

# USE AND INSTALLATION OF THE AiRTX STAINLESS STEEL AIR GUNS



The Air Research Technology Company

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## 1. COMPRESSED AIR SUPPLY

Air supplies are plagued with condensed water vapor and droplets in the air lines. This condensation leads to rust and dirt in the air lines. Also, some compressors will allow oil or oil vapor to enter the air lines.

Small orifices in the generator of the Stainless Steel Air Guns may become clogged with the rust, dirt, and water droplets.

**A 5-micron air-water filter, Model 90175**, will separate 99% of the foreign material from the air supply, allowing virtually maintenance free operation.

The use of an oil filter, Model 91175, with an effective filtration of 0.01 ppm will remove the oil droplets for a cleaner air supply.

Keep in mind that the current line or air hose might contain dirt or oil and should be blown out before installation. Also, pipe thread sealant or tape must be carefully applied to avoid clogging product orifices.

When the temperature of the air inside the Air Guns reaches 32°Fahrenheit (0°C), the vapor in the air will start to freeze. If this poses a problem with the ice clogging the orifices of the generator inside the tube, an air dryer must be used to lower the dew point to keep out the water vapor. A dryer rated at - 35°Fahrenheit will produce a dew point low enough to eliminate the water vapor freezing in the orifices of the generator. You can also reduce the air pressure or change to a larger generator to relieve ice build-up.

## 2. COMPRESSED AIR SUPPLY LINE SIZE

The Air Guns are designed to provide maximum cooling. The unit is factory set to put 70% of the incoming compressed air at your disposal for spot cooling.

The volume of air can be changed by replacing the 15 cfm generator installed in the unit with any one of the generators that are included with your Air Gun. The higher cfm generator will provide you with more volume of cooling but a slightly higher temperature. The temperature of the air will increase 5°Fahrenheit for each of the generators from the 10 cfm generator. The volume of cold air will remain at 70% of the incoming compressed air. The adjustable Models 60051 and 60061 can change the cold volume from the constant 70% by turning the black end knob. Maximum cold air is at 4 1/2 turns ccw from the closed position, producing a 20% cold air flow or cold fraction.

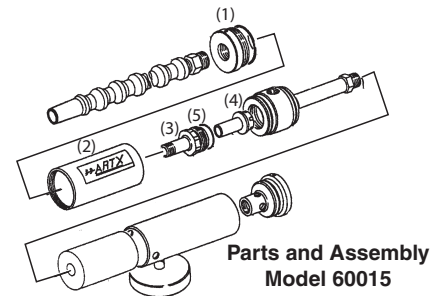
### Color Coding of Air Gun Generators

| CFM                | 10     | 15  | 25   | 35     |
|--------------------|--------|-----|------|--------|
| Max. Cooling (BTU) | yellow | red | blue | orange |

## 4. CHANGING THE GENERATOR ON MODELS 60015, 60051 AND 60061

A single point spanner wrench can be used to loosen and remove the cold end threaded cap (1). The cold end muffler assembly (2) can then be turned by hand and removed exposing the cold end cap (3). Once removing the 1" hex cold cap the stationary generator (4) and O-ring (5) can be pulled from the spin chamber by hand and replaced with the desired cfm generator. Remember to replace the O-ring and firmly tighten the cold cap to properly seat the new generator. The Model 60061 has a red 15 cfm generator installed.

To change to the 10 cfm generator provided, use a spanner wrench to remove the black Delrin cold end hose fitting and replace the red generator with the yellow 10 cfm unit. Firmly tighten the Delrin fitting when replacing the generators.

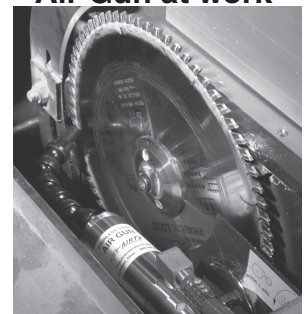


Parts and Assembly  
Model 60015



Air Gun Models  
60051. 60015. 60061. 60071

### Air Gun at work



## 5. CLEANING AND MAINTENANCE

The AiRTX Air Guns have no moving parts. Clean compressed air moving through the tube will not cause wear on the parts and will provide you with the same service for an indefinite period of time.

Occasionally, dirt, water, or oil may enter the tube from the compressed air supply and hinder the performance. When this happens, simply take the unit apart, clean the parts, and reassemble, tightly replacing the cold end cap to properly seat the generator.

# ASK ABOUT

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## STAINLESS STEEL/ ALUMINUM VORTEX TUBES



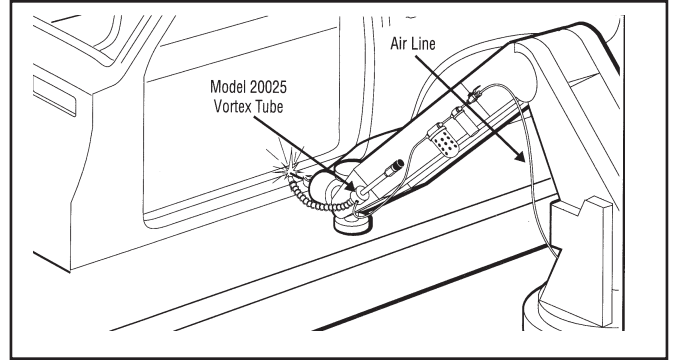
Model 25015

Model 20015

### ADVANTAGES - VORTEX TUBE

- No moving parts, portable, lightweight and low cost.
- No spark hazard, RF/EMI interference.
- Uses no electricity, freon or chemicals; just filtered, factory compressed air.
- Instant on/off, easy to control, No residue to clean up, no parts washing needed.
- Reliable, maintenance-free, durable Stainless Steel construction.
- Input air flows of 8, 10, 15, 25, and 35 cfm (220, 280, 420, 700, 990 lpm); up to 2800 BTU/H (630 Kcal/H) cooling capacity.
- Generate hot air to +230°F (+110°C)

**Instant Cold Air** — to -40° F — for Industrial Spot Cooling, or Hot Air — to 230° F — or Heating, from Ordinary Compressed Air! Also available in Aluminum for light duty application



### Transportation — Spot Welding

Cooling this spot welding operation with a Vortex Tube virtually eliminates secondary smoothing operations and greatly improves the appearance of the product.

# ASK ABOUT

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## STAINLESS STEEL/ 316-SS POLAR CONTROL COOLERS



Model 70008x  
Model 70015x



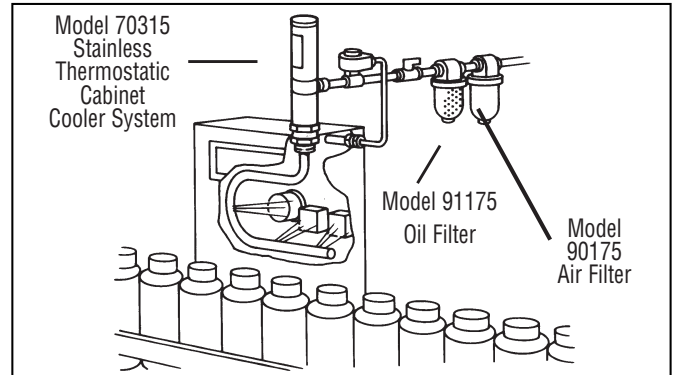
(Also available in Aluminum)



### ADVANTAGES- POLAR CABINET COOLER

- Higher BTU per CFM
- Greater cooling with the same air usage
- Wide range of Cooling (600-5600 BTUH)
- No vibration to affect CCTV cameras
- Thermostatically controlled units available
- Compact for cramped factory areas
- No maintenance, no moving parts
- Requires no electricity • No RF/EMI interference
- No fans or filters • Muffled for quiet operation
- **Maintain NEMA 4, NEMA 4x, and NEMA12 integrity**

**Use Them Anywhere!** Keep Factory-Floor Controls On-line in the worst possible conditions with up to 5600BTU/H of Cooling. Compressed-Air-Operated Stainless Cabinet Coolers for Hazardous Environments.



### Bottling Plant

AiRTX Cabinet Cooling Systems are Stainless Steel, so wash-down of these leak testing and production controls in a bottling operation is easy. NEMA cabinets can be secured without concern for heat build-up.

