CASE STUDY

1586

APPLICATION GOAL

Reduce compressed air consumption and noise levels associated with the use of coolant hose & copper tubing in a rollform blow off application.

BEFORE EXAIR

A producer of custom rollform products uses compressed air to blow coolant & debris from lengths of product. Their blow off system *(see photo, left)* consisted of two modular plastic flexible hoses (designed for machine tool coolant but often misapplied for use with compressed air) and two ¼" copper tubes. Flow and sound level measurement with calibrated instruments revealed this setup was using 190.0 SCFM @100psig supply pressure, and generating a sound level of 107 dBA per line.

AFTER EXAIR

Two **Model 1100 Super Air Nozzles** and two **Model 1122 2" Flat Super Air Nozzles** were purchased and installed *(see photo, right,)* using **Model 9043 Magnetic Bases & Model 9212 12" Stay Set Hoses**. Coolant and debris were still effectively removed from the product. Compressed air consumption and noise levels dropped to 86.8 SCFM @100psig, and 83.8 dBA, respectively.

SUMMARY:

OSHA Standard 1910.95(a) specifies no more than one hour of exposure to levels over 105 dBA. The reduction to 83.8 dBA is below OSHA's 90 dBA limit for eight hour exposure. The compressed air consumption and monetary savings are as follows:

	Compressed air consumption	Consumption savings, annual	Cost savings, annual
Modular Hose & Copper Tubing	190.0 SCFM	12,879,360 SCF	**$3,219.84**
Super Air Nozzles	86.8 SCFM		

Cost of compressed air usage is based on electric utility cost of $0.08/kWh and calculated for operation 8 hours/day, 5 days/week, 52 weeks/year.

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