



## AIR NOZZLES, AIR JETS AND SAFETY AIR GUNS INSTALLATION & MAINTENANCE

For all products covered in this "Installation & Maintenance" sheet, EXAIR recommends the compressed air supply include pressure relieving regulators, filter separators and oil removal filters rated for a pressure of at least 250 PSIG (17.2 BAR, 1.72 MPa). In addition, filter separators used with nozzles should have a minimum of 25 micron filtration. A minimum of 10 micron filtration is required with air jets. Oil filters should have a minimum 0.03 micron filtration. Blow dust and dirt from all lines between the filter and the Air Nozzle, Air Jet or Safety Air Gun. Make all connections with the appropriate fittings.

All models may be cycled with any type of valve. Pressure regulators are not usually required, but may be used. If the Air Nozzle, Air Jet or Safety Air Gun gives more blowoff force than is needed, regulate pressure down to match the force to the job. At lower pressures, less compressed air is used and sound levels are lower. Swivel Fittings are available that make it easy to adjust the aim of Air Nozzles and Jets. The EFC electronic flow control to limit compressed air use is also available.



### Safety Air Nozzles

**Model 1110SS, 1110-PEEK and 1110SS-NPT Nano Super Air Nozzle** is the smallest air nozzle available. The Model 1110SS and 1110-PEEK have an M6 x 0.75 thread and should be installed using soft jaw pliers. The Model 1110SS-NPT has a 1/2" (13mm) hex body with 1/8 NPT male threads and can be installed using a wrench or deep well socket.

**Model 1010SS Micro Air Nozzle** has a 7/16" (11mm) hex body and can be easily installed with a wrench or deep well socket. The force and flow can not be adjusted.

The **Model 1100, 1100SS, 1101, 1101SS, and 1100-PEEK Super Air Nozzles** have a 5/8" (16mm) hex body. **Models 1102, 1102SS, 1102-PEEK, 1103, 1103SS and 1103-PEEK Mini Super Air Nozzles** have a 1/2" (13mm) hex body. All are easily installed with a wrench or deep well socket.

If this Super Air Nozzle does not provide enough force for your application, use additional Super Air Nozzles, a larger Super Air Nozzle or Super Air Nozzle Cluster. This can dramatically increase the force.

**Model 1122 and 1122SS 2" Super Air Nozzles** have a .015" (.38mm) air gap opening that is set with a stainless steel shim. Force and flow may be changed by installing a different shim thickness (use Model 1132SS Shim Set).

**Model 1001, 1002, 1002SS & 1003 Safety Air Nozzles** have a hex body and are easily installed using a wrench or deep well socket. Model 1001 Safety Air Nozzle has a 1/2" (13mm) hex body. Model 1002 and 1002SS Safety Air Nozzles have a 5/8" (16mm) hex body. Model 1003 Safety Air Nozzle has a 3/4" (19mm) hex body.

If this Safety Air Nozzle does not provide enough force for your application, the center hole may be drilled out to increase force. Be sure to drill from the hex end toward the slotted end. The drill will center and the chips will fall through the hole (not into the nozzle). We recommend that the hole be opened up in 1/64" (.40mm) diameter increments and tested. The larger the center hole, the more noise and air consumption. The standard center hole size on these Safety Air Nozzles, as supplied, is 1/16" (1.6mm) diameter. The Model 1003, 3/8 NPT Safety Air Nozzle center hole size as supplied, is 5/64" (2mm) diameter. Do not drill hole larger than 3/32" (2.4mm).

**Model 1009 & 1009SS Adjustable Safety Air Nozzles** have a 5/8" (16mm) hex body and are easily installed with a wrench or deep well socket.

If this Safety Air Nozzle does not provide enough force for your application, the force may be adjusted. The higher the number at the set mark, the higher the force. To change the setting, loosen the 3/32" (2.4mm) socket head set screw\* in the end of the nozzle. Turn the conical nose to move the set mark to desired number. Re-tighten the set screw\* to lock nose piece in position. When set at "8", air consumption is 13 SCFM (368 SLPM) when supplied at 80 PSIG (5.5 BAR, 552 kPa). Force is 12 oz (340 grams).

\* (Note: A small amount of breakable adhesive is applied to the threads to keep set screw from vibrating loose. Use of soft jaw pliers or a cloth to hold the cone in position may be necessary.)

### **High Force Safety Air Nozzles**

**Model HP1002 & HP1002SS High Power Safety Air Nozzles** have a 5/8" (16mm) hex body and are easily installed with a wrench or deep well socket. **DO NOT DRILL THE CENTER HOLE FOR ADDITIONAL FORCE.** The center hole has already been drilled to obtain the best performance while maintaining safe dead-ended pressure requirements that meet OSHA standards. Consider using additional High Power Safety Air Nozzles or large Super Air Nozzles if more force is required.

**Model HP1125 and HP1125SS 2" High Power Super Air Nozzles** have a .025 (.64mm) air gap opening that is set with a stainless steel shim. Force and flow may be increased by installing a Model 900633 .030" (0.74mm) shim.

**The Model 1104, 1104SS, 1105, 1105SS, 1106, 1106SS, 1107, 1107SS, 1112, 1112SS, 1113, 1113SS, 1114, 1115, 1116, 1117, 1118, 1119, 1120 and 1121 Large Super Air Nozzles** have the blowing capability of multiple air nozzles. Models 1104, 1104SS, 1105 and 1105SS have a 13/16" (21mm) hex body; Models 1106, 1106SS, 1107 and 1107SS have a 1" (25mm) hex body; Models 1112, 1112SS, 1113 and 1113SS have a 1-1/4" (32mm) hex body; Models 1114 and 1115 have a 1-1/2" (38mm) hex body; and Models 1116, 1117, 1118, 1119, 1120 and 1121 have a 2" (51mm) hex body. All are easily installed with a wrench or deep well socket.

Multiple Large Super Air Nozzles can be used together to provide stronger blowing force when necessary. The sound level of some Large Super Air Nozzles exceed 90 dBA. OSHA allows 3 hours of exposure per day without hearing protection for Models 1112 and 1113; 2 hours for Models 1114 and 1115; one hour for Models 1116 and 1117; and ½ hour for Models 1118, 1119, 1120 and 1121.

### **Air Jets**

**Model 6013 High Velocity Air Jet** has a 1/8 NPT inlet. If the Air Jet does not provide enough force, a Model 6313 Shim Set can be used which includes (1) .006" (0.15mm) and (1) .009" (0.23mm) thick shim. The thicker the air gap, the more force, velocity and compressed air consumption. Use the smallest air gap possible that gives enough force for the application to conserve compressed air.

**Model 6019 Adjustable Air Jet** has a 1/8 NPT inlet. If the Adjustable Air Jet does not provide enough force for your application, the force may be adjusted. To set force higher, move the set mark (see knurled edge) to a higher number. Lower numbers give less force and less compressed air consumption. When set at "6", air consumption is 18 SCFM (509 SLPM) when supplied with 80 PSIG (5.5 BAR, 552 kPa). Force is 16 oz (453 grams).

## **Safety Air Guns**

All Safety Air Guns meet or exceed OSHA requirements by using EXAIR engineered air nozzles and jets. All are safe to be supplied with higher pressure compressed air and meet the OSHA standard CFR 1910.242(b) for dead ended pressures. Detailed information on the specific Air Nozzle can be found in the EXAIR Catalog and at [www.exair.com](http://www.exair.com).

### **Troubleshooting & Maintenance**

If there is a reduction in flow or force from the Safety Air Nozzle, Air Jet or Safety Air Gun, check the pressure by installing a gauge at the compressed air inlet. Large pressure drops are possible due to undersized lines, restrictive fittings and clogged filter elements.

### **Safe Operating Practices**

**The following is a safety checklist for the proper use of Air Nozzles, Air Jets and Safety Air Guns.**

1. Inspect all of the components used in the compressed air system to make sure that all are tightened properly.
2. Inspect the Air Nozzle, Air Jet or Safety Air Gun to make sure there is nothing attached to the end that might become a flying projectile.
3. Always wear safety glasses with side shields when working in close proximity of the blowoff operation.
4. Always consider the direction you will blow the compressed air in to make sure the debris flies in a safe direction.
5. Always depressurize a compressed air line before attaching an Air Nozzle, Air Jet or Safety Air Gun. Repressurize the line once connected.
6. Never use compressed air to clean your clothing or dislodge particles. These particles can be embedded in your skin. High pressure air can also penetrate the skin and reach the bloodstream which can produce a serious or fatal injury.
7. Never engage in horseplay or point an Air Nozzle, Air Jet or Safety Air Gun at someone.

If you have any questions or problems, please contact:

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