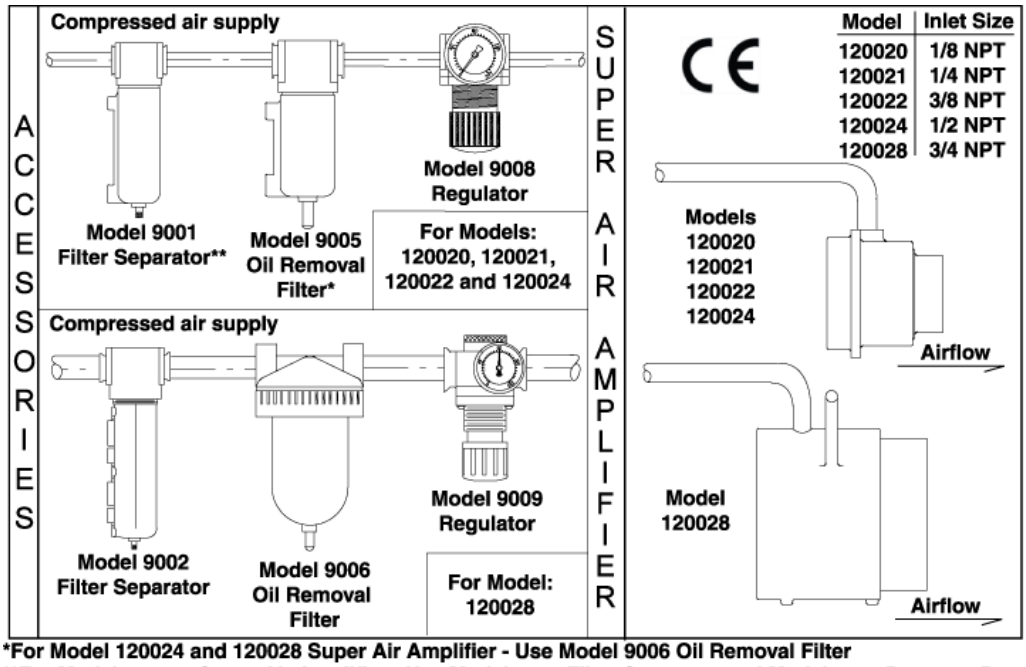
EXAIR® Corporation
11510 Goldcoast Drive ▪ Cincinnati, OH, USA 45249-1621
(513) 671-3322 ▪ FAX (513) 671-3363 ▪ E-mail: techelp@exair.com

SUPER AIR AMPLIFIER INSTALLATION & MAINTENANCE



*For Model 120024 and 120028 Super Air Amplifier - Use Model 9006 Oil Removal Filter
**For Model 120024 Super Air Amplifier - Use Model 9032 Filter Separator and Model 9033 Pressure Regulator

COMPRESSED AIR LINE SIZES

For small Super Air Amplifiers (Model 120020, 120021, 120022), use 1/4" pipe or 3/8" hose for runs up to 25' (7.6m) long. For runs up to 50' (15.2m), use 3/8" pipe or 1/2" hose and for runs over 50' (15.2m), use 1/2" pipe or larger. Do not use restrictive fittings that can "starve" the Super Air Amplifier by causing excessive line pressure drop. For larger Super Air Amplifiers (Model 120024, 120028), use a supply pipe equal to or greater than the compressed air inlet of the Super Air Amplifier.

COMPRESSED AIR SUPPLY

With proper filtration and separation of dirt, moisture and oil from the compressed air supply, the Super Air Amplifier will operate for years with no maintenance required.

Use a 5 micron or smaller filter separator on the compressed air supply (Model 9001 Automatic Drain Filter Separator for Model 120020, 120021, and 120022, Model 9032 Automatic Drain Filter Separator for Model 120024 and Model 9002 Automatic Drain Filter Separator for Model 120028).

To prevent problems associated with oil, use an oil removal filter (Model 9005 Oil Removal Filter for Model 120020, 120021, 120022, Model 9006 Oil Removal Filter for Model 120024 and 120028.). Use a 0.03 micron or smaller oil removal filter on the compressed air supply. The oil removal filter should be used downstream from the automatic drain filter separator. Filters should be used close to each Super Air Amplifier, within 10 to 15' (3 to 4.6m) is best.

Super Air Amplifiers are 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 (Model 9008 Pressure Regulator for Model 120020, 120021 and 120022, Model 9033 Pressure Regulator for Model 120024 and Model 9009 Pressure Regulator for Model 120028). Super Air Amplifiers are designed for 250 PSIG (17.2 BAR, 1.72 MPa) Max.

If air preparation units other than EXAIR models are being used, please note the following:

- PRESSURE REGULATORS – Must be pressure relieving and rated for a supply pressure of 250 PSIG (17.2 BAR, 1.72 MPa). Suggested operating pressure is 5-125 PSIG (0.3-8.6 BAR, 34-862 kPa). For Models 120020, 120021 & 120022, flow should be minimum 50 SCFM (1416 SLPM). For Model 120024, flow should be minimum 90 SCFM (2549 SLPM). For Model 120028, flow should be minimum 185 SCFM (5239 SLPM).
- AUTO DRAIN FILTER SEPARATORS – Must be rated for a supply pressure of 250 PSIG (17.2 BAR, 1.72 MPa) and have 5 micron filtration. For Models 120020, 120021 & 120022, flow should be minimum 50 SCFM (1416 SLPM). For Model 120024, flow should be minimum 90 SCFM (2549 SLPM). For Model 120028, flow should be minimum 185 SCFM (5239 SLPM).

- OIL REMOVAL FILTERS – Must be rated for a supply pressure of 250 PSIG (17.2 BAR, 1.72 MPa) and have 0.03 micron filtration. For Models 120020, 120021 & 120022, flow should be minimum 37 SCFM (1048 SLPM). For Models 120024 and 120028, flow should be minimum 185 SCFM (5239 SLPM).

USING SUPER AIR AMPLIFIERS

In most cases, the Super Air Amplifier will be supported by the compressed air supply pipe. It can be mounted by using the holes that are provided. (Model 120028 has a handle and is portable.)

For blowoff, the blast of air is aimed at the target surface. For removal of dust, smoke or fumes, a hose may be attached to either or both ends of the Super Air Amplifier. For conveying small parts, the Super Air Amplifier should be mounted at the point of suction.

Note: Sharp edges might be present on any of these products. Please take appropriate precautions when handling.

HOW SUPER AIR AMPLIFIERS WORK

Super Air Amplifiers produce a high volume, high velocity blast of air. They use compressed air as a power source and have no moving parts. The compressed air (primary air) exhausts through a ring nozzle, usually a .003" (.08mm) opening. The exception is the Model 120028 8" Super Air Amplifier which has a .009" (.23mm) opening. This small gap produces a thin ring of high velocity air. This ring of air gives up velocity to induce mass flow of surrounding air (secondary air) in large volumes. This secondary air is pulled through one end (vacuum end), mixes with the primary air, then exhausts from the other end giving a concentrated blast.

Compared to most nozzles and open air lines, Super Air Amplifiers reduce compressed air consumption and lower sound levels. They usually pay out in less than three months, including installation costs.

SHIM SET

If force or vacuum is too low, shims may be interchanged between the component parts. This will dramatically increase vacuum, outlet flow and force.

The Super Air Amplifier is supplied with a .003" (.08mm) thick shim installed, a .009" (.23mm) for Model 120028. It sets the air gap to a .003" (.08mm) opening, a .009" (.23mm) for Model 120028. To increase the air gap, use a shim set. Individual shims are also available.

To change shims, unscrew plug from body (use of a pin wrench may be necessary). Inspect the Super Air Amplifier and shim to assure no dirt or chips are on the matching surfaces or in the plenum chamber. Replace a shim and re-assemble (Do not stack shims. Blockage of compressed airflow may result). If the force is more than needed, regulate pressure down to match the force to the application requirements.

TROUBLESHOOTING & MAINTENANCE

If There Is A Reduction In Flow Or Force From The Super Air Amplifier, check the pressure by installing a gauge at the compressed air inlet of the Super Air Amplifier. Large pressure drops are possible due to undersized lines, restrictive fittings and clogged filter elements.

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

CLEANING

If contaminants have clogged the Super Air Amplifier, inspect the unit by disassembling. Super Air Amplifiers consist of two component parts, and between them is a shim that sets the gap the compressed air exhausts through. This shim is usually .003" (.08mm), a .009" (.23mm) for Model 120028 thick, although thicker shims can be used. Inspect each part for dirt contamination and a possible oil film in the area of the slotted nozzle. Clean each part. Prior to reassembly it is recommended to apply an anti-seize compound to the threads (silicone based products should not be used in a paint environment). This will permit ease of future adjustment and disassembly. Reassemble with the shim installed in the correct position.

Occasionally, there is a build up which occurs in the throat of the Super Air Amplifier as a result of vapors in the atmosphere. Clean the surface with a solvent and a clean rag. To prevent contaminants from getting pushed back into the slot, perform this procedure with a small amount of compressed air passing through the Super Air Amplifier.

If you have any questions or problems, please contact:

EPUTEC Drucklufttechnik GmbH
Haidenbucherstr. 1
86916 Kaufering
Phone: +49 8191 91 51 19 0
Fax: +49 8191 91 51 19 91
Email: info@eputec.de
Website: www.eputec.de