one end and work towards the opposite end.

The best method to determine how well the Super Ion Air Knife is working is with the Model 7905 Static Meter. The static meter is easy to use and will accurately display the charge on a surface without touching it. To do this, simply measure the charge on the surface before ionizing (power supply and air off). Then, ionize the surface (power supply and air on). Measure the surface again. A "zero" volt reading indicates that the Super Ion Air Knife is working properly. If a charge is still present, this may indicate the need for cleaning.

Keeping the ionizing bar free of moisture and dirt is very important to its effectiveness and life-span. A simple cleaning operation added to your planned maintenance schedule can eliminate potential performance problems. The frequency of cleaning required will depend upon the environment in which the ionizer is installed. Dirty industrial applications may require daily cleaning while clean-room applications may require only monthly cleaning. It is important to evaluate the cleaning needs of each individual ionizer installation.

A soft bristle brush (a toothbrush works well) should be used to clean the emitter points and channel to remove any particulate. Do not use anything that will bend or dull the emitter points. Do not use any soaps or liquid cleaners that will leave a conductive residue. They can destroy the effectiveness of the ionizing bar.

Never Clean An Ionizer With The Power On!

Periodic cleaning will keep your ionizer operating at peak performance for the life of the unit.
If you have any questions or problems, please contact:

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