

# Vortec Cold Air Gun Sound Ratings

Sound is measured in decibels (dB) using a sound meter by reading frequencies of noise. Decibels are different from other familiar scales of measurement, in that the decibel scale is *logarithmic*: if a sound is 80 decibels, and we add another 10 decibels, the sound will be **ten times** more intense, and will seem about **twice** as loud to our ears. Figure 1 shows the sound levels of common household items.

We measured the sound level of Vortec Cold Air Guns. Variables explored included:

- Type of cold air gun at a constant cooling capacity: frost free vs standard vs dual nozzle vs mini
- Cooling Capacity of the gun using a single nozzle: 900, 1500 and 2500 BTU/hr

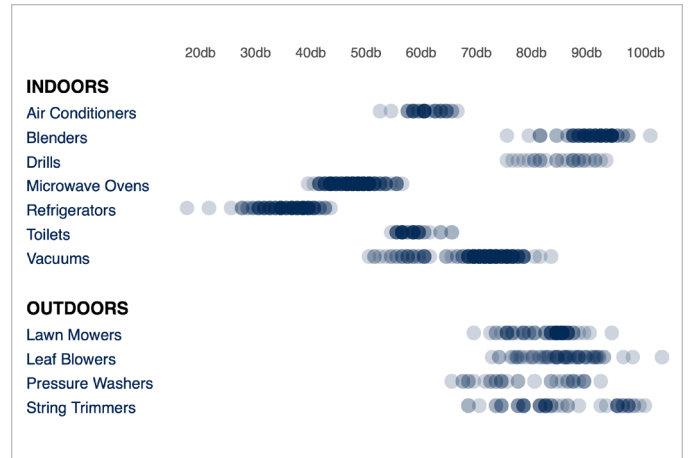
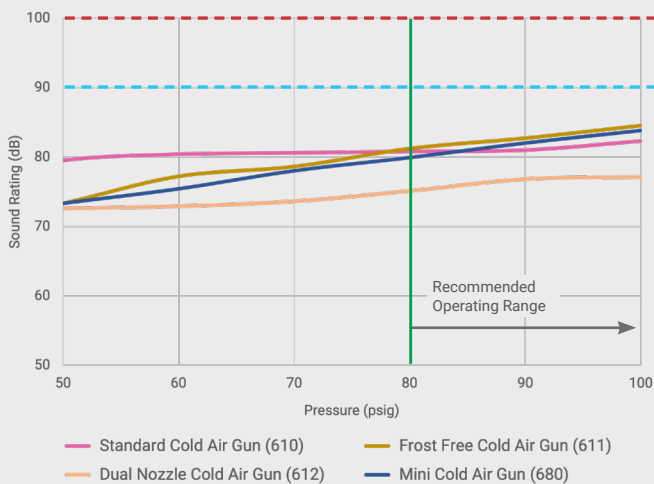


Figure 1: Sound Levels of Common Household Items

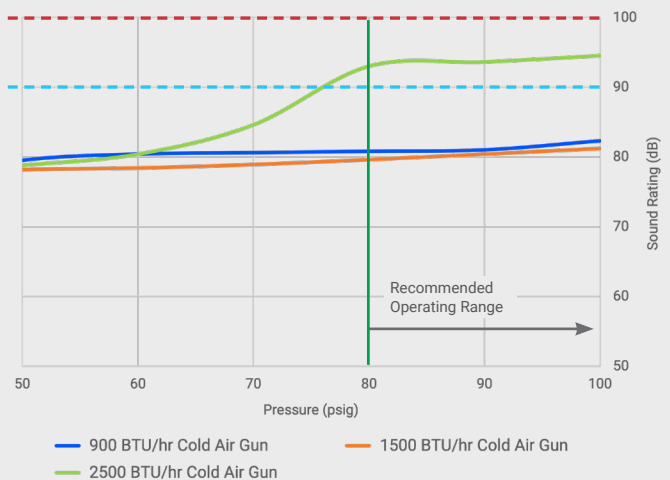
All Cold Air Guns tested were set to a 60% cold fraction to maximize the cooling performance based on the run length and pipe size from the compressor to the Cold Air Gun. The sound level was measured three (3) feet away from the Cold Air Gun.

## Sound Comparison by Type of Cold Air Gun



In the recommended operating range of 80–100 psig, the standard, frost free and mini cold air guns all have the same sound level, within the accuracy of the measurement. The Dual Nozzle Gun had a lower sound level, as the flow from each nozzle is halved, and the sound redistributed to make it quieter.

## Effect of Cooling Capacity on Sound Ratings



The 900 and 1500 BTU/hr cooling capacity Cold Air Guns had a similar sound profile when operated in the recommended range of 80–100 psig. The 2500 BTU/hr had a markedly higher sound level.

