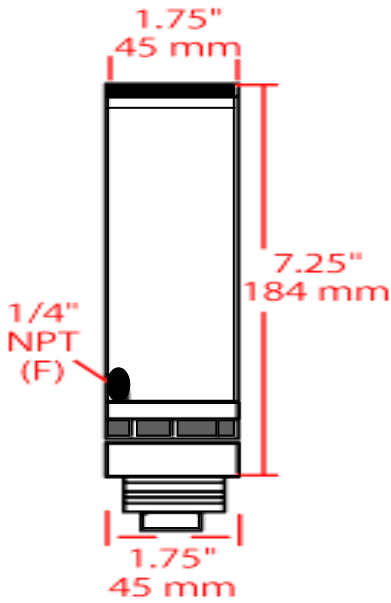




## CNC Cooler Installation and Maintenance



### Compressed Air Supply Line Sizes:

To obtain maximum performance from the Arizona Vortex products, measurements of pressure (psig) and volume (scfm) of air must be obtained. Pressure drops in the compressed air lines should be held at a minimum. Quick connects can “starve” the CNC Cooler by causing excessive line pressure drops. Do not use plastic tubing. The chart below is suggested lines sizes for pipes and hoses.

Line Sizes for Runs Up To:	10 Ft (3m)		10 - 50 Ft (3 - 15m)		50 - 100 Ft (15 - 31m)	
	Pipe	Hose	Pipe	Hose	pipe	hose
Model #'s 20025 20125 20325	1/4"	3/8"	3/8"	1/2"	1/2"	5/8"

### Compressed Air Supply:

Air lines are plagued with condensed water vapor, oil or oil vapor in the air lines. This condensation leads to rust and debris in the air lines. Small orifices in the Arizona Vortex CNC Cooler may become clogged with rust, dirt, and water droplets from these unfiltered air supplies. A 5-micron filter will separate 99% of the foreign matter from the air supply, allowing virtually maintenance free operation. The use of an oil filter with an effective filtration of 0.01 ppm will remove the oil droplets for an even cleaner air supply. Air filter part # 90000 can be used with all Arizona Vortex Tubes and other applied models. The Oil Coalescing filter part # 90020 can be used along with the air filter for all Arizona Vortex Tube Products. 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.

### Using The CNC Cooler:

The Arizona Vortex generator determines the volume of air through the CNC Cooler. The generator is an internal plastic part already installed in the CNC Cooler. The standard CNC Cooler uses a 25 scfm generator. This will produce 2000 BTUH of cooling. This will take care of a cabinet that is 6' high X 4' wide X 2' deep. This is based on an ambient temperature of 130° F. This is also based on providing the CNC Cooler with compressed air at 80 psig.

### Installation and Mounting:

The CNC Cooler mounts into a standard 3/4" electrical knockout and the thermostat mounts into a standard 1/2" electrical knockout. (See Figure 1 for details)

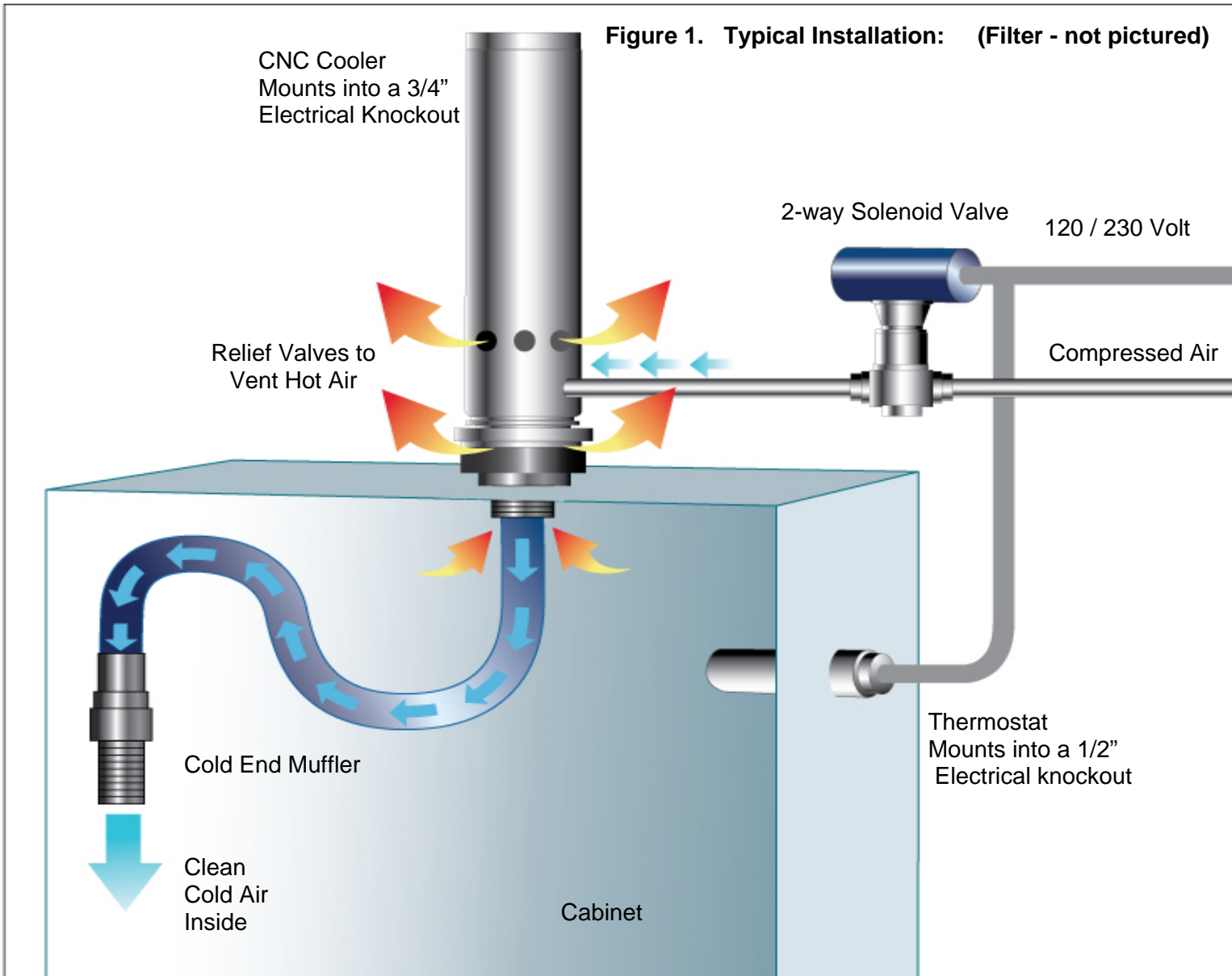
### Ducting:

The 8' of plastic hose connects to the cold end of the CNC Cooler once it is mounted to the control cabinet. This allows more efficient use of the cold air by routing the cold air to hot spots in the cabinet. Punch holes in the tube at each of the hot spots. The open end of the tube should be placed at or near the bottom of the cabinet so that cold air exists at the bottom creating convection inside the cabinet. Hot air rises and maintains even temperature inside the cabinet.

### Maintenance:

The CNC Cooler has no moving parts. Clean compressed air moving through the unit will not cause any wear. Dirt or moisture will cause problems and will affect the efficiency of the unit. If this happens simply disassemble the unit, clean the parts and reassemble making sure to properly seat the “O” ring and generator.

**Figure 1. Typical Installation: (Filter - not pictured)**



<b>Trouble-Shooting Common Issues if the CNC Cooler has poor performance</b>	<b>Action to Take:</b>
<b>Incoming Air Pressure</b>	Low pressure will cause poor performance. Take a measurement of pressure just before the CNC Cooler. Extended lengths of air hose can cause pressure drops and lower performance.
<b>Incoming Air Temperatures</b>	The CNC Cooler drops temperature from the compressed air supply. Supply lines may be warmer than ambient if the lines run across the ceiling or near heat ducts.
<b>No Cold Air</b>	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.  When the temperature of the air inside the Arizona Vortex Tube reaches 32° F. ( 0° C.), the water vapor in the air will start to freeze. If this poses a problem with 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° F will produce a dew point low enough to eliminate the water vapor freezing in the orifices of the generator.

Questions or Concerns:  
 Toll Free: 1-800-660-4060  
 Worldwide: 1-928-684-5733  
 FAX: 1-928-684-5752  
 Email: info@arizonavortex.com  
 Website: www.arizonavortex.com