

Technical Bulletin 37

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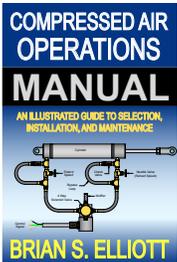
Freezing Temperatures and Compressed Air

by Brian S. Elliott

On occasion, a customer will ask about the performance of Air Options dryers in freezing temperatures. Normally, these dryers will operate at temperatures well below freezing without being damaged. However, Air Options makes the same recommendation that any other manufacturer of compressed air equipment makes, that is: no compressed air equipment should be exposed to freezing temperatures for extended periods of time. This is equally true of compressor(s), receivers, dryers, drains, traps, oil/water separators, piping, air tools and pneumatic equipment.

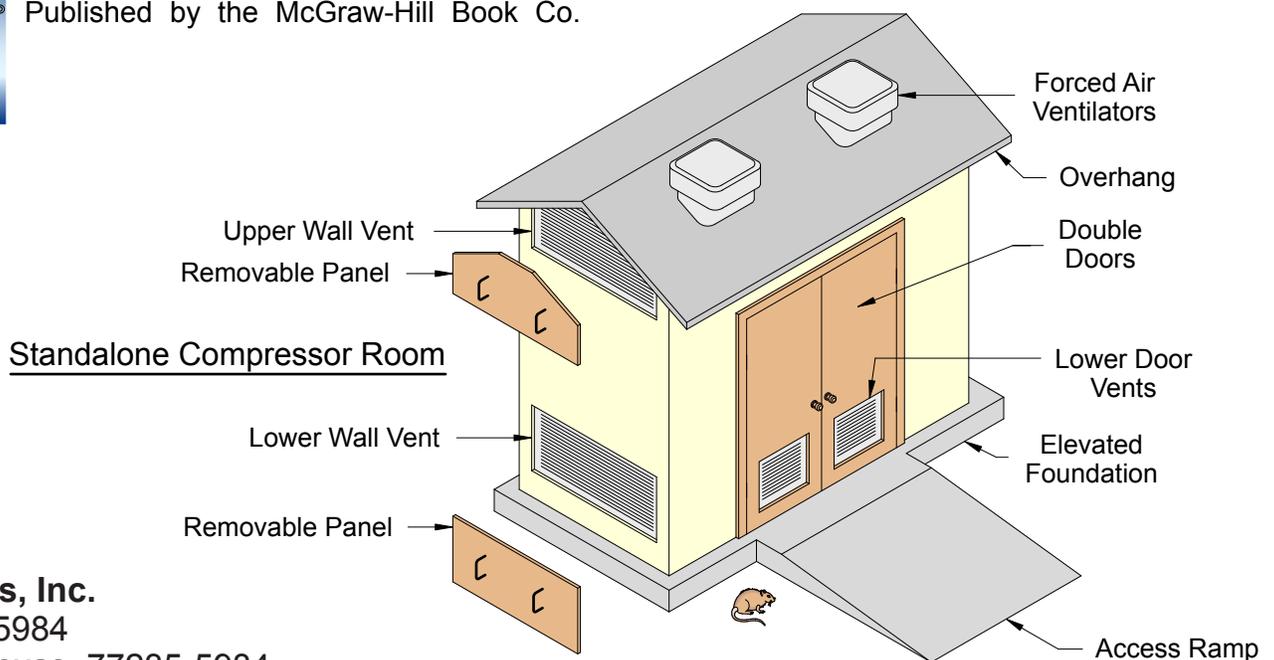
During those parts of the year when freezing temperatures normally occur, all compressed air equipment, as well as the distribution system, should be protected from freezing weather. The distribution network, air tools and other pneumatic applications are generally located within the facility which will usually provide adequate protection for those elements of the compression system.

The compressed air source is generally located outside of the shop area in a separate or added room. This enclosure should be constructed in a manner that provides temperature protection during the coldest periods of the year. The compression process will usually produce enough heat to prevent freezing. However, in climates that experience extremely low temperatures for extended periods of time, a heater may be required to maintain a suitable working environment for the equipment. During warmer periods of the year, the compressor's enclosure should be adequately ventilated to assure that the compressed air source isn't forced to operate in unnecessarily high temperatures. The illustration below shows a typical compressor room. Notice that forced air ventilators and removable panels are provided to accommodate both winter and summer conditions.



Comprehensive information on compressed air systems is provided in the book "**Compressed Air Operations Manual**" by Brian S. Elliott, ISBN: 0-07-147526-5 Published by the McGraw-Hill Book Co.

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