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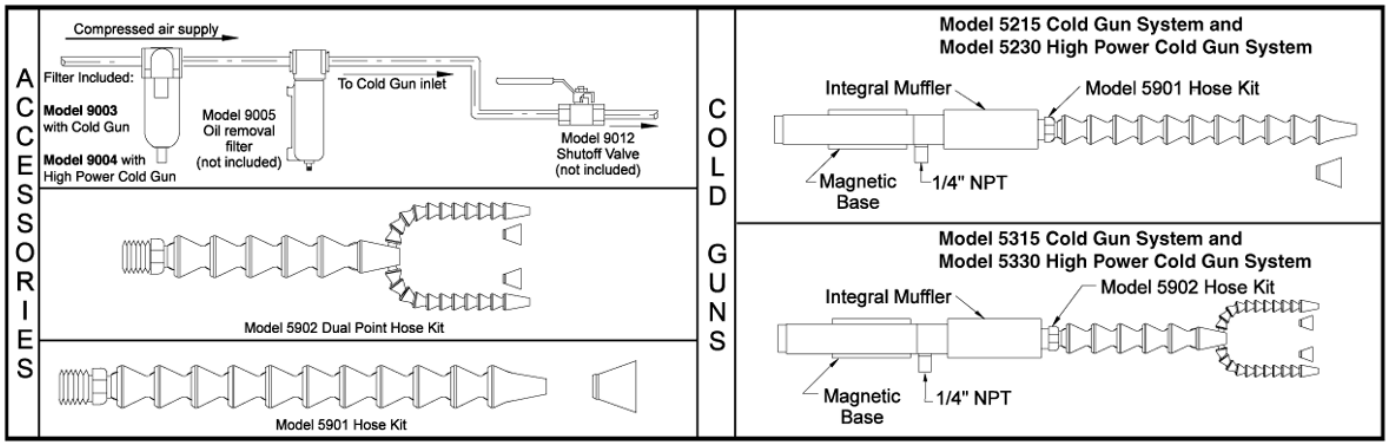
COLD GUN AIRCOOLANT SYSTEM™ INSTALLATION & MAINTENANCE



COMPRESSED AIR LINE SIZES

Compressed air lines should be sized to hold pressure drops to a minimum. When installing supply lines, use 1/4" pipe up to 10' (3m) long, 3/8" pipe up to 50' (15.2m) long, 1/2" pipe up to 100' (30.5m) long. If compressed air hose is used, consider 3/8" I.D. hose to be the same as 1/4" pipe, 1/2" I.D. hose to be the same as 3/8" pipe, 5/8" I.D. hose to be the same as 1/2" pipe. Do not use restrictive fittings such as quick connects. They can "starve" the Cold Gun by causing excessive line pressure drop.

COMPRESSED AIR SUPPLY

For best performance, use line pressure 80 to 100 PSIG (5.5 to 6.9 BAR). The Cold Gun uses 15 SCFM (425 SLPM) at 100 PSIG (6.9 BAR) supply pressure. The High Power Cold Gun uses 30 SCFM (850 SLPM) at 100 PSIG (6.9 BAR) supply pressure.

With proper filtration and separation of dirt, moisture and oil from the compressed air supply, the Cold Gun will operate for years with no maintenance required. Included with all Cold Gun Systems is the Model 9003 Manual Drain Filter. Replacement filter elements are available. If a filter other than an EXAIR unit is used, filtration size should be 25 microns or less.

For replacement or repair filter and regulator parts, contact EXAIR at 1-800-903-9247 or techelp@exair.com. Call (513) 671-3322 for outside the US and Canada.

To prevent problems associated with oil, use an oil removal filter (Model 9005 Oil Removal Filter not included) with a micron rating of 0.03 or less. The oil removal filter should be used downstream from the manual drain filter separator. Filters should be close to the Cold Gun, within 10 to 15' (3 to 4.6m) is best.

Failure To Use Or Properly Maintain Filter Voids EXAIR's Warranty On The Cold Gun.

USING THE COLD GUN

Find the best mounting location on the machine. There are many different types of machining operations which make it necessary to experiment with the Cold Gun. Direct the cold air at the part or point to be cooled using the segmented flexible hose. Use the nozzle that suits your application, round or fan. Position the nozzle outlet as close as possible to the part or point to be cooled, preferably within a 1/2" (13mm). The Cold Gun Systems include a Model 9003 Manual Drain Filter. The High Power Cold Gun Systems include a Model 9004 Automatic Drain Filter.

CONTROLLING THE COLD AIR

The Cold Gun gives instant cold air when compressed air is supplied to it. If less cold air is needed, the volume of cold air and refrigeration produced can be reduced by regulating the compressed air supply with a pressure regulator (Model 9008 Pressure Regulator not included). Lower pressures give less cold flow and reduce compressed air consumption.

When the part to be cooled is stationary and the tool is moving (such as a grinding wheel), aim the cold air at the part. It should be directed to the point of contact to remove the heat as it is generated. When the part to be cooled is moving (such as a lathe), aim the cold air at the stationary tool. It should be directed at the point of contact as well.

TROUBLESHOOTING & MAINTENANCE

If The Cold Gun Does Not Perform Properly, check for these common problems:

1. **Inlet Pressure -** Low inlet pressure supply will cause poor performance. Measure the pressure at the compressed air inlet of the Cold Gun while it is operating. Restrictions in the compressed air supply line can cause excessive pressure drops and deteriorate performance.
2. **Inlet Temperature** - A Cold Gun provides a temperature drop from supply air temperature. In some cases, the supply air is warmer than ambient air due to compressed air lines running across ceilings, near furnaces, direct sun, etc. In this case, the cold air may be warmer than anticipated and adequate refrigeration may not be available for the application.
3. **Back Pressure -** The performance of a Cold Gun deteriorates with back pressure on the cold end exhaust. Use only the flexible segmented hose included with the Cold Gun System.
4. **No Cold Flow** – High Power Cold Gun Systems include an automatic drain filter to keep water from passing to the inlet of the High Power Cold Gun. The standard Cold Gun systems include a manual drain filter that must be drained. If the filter is not drained regularly, water may overflow into the Cold Gun and cause internal freezing. This can reduce or even stop cold air flow. Drain the filter often, or crack open for a small continuous air bleed. If internal freezing occurs, any one of the following will correct the problem:
   (a) Blow air (use an air gun) into the cold muffler with the Cold Gun off.
   (b) Turn the Cold Gun off for a few minutes. It will thaw.
   (c) Put a dryer on the compressed air supply.

The Cold Gun has no moving parts. Maintenance is not normally required provided the air filter is used properly. However, if internal cleaning should be necessary, the following procedure is recommended:

1. Unscrew the flexible segmented hose. Remove the cold muffler, turning counterclockwise. Pin wrench holes are provided for this purpose.
2. Remove the “O”-ring, generator (white plastic part), hot end fitting and magnetic base. Inspect for dirt and clean as necessary.
3. Immerse all parts (except cold muffler) in mild cleaning or degreasing solution. Use an air gun to remove solution and contaminants.
4. Re-install generator, “O”-ring, cold muffler, magnetic base and hot end fitting.

If you have any questions or problems, please contact an EXAIR Application Engineer at:
Toll Free: 1-800-903-9247 (U.S. & Canada)
Telephone: 513 671-3322 outside of U.S. & Canada
Toll Free Fax: 866-329-3924 (U.S. & Canada)
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