CASE STUDY

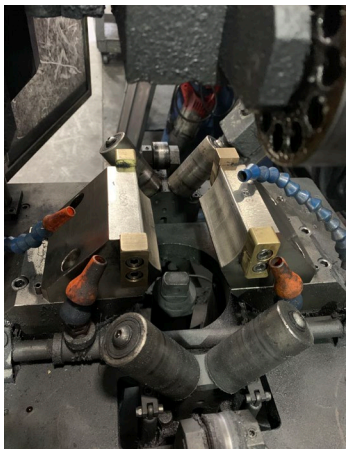
1584

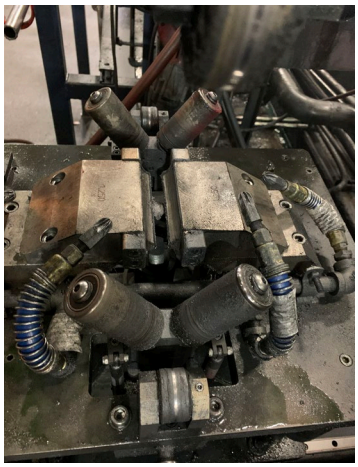
APPLICATION GOAL

Reduce compressed air consumption and noise levels associated with the inappropriate use of modular hose which is designed for use with liquids.

BEFORE EXAIR

A steel tubing fabricator blows air onto newly welded tubing as it passes via rollers through a test sensor. The cooling flow of the air ensures that the test sensor does not overheat. The modular hose *(blue with orange tips, see photo below, left)* provided adequate cooling flow, but was very loud, and was identified as an inefficient use of compressed air. Supply pressure to these hoses was 90 PSIG, and total compressed air consumption rate was 197.5 SCFM, and sound level was 96 dBA. These run 72 hours a week during normal operation.





AFTER EXAIR

Four **Model 1103-9256 Mini Super Air Nozzles with 6" Stay Set Hoses** were purchased and installed *(see above photo, right.)* The air flow still provides reliable heat protection for the sensors, while compressed air consumption and noise levels dropped dramatically to 44.2 SCFM @90 PSIG, and 72 dBA, respectively.

SUMMARY:

After proving the value associated with the use of the Mini Super Air Nozzles on this line, the decision was made to upgrade the other five roller lines in the plant. The monetary savings associated with the dramatic reduction in compressed air consumption are as follows:

	Air consumption, all five lines	Consumption savings, annual	Cost savings, annual
Coolant Hoses	987.5 SCFM	172,186,560 SCF	**$43,046.00**
Super Air Nozzles	221 SCFM		

Cost of compressed air usage is based on electric utility cost of $0.08/kWh and calculated for operation time of 72 hours/week; 52 weeks/year.

Installation was done in minutes, and the total investment (2019) was $1,520.00 ($76.00 each for **the Model 1103-9256's**, four per line, on five lines. Return on investment was realized on the **9th day of operation**.

EXAIR LLC • 11510 GOLDCOAST DR • CINCINNATI, OH 45249

(513) 671-3322 • (800) 903-9247 • TECHELP@EXAIR.COM • EXAIR.COM