Leading Technology Into The Future

NEX FLOW™

AIR AMPLIFIER INSTALLATION & MAINTENANCE

INSTALLATION AND SIZE OF COMPRESSED AIR LINES

It is important to minimize the pressure loss to an Air Amplifier or series of Air Amplifiers. Keep airline sizes adequately large.

For small Air Amplifiers up to 2" outside diameter (Model AM40) it is recommended to use ¼" pipe or 3/8" hose for runs up to 25 feet. For 50 foot runs, use 3/8" pipe or ½" hose and for runs over 50 feet, use ½" pipe or larger. Never use fittings which can be "restrictive" thereby starving the Air Amplifiers of air and creating a large pressure loss in the airline.

For larger Air Amplifiers (Model AM75 and larger), use a supply pipe size equal or greater than the connection size on the amplifier.

CARE OF THE COMPRESSED AIR SUPPLY

Because Air Amplifiers utilize a small "gap" for the air outlet, it is important to keep the air lines free of moisture, oil and dirt which may clog the unit. By using proper filtration the Air Amplifiers can run maintenance free for many years.

For water removal, a minimum 10 micron filter complete with an automatic (float type) drain is recommended. It should be sized to handle the total air flow of the Air Amplifiers at the pressure they will be used. If oil could be a concern, an oil removal filter should be added downstream from the water removal filter and should also have an automatic (float type) drain. Again, they should be sized to handle the total flow of the Air Amplifiers.

Filters should be mounted near any Air AMPLIFIER, typically within 10 to 15 feet.

USING THE AIR AMPLIFIER , INCREASING & REDUCING FORCE, AND THE CONSERVATION OF AIR

In many cases the Air Amplifier can either be supported by the compressed air supply piping or, by using the mounting holes provided on the body of the units (with the exception of the large AM175 which has a handle and typically used for venting applications and for its portability).

Best performance is to keep the target within 12" of the Air Amplifier. Force begins to decrease after 12" away although it may still be adequate for many applications up to 24" away from the Air Blade.

The "gap" in the Air Amplifier is .002 and is maintained by a shim". To increase the force you can add another .002" shim, thereby doubling the gap. Simply dismantle the Air Amplifier with a pin wrench, install

the shim and reassemble. This will increase mass flow, velocity and force but also increase air consumption so care must be taken to insure proper airline size. If you add the shim, assume the doubling of the Air Amplifier air use and size accordingly. The exception again is the large Model AM175 with a fixed .002" gap.

By moving the Air Amplifier toward or away from the target, an optimum distance for operation can be found.

To decrease force, a regulator may be added and simply reduce the pressure to reduce the force required.

To conserve compressed air, it is best to use a regulator to reduce the pressure to the point where the Air Amplifier still performs as it must, but by minimizing compressed air use by utilizing the air at a lower pressure. The Air Amplifiers are especially ideal for applications where intermittent blow off is required. A sensor or timer can have the compressed go on and off to the Air Blade system as required utilizing a solenoid valve. Energy is only consumed when the unit is operating.

CLEANING

If the Air Amplifier does get clogged from contamination, simply dismantle the unit, clean, and reassemble. Care should be taken to reinstall the shim (or shims) prior to putting the two pieces back together.

Sometimes a build up of a dirty film can occur on the throat of the Air Amplifier due to vapour in the surrounding atmosphere. Clean this surface using a mild solvent and clean rag. To prevent contaminants from getting pushed back into the Air Amplifier gap, do the cleaning with a small amount of compressed air passing through the Air Amplifier.

TROUBLESHOOTING

With zero moving parts, there is little that can go with an Air Amplifier. However, certain factors can cause a reduction in flow or force and thereby reducing the performance of an Air Amplifier.

If the force or flow seems to be below normal, install a pressure gage near the inlet of the Air Amplifier. If the pressure is low, it may be due to undersized airlines, perhaps restrictive fittings, or from clogged filter elements. These things should be checked, in particular the fittings used and the filter elements.

If you have any questions or problems, please contact:

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